NOTICE

The quality of this microform is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Reproduction in full or in part of this microform is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30, and subsequent amendments.

AVIS

La qualité de cette microforme dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

La reproduction, même partielle, de cette microforme est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30, et ses amendements subséquents.

UNIVERSITY OF ALBERTA

SOCIAL INTERACTIONS OF CHILDREN WITH SEVERE HANDICAPS INTEGRATED INTO REGULAR CLASSROOMS: ACTIVE FRIENDSHIP, PASSIVE ACCEPTANCE, OR...?

BY

MICHAEL SERGE DREIMANIS 

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION

IN

SPECIAL EDUCATION (SEVERE DISABILITIES)

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

EDMONTON, ALBERTA

FALL 1990

ISBN 0-315-64994-1

UNIVERSITY OF ALBERTA

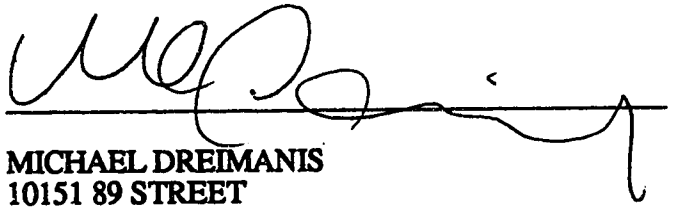
RELEASE FORM

NAME OF AUTHOR: MICHAEL SERGE DREIMANIS

TITLE OF THESIS: **SOCIAL INTERACTIONS OF CHILDREN WITH SEVERE HANDICAPS INTEGRATED INTO REGULAR CLASSROOMS: ACTIVE FRIENDSHIP, PASSIVE ACCEPTANCE, OR...?**

DEGREE: MASTER OF EDUCATION

YEAR THIS DEGREE GRANTED: 1990



MICHAEL DREIMANIS
10151 89 STREET
EDMONTON, ALBERTA
T5H 1P8

DATE: OCTEBER 11, 1990.

Two are better than one

because they have a good reward for their labour.

For if they fall,

the one will lift up his fellow;

But woe to him that is alone when he falleth,

and hath not another to lift him up.

(Ecclesiastes)

UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

THE UNDERSIGNED CERTIFY THAT THEY HAVE READ, AND RECOMMEND TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH FOR ACCEPTANCE, A THESIS ENTITLED **SOCIAL INTERACTIONS OF CHILDREN WITH SEVERE HANDICAPS INTEGRATED INTO REGULAR CLASSROOMS: ACTIVE FRIENDSHIP, PASSIVE ACCEPTANCE, OR...?** SUBMITTED BY MICHAEL SERGE DREIMANIS IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION IN THE SEVERE DISABILITIES PROGRAM, DEPARTMENT OF EDUCATIONAL PSYCHOLOGY.

Dick Sobsey

Dr. Dick Sobsey, thesis supervisor

Dr. Carl Urion, committee member

Eamonn Callan

Dr. Eamonn Callan, committee member

Date: 5-10-90

TO LINDA, KIRA, AND PETER, FOR PROVIDING ME WITH LOVE AND EMOTIONAL SUPPORT THROUGH THIS LONG PROCESS

ABSTRACT

The ethnographic case study method is used to examine the characterizations of two children with intellectual impairments, their level of participation in play activities, and the interactions and relationships of these children with peers who are not intellectually impaired. One of these children attends an integrated kindergarten in the morning and a segregated resource room in the afternoon. The other boy is in a grade one home room, but attends classes throughout his school. Data includes field-notes collected through participant observation, ethnographic interviews completed with teachers, aides, and the other children, quantitative data on the level of participation in play, and quantitative data on the types of verbal communication used in the integrated classrooms. These data are used to test Guralnick's hypothesis that children who are not intellectually impaired are dominating and controlling in their interactions with children who are impaired.

Most of the data tend to support Guralnick's hypothesis. The other children, teachers, and aides often define the interactions and between these boys and their peers as helping ones. The other children look after both boys; many of these relationships are dominating and controlling. Not all the data support this characterization. The interview responses of staff and some children, and the behaviour observed and recorded in the field-notes, supports one teacher's description of two different kinds of helping relationships: one directive and business-like and the other relaxed and empathetic. Not all the relationships are dominating and controlling. Guralnick's original hypothesis must be corrected. Children with intellectual impairments do experience some of the same interactions and relationships as their peers and the balance of power is not always tilted in favour of the child who is not impaired. The author speculates that there are four different levels of social integration that occur in community settings, and discusses some of the research and practical implications stemming from this study.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 Introduction

More and more often students with severe disabilities are being integrated into regular classrooms in Canada and the United States. This has provoked a debate about the morality, educational efficacy, and costs of this method of education. Unfortunately, there have been few serious attempts to explore the experience of integrated students with respect to the interactions they experience and the relationships they form with other students. This paper attempts to remedy the problem in a small way. It focuses on two students who are defined as severely intellectually impaired and are integrated into regular elementary classes. More specifically, it examines the nature of their interactions and relationships with their peers who are not impaired in these integrated settings.

1.1 Literature review

1.1.1 Integration and its impact on the interactions and relationships of children with intellectual impairments:

The attitudes of children often reflect the norms of the society in which they live. Intelligence and intellectual achievement are highly valued in our society. By many, it is considered to be perfectly legitimate and even desirable to discriminate on the basis of intellectual ability (Dexter, 1962; Dexter, 1964). Not surprisingly, then, research on children's attitudes has shown that they view peers who are not intellectually impaired much more positively than they view those who are impaired (Bak & Siperstein, 1987; Stainback & Stainback, 1982).

However, children's attitudes towards those who are intellectually impaired are not simply rejecting or patronizing. While they do not view them as positively as those who are not impaired, studies have shown that their attitudes are still fairly positive (Kishi,

1988; McHale & Simeonsson, 1980). Giving children information about the interests of peers who are intellectually impaired has been shown to have a positive effect on their attitudes, as does helping them see the similarities between themselves and these children (Bak & Siperstein, 1987). Children who participated in programs where they worked, played and communicated with children with autism or severe intellectual impairments developed more positive attitudes and understanding of these handicaps (McHale & Simeonsson, 1980; Sasso, 1985; Voeltz, 1982). For example, Strain (1983a) showed that pre-school children without identified handicaps regulated the complexity of their social initiations to match the developmental level of peers with intellectual impairments.

One finding that appears again and again in the research is that children are not rejected by their peers simply because they are labelled as "handicapped" or "retarded." Children appear to be more concerned about behaviour than labels. In several studies, they tended to view peers negatively when they were socially incompetent, unassertive, withdrawn or aggressive (Sherman & Burgess, 1984; Siperstein & Bak, 1985; Strain, 1983a). They were most positive towards children who were socially competent and not intellectually impaired and most negative towards children who were aggressive but not impaired (Siperstein & Bak, 1985).

Integration in a regular classroom also has an important impact on the children who are severely intellectually impaired. A number of observers of integrated educational alternatives for students with severe intellectual impairments have reported the positive impact of integration on interaction and socialization skills (Brady, McEvoy, Gunter, Shores, & Fox, 1984; Breen, Haring, Pitts-Conway, & Gaylord-Ross, 1985; Forest, 1986; Ruttiman & Forest, 1986).

More specifically, several studies in this area have demonstrated that these students communicated and interacted more with other students in integrated as compared to segregated classrooms. They initiated more social behaviour and other children to them more in these environments (Brinker, 1983; Brinker, 1985; Strain, 1984).

Other comparisons of the social behaviour of children with intellectually impairments in integrated as opposed to segregated environments have noted increases in communication and socialization skills (Moorish, 1983) and an increase in positive social behaviours (Strain, 1983b). Guralnick and Groom (1988) compared the peer interactions of pre-school children with mild intellectual impairments in integrated and segregated settings. They found that these children engaged in a substantially higher rate of peer-related social behaviours and played more constructively in the integrated setting.

The research cited so far indicates that children who are not intellectually impaired have relatively positive attitudes towards those with these impairments. In addition, children with intellectual impairments learn new social skills in integrated environments. One might conclude that integration leads, on its own, to an increase in the level of socialization and the development of relationships between children who are intellectually impaired and those who are not.

However, it does not appear to be enough for these children to just be simply present with children who are not identified as intellectually impaired. Most often, studies have shown that some form of classroom structure or program seems to be necessary to ensure that these children interact in a desirable manner (Cole, Meyer, Vandercook, & McQuarter, 1986; Guralnick, 1984; Hill & Whiteley, 1985; Johnson & Johnson, 1980; Sasso, Mitchell, & Struthers, 1986; Sasso & Rude, 1987; Schutz, Williams, Iverson, & Duncan, 1984; Stainback & Stainback, 1981). In addition, another study showed that pre-schoolers with intellectual impairments only socialized at a rate that approached the "normal" rate when children who were not identified as intellectually impaired were asked to interact with them (Strain, 1984).

One study in particular attempted to separate out the relative influence of integration and a program designed to promote social interaction (Jenkins, Odom, & Speltz, 1989). The study examined the effects of integrating children with intellectual impairments and children without these impairments in pre-school as well as a procedure designed to

increase social interaction. Fifty-six children with mild and moderate intellectual impairments were randomly assigned to four experimental conditions: integrated/social interaction, integrated/child-directed, segregated/social interaction, and segregated/child-directed. The results showed a higher proportion of interactive play and greater language development in the social interaction conditions. Children in the integrated/social interaction condition received significantly higher ratings of social competence.

The behaviour of other children is an important factor determining the amount of social behaviour that occurs between those who are intellectually impaired and those who are not (Brinker & Thorpe, 1986). Peterson and Haralick (1977) investigated the integration of pre-schoolers with intellectual impairments. Once again, they found relatively little discrimination, in the sense of rejection or exclusion, by pre-school children against their peers who were intellectually impaired. However, their findings did suggest that children without intellectual impairments prefer playmates of similar abilities, particularly when they are engaged in complex play.

Relatively few studies have focused on the kinds of relationships formed between children with intellectual impairments and their peers in integrated settings. The results of these investigations seem to conform to the studies summarized above. The authors do not describe active discrimination, but suggest that children without identified handicaps tend to relate to those with intellectual impairments as if the former were adults and the latter children. These interactions are more control-and-demand oriented, and are not the type of interaction that usually leads to friendship, as it is normally defined (Anastasiow, 1984, Guralnick, 1984).

Other research indicates that some children with intellectual impairments do make friends with their peers who are not impaired. However, the characteristics of the children who were successful at making friends were much the same, whether they were intellectually impaired or not. Field (1984) looked at relationships between pre-schoolers who were mildly intellectually impaired and were matched on developmental age with peers

who were not impaired. The children with intellectual impairments who had friends were more extroverted and assertive in initiating, leading and terminating play interactions. They were also more verbal and affectively responsive.

Murray (1987) used ethnographic methods to study the social relations between adolescents with intellectual impairments and those without such impairments at an inner-city, multi-ethnic high school in California. She outlined five types of interaction that occurred between these students.

Proximal situations made up 20.5% of the interactions observed and were defined as some form of sensory contact between the two types of students. Proximal contact occurred most often when students passed each other in the hall, during school meals, or during participation in special events. Helping situations made up 36.9% of the interactions observed and occurred when a students provided direct assistance or instruction to others, such as teaching them how to run a computer program. Most often this assistance was offered by students who were not impaired to those who were impaired, but occasionally the reverse occurred. Reciprocal situations (26.4%) occurred when contact resulted in mutual, though not necessarily similar, benefits to the students involved. This type of situation most often occurred during recreation or when two students were communicating. When a student who was not intellectually impaired was present and helped mediate positive proximal or reciprocal contact between another student and a student with severe intellectual impairments, this was defined as a mediated situation (9.6%). Negative situations (6.4%) were those that resulted in injury or strong negative feelings.

Murray also described five different kinds of social relationships that were observed between students with intellectual impairments and those who were not identified as intellectually impaired. The first she labelled observational relations, where one student simply watched another. Type II relations occurred where one student was assigned to be the peer tutor of a student with a intellectual impairment and this peer tutor was often

exasperated or critical of his/her charge. Murray also divided the helping or working relationships (Type III) into two types. She outlined the differences between the two as follows:

> Type IIIa. relations were characterized by warm, engaged affect; Type IIIb. relations, in contrast, were typified by businesslike, bored affect...The balance of power was fixed and unequal in both subtypes, with the nondisabled party in the controlling position...The two subtypes differed principally in terms of affect expressed. (p. 207)

Finally, the balance of power in type IV relations was flexible; reciprocity occurred easily; the affect expressed was warm and spontaneous; and playful behaviour occurred often.

The findings of the Murray study suggest that the types of relationships experienced by students who were intellectually impaired paralleled those available to adolescents who were not impaired. The benefits were not limited to students labelled as moderately mentally retarded. Students who were labelled severely retarded experienced the same range of types of social relations as those who were labelled moderately retarded. In fact, some students who were not intellectually impaired preferred to work with students who were labelled severely mentally retarded because they perceived them to need more help.

Qualitative research completed with adults who are intellectually impaired and live in the community has portrayed their interactions and relationships with those who are not impaired as being characterized by a helping orientation. Edgerton (1967), in his description of the lives of individuals who are mildly intellectually impaired, noted that most of these people have benefactors who helped them with problems in the community. This assistance was of tremendous importance in the lives of these ex-patients of a psychiatric institution. Very few of them could adequately cope with everyday life without the assistance of their benefactors. In fact, Edgerton stated that "...the ex-patient succeeds in his efforts to sustain a life in the community only as well as he succeeds in locating and holding a benefactor" (p. 204).

In summary, then, the research seems to show that people who are intellectually impaired and are integrated into regular classrooms or live in the community take part in the same kinds of interactions and relationships as other students, although a number of researchers suggest that true friendships are only rarely formed. Most of the interactions appear to be control-and-demand oriented, where the individual who is not intellectually impaired helps the person who is impaired. These conclusions seem to be true for students with severe or moderate intellectual impairments.

1.1.2 Peer interactions and relationships in childhood:

Many writers have underlined the importance of peer contacts in the socialization of children. Piaget noted that the cooperation and sharing that occurs in early peer relationships allows children to achieve wider perspectives about their social world. They have an opportunity, through play, to establish egalitarian and reciprocal relationships and to experience conflict and negotiation. Children who play with their peers learn that productive and positive interaction is achieved by compromise and socialized thoughts (Rubin, 1982).

Sullivan suggested that relationships between peers help children learn about cooperation, mutual respect, and interpersonal sensitivity. Other writers have suggested that children learn about the social world from their peers, and rely on their emotional support in novel situations (Rubin, 1982).

Vygotsky stated that peer play is a leading factor in the social development of children. Specifically, it is essential for the acquisition of social knowledge and interactive skills (Corsaro, 1985, 1986). Corsaro discussed play as a shared feature of what he referred to as peer culture. Children learn about the adult world through the creation of their own peer world. They learn, through play with their peers, that certain individuals do certain things with others, such as mothers, fathers, babies, and so on:

> Although pre-school children seldom initiate dramatic role play or other peer play routines...with definite plans of action or preconceived interpretive schemes, *plans and interpretive themes are jointly produced and shared during the course of play.* In this sense, peer play among pre-school children does not involve individual self-consciousness, but I argue...that peer play does involve the children's development and use of a group or collective identity. During the course of peer play, children, like adults in the production of ritual events, experience a sense of communal sharing and group identity (Corsaro, 1985, p. 65).

Interactions and relationships with peers are vital to the social development of children. Through play and other contacts with their peers, they become much more than individuals. They become participants in a broader peer culture. This peer culture of pre-school children "...is best seen as the children's continual, communal attempts to grasp and control a social order first presented to them by adults, but one which eventually becomes their own reproduction" (Corsaro, 1985, p. 75).

1.2 Statement of the problem

A number of authors (Guralnick, 1984; Taylor & Asher, 1984) have indicated a need for further research in the area of social relationships of those with intellectual impairments. More specifically, Guralnick points to the need for further research on the nature of the interactions actually occurring between children with intellectual impairments and their peers in order to suggest explanations for existing results and possible intervention strategies. Taylor and Asher state that there is a clear need for more sophisticated observational studies on the formation and maintenance of social status of the child with an intellectual impairment. They suggest these studies should be conducted over extended time periods and should include observations made outside the classroom. There

is a need for a study of the type and quality of interactions and relationships observed between children with severe intellectual impairments, integrated into regular classrooms, and their peers who are not identified as intellectually impaired.

This case study will examine the characterizations of two children with intellectual impairments, their level of participation in play activities, and the interactions and relationships of these children with peers who are not intellectually impaired. The data will be used to test Guralnick's (1984) observational statement that the interactions and relationships between children with intellectual impairments and their peers who are not impaired conform to the following pattern:

> It is important to note that, especially when addressing severely and moderately delayed children, the style of the nonhandicapped children's interactions can be characterized as more "adultlike" or "older sibling" than "peerlike." That is, nonhandicapped children tend to be dominating and controlling in their interactions, and the communicative adjustments they make more closely resemble those adjustments parents make to their normally developing children (Broen, 1972; Gleason & Weintraub, 1978) or those made by older to younger children (Shatz & Gelman, 1973; Gelman & Shatz, 1977). (p. 147)

Four sets of questions are addressed in this study as they relate to the above description:

1. How are students with severe intellectual impairments characterized by peers who are not intellectually impaired and by teachers and aides?
2. What is the level of participation of students with severe intellectual impairments in classroom and play activities?
3. What kinds of interactions do students with severe intellectual impairments experience with peers who are not impaired and how are these characterized by these peers, teachers, and aides? How do these interactions compare to those of the other students?

4. How do the students who are not intellectually impaired, teachers, and aides characterize the relationships experienced by students with severe intellectual impairments? How do these compare to the characterizations of the relationships experienced by students who are not intellectually impaired?

2.0 Method

2.1 Symbolic interactionism:

Symbolic interactionism was used as a general theoretical and methodological guide in this study. Culture is viewed as acquired knowledge, and the meanings that people and objects have are central to an understanding of how our world works (Spradley, 1980).

Herbert Blumer (1969) identified three premises on which this theory rests. The first is that people "...act toward things on the basis of the meanings that the things have for them" (p. 2). The "things" that Blumer refers to include everything that individuals make note of in their social world. With respect to this study, this general theoretical question leads one to ask what meaning the child with severe intellectual impairments has for the other students. This meaning is partly reflected in the types of interactions and relationships observed, and partly reflected in what the other students say about the student with severe intellectual impairments. It also leads one to consider, to the extent that this can be determined, the meaning that the other children had for the children with severe intellectual impairments.

The second premise states that the "...meaning of such things...arises out of the social interaction that one has with one's fellows" (Blumer, 1969, p. 2). In this study, the social interaction that other children have with the students who are intellectually impaired determines the meaning, and thus the relationships that the students with severe intellectual impairments have with those who are not impaired. The opposite is also true: the social interaction that students with severe intellectual impairments have with other students determines the meaning, and thus the relationship that the other students have with the students with severe intellectual impairments.

The social interaction that other students observe involving their peers, their teachers, or their families and the student with severe intellectual impairments helps

determine the initial and later meanings, and thus the initial and later relationships, that the student with severe intellectual impairments has for these individuals.

The third premise of symbolic interactionism "...is that these meanings are handled in, and modified through, an interpretative process used by the person in dealing with the things he encounters" (Blumer, 1969, p. 2). Blumer notes that interpretation is not the automatic application of established meanings but a formative process in which meanings are used and revised as instruments for the guidance and formation of action.

Symbolic interactionism also has an explicit methodological orientation:

> It signifies immediately that if the scholar wishes to understand the action of people it is necessary for him to see their objects as they see them. Failure to see their objects as they see them, or a substitution of his meanings of the objects for their meanings, is the gravest kind of error that the social scientist can commit. It leads to the setting up of a fictitious world. Simply put, people act toward things on the basis of the meaning that these things have for them, not on the basis of the meaning that these things have for the outside scholar. (Blumer, 1969, p. 51)

In order to do this effectively, researchers must be able to place themselves in the position of the individual collectively being studied. They must also have a body of relevant observations. These are often "...descriptive accounts from the actors of how they see the objects, how they have acted toward the objects in a variety of different situations, and how they refer to the objects in their conversations with members of their own group" (Blumer, 1969, p. 51). The depiction of these objects should be subject to a critical discussion by a group of well-informed participants. Finally, researchers must guard against their preconceptions directing the research.

Also, symbolic interactionism implies that social interaction is a formative process in its own right...it is not just the medium through which other factors produce behaviour. People tend to adjust their behaviour in view of what they encounter in others.

Social action is seen as consisting of the individual and collective activities of people who are engaged in social interaction. It is through the observation of social action that the categories that give conceptual order to human social life are derived: the mentally retarded, relationships, normal children, and so on. The researcher must accurately depict and understand social action.

In this study, symbolic interactionism led to a strong focus on the meanings that the two boys with severe intellectual impairments had for their classmates, teachers, and aides, in terms of what these individuals said and what they were observed doing. In addition, the meanings that the other children had for the boys with severe intellectual impairments is explored. It also dictated the use of a naturalistic and qualitative approach to gather data, in particular participant observation and in-depth interviews.

2.2 Ethnography:

2.2.1 Ethnographic case study method:

Traditional ethnography tends to be general in form. Researchers make statements about overall patterns of belief or behaviour on the basis of extensive observations. Case studies, on the other hand, "...are the detailed presentation of ethnographic data relating to some sequence of events from which the analyst seeks to make some theoretical inference" (Mitchell, 1984, p. 237).

Case studies are typically used in three ways. In the first, the social scientist makes use of typical cases from the field-notes to illustrate particular customs, relationships, principles of organization, and so on. Here the use of cases simply makes an abstract account more accessible.

The second type of case study is conducted over an extended period of time, and usually discusses the same actors over a number of different situations. This allows a researcher to add an historical dimension to an account.

In this study, a connected set of events or a social situation are analysed as a "case." The emphasis in this type of case study is the theoretical connection between events rather than the events themselves. This kind of analysis attempts to describe some aspect of the social structure. As pointed out by Blumer, however, the behaviour and interpretations of the individuals in a given social situation are conditioned by that situation. Therefore, "...the analyst chooses a situation precisely because it exhibits the 'morphology of the social structure'" (Mitchell, 1984, p. 238).

Inferences made from case studies are based on analytical induction and not on enumerative induction:

> What the anthropologist using a case study to support an argument does is to show how general principles deriving from some theoretical orientation manifest themselves in some given set of particular circumstances. A good case study, therefore, enables the analyst to establish theoretically valid connections between events and phenomena which previously were ineluctable. From this point of view, the search for a 'typical' case for analytical exposition is likely to be less fruitful than the search for a 'telling' case in which the particular circumstances surrounding a case, serve to make previously obscure theoretical relationships suddenly apparent. (Mitchell, 1984, p. 239)

Data for case studies should be gathered from an array of sources. The point of a case study is to present as complete a set of information as possible regarding the social situation being studied. With this view, any technique of data collection may be used and none is more important than another. However, repetition should be avoided, as the point of the case study is to demonstrate the theoretically significant links between events and actions.

This case study focused on two children who are severely intellectually impaired and integrated into regular classes along with the other students who play with them. These children are in two different elementary schools. One is in kindergarten, the other in grade one. Observations were made of these children in the network of social situations in and around their schools, in the classrooms, lunchrooms, hallways, playgrounds, and entrances. The behaviour of these children and their peers were examined in order to describe and make inferences about the structure of interactions and relationships between the children with severe intellectual impairments and those who are not impaired.

The data collected for this case study include condensed and expanded field-notes, taped ethnographic interviews with children and staff, quantitative data on the children's level of social participation during free play, and quantitative data on the types of language used between the children.

The qualitative and quantitative data gathered was used to examine whether and how the Guralnick's description manifested itself in the interactions and relationships of these two boys with severe intellectual impairments. It also suggested ways that this description needed to be further refined.

2.2.2 Participant observation:

The participant observation method described by Spradley (1980) was one of the methods of data collection used for this study. A participant observer has two purposes in a social situation: "(1) to engage in activities appropriate the situation and (2) to observe the activities, people, and physical aspects of the situation" (p. 54). In this sense the participant observer is both an insider and an outsider at the same time. In a school, for example, a researcher both observes the staff and is considered a member of the staff by the children and adults.

There are different types of participant observation, varying by degree of involvement from non-participation to complete participation (Spradley, 1980). In this study, the level of participation was passive to moderate. The researcher observed the children as they interacted with each other, talked to them to find out what their perspectives were and talked to the teachers and aides. However, the researcher avoided intervening in situations as a teacher would. Over time, the children appeared to ignore the researcher as they talked to each other about the same topics that they would stop talking to each other about if a teacher or aide were present.

When engaged in participant observation, researchers use themselves as research instruments (Spradley, 1980). They spend long periods of time in a particular setting, taking brief notes regarding the events and actions that are occurring. They attempt to become increasingly aware of things they usually ignore and try to see the whole situation through a wide-angle lens. Finally, they keep a detailed record of what they observe and what they experience when they leave the research situation.

2.2.3 Note-taking:

Field notes were main source of data for this study and were only taken in the children's and staff's presence when this was not perceived to interfere with their behaviour. For example, notes were only taken in the classroom when the researcher could sit at a desk and write unobtrusively. No notes were taken in the lunchroom or playground, but the researcher sat down immediately afterwards to write what had been observed and heard. This approach appeared to reduce reactivity on the part of the students being observed (Zetlin & Murtagh, 1988). These condensed, hand-written notes were expanded each night after a day of data-taking.

Whenever possible, a verbatim record was made of all verbal interactions between the children with severe intellectual impairments and their peers. When describing non-

verbal interactions, concrete language was used, giving as much specific detail as possible. A conscious effort was made to simply record what was observed and not to interpret events. The type of language used in each field note (children's=CL, teacher's=TL, researcher's or investigator's language=IL) was specified.

2.2.4 Interviews:

In ethnography interviews have a particular purpose. The researcher works with informants to gain knowledge about a particular area (Spradley, 1979). Informants speak in their own language or dialect to the researcher; they provide a model for the researcher to imitate; and they are an important source of information. Spradley emphasized that the best informants know the given social situation well, are currently involved in it, have adequate time for interviews, and are nonanalytic. He also stated that it is best if the cultural scene being studied is unfamiliar to the researcher. In this way, he/she will be sensitive to tacit cultural knowledge.

Spradley indicated that ethnographic interviews are best conducted like a series of friendly conversations. The exclusive use of ethnographic elements will have a detrimental effect on rapport. There are three main elements to an ethnographic interview. It has an explicit purpose that is outlined to the informant; it includes explanations so the informant understands what the researcher is doing; and it includes ethnographic questions.

Some of the interviews in this study were completed with children aged five to seven. There are problems in interviewing children in this age group, particularly those under age five, because of their limited vocabulary and the extensive symbolism in their language (Deatrick & Faux, 1989). These authors recommend interviewing in a private and neutral area, breaking the interview into short sections to allow for the short attention span of children, and maintaining awareness of the child's emotional state throughout the interview.

The ethnographic interviews in this study were taped and later fully transcribed, including all elements of the language used included. The interview schedules were developed following Spradley's description and are included in Appendix A. The general purpose of these interviews was to elicit the perceptions of staff and children regarding the behaviour and situation of interest in this study.

2.2.4 Choice of subjects for qualitative data-taking:

As mentioned previously, two children were selected for this study. The selection of two children from different schools for this case study allowed the researcher to separate experiences specific to one child or setting.

These two children were selected because they were labelled as severely mentally retarded and were integrated into regular classrooms in elementary schools. In addition, they did not have any identified behaviour problems that interfered with their socializing with other children and were able to get around independently. This ensured that there were no behavioural or physical disabilities that prevented them from interacting with others. These boys and their day at school will be described in more detail in sections 2.4.1 and 2.4.2. It should be noted that the names of all individuals mentioned in this study have been changed. These two boys are referred to as Gary and Peter.

Three children in each classroom were chosen to be interviewed by the researcher. These choices were made based on the reports of teachers and aides regarding the children who were most involved with either Gary or Peter. These children would then meet Spradley's (1979) criteria for a good informant. One child in the kindergarten appeared very uncomfortable in the interview situation. When told that she could leave if she wanted to, she promptly fled. Thus three children were interviewed in Gary's grade one class and two children were interviewed in Peter's kindergarten class.

2.2.6 Achieving entry:

Permission was required to complete this study from the ethics committee in the Department of Educational Psychology at the University of Alberta, Field Services in the Faculty of Education, the school boards responsible for the schools in question, the principals at each school, the teachers in the classroom and kindergarten in question, and the parents or legal guardian of the two boys. Permission was secured in writing from the ethics committee, Field Services, and the parents or guardians involved. The letter of permission used with the parents or guardians of the two boys is included in Appendix B. Oral permission was secured from the principals and teachers. The school boards and Field Services work in conjunction with each other. In addition, a note was sent home with every child in Gary's school and every child in Peter's kindergarten class. It explained the research being completed and stated that if any parent did not want their child included in this study, they should contact the school or the researcher. No parents responded to this note, which is included in Appendix B.

Initial suggestions regarding the choice of subjects for this study came through contacts with consultants working with the school boards. These individuals also outlined the proper procedures for obtaining permission to complete a study of this type. Using these suggestions and knowledge gained by completing a practicum assignment with a consultant, the researcher made a request through Field Services to carry out this study. This was accepted and the principals and teachers were later contacted to secure their consent to make observations. Finally, the parents or legal guardians of each boy were contacted.

Although many individuals had to give their approval before this study could proceed, entry was denied on only one occasion. A teacher in one school stated that she did not want a researcher in her classroom, particularly for an extended period of time. Fortunately, an alternative was available in this school. Another teacher consented to the

research being completed in her classroom and thus rapport was maintained within this school.

2.2.7 Method used to analyse qualitative data, with numbered keywords and sources of data:

All of the field-notes and transcripts of interviews were entered into EndNote,™ a computer program most often used to compile bibliographies. This program was used with a Macintosh Plus computer. Every 'chunk' of data, either responses to questions during the interviews or blocks of field-notes, was entered as a separate reference. The interview responses were coded by setting, number, person being interviewed, and keywords that indicated what categories best characterized the given response. Each field-note was coded by setting, number, date, and keywords. All of the coding was completed by the researcher.

In this way a data-base of 473 items was generated. These items were organized and printed out according to the keywords used. This written material was then reviewed and analysed. The keywords and the source of data for each category are as follows:

1.0 Ways that children with severe handicaps are characterized by peers who are not intellectually impaired and teachers or aides

1.1 Ways that children who are not intellectually impaired characterize children who are intellectually impaired and are in their class. (Fieldnotes and interviews.)

1.2 Ways that teachers or aides characterize children who are intellectually impaired and are in their class. (Fieldnotes and interviews.)

2.0 Level of participation:

2.1 Activities in which the children who are intellectually impaired participate with their peers who are not intellectually impaired. (Fieldnotes and interviews.)

2.2 Activities in which the children who are intellectually impaired do not participate with their peers who are not intellectually impaired. (Fieldnotes and interviews.)

2.3 Level of participation in play by children with handicaps when playing or present with children who are not intellectually impaired...group, parallel, alone, staff. (Fieldnotes and interviews.)

2.4 Level of participation in play by children who are not intellectually impaired...group, parallel, alone, staff (Fieldnotes and interviews.)

2.5 Level of participation in play by children with handicaps when playing or present with other children who are intellectually impaired in a segregated setting...group, parallel, alone, staff. (Fieldnotes.)

3.0 Interactions:

3.1 Ways that children who are not intellectually impaired characterize their interactions with children who are intellectually impaired. (Fieldnotes and interviews.)

3.2 Ways that teachers or aides characterize the interactions between children who are not intellectually impaired and children who are intellectually impaired. (Fieldnotes and interviews.)

3.3 Ways that children who are not intellectually impaired interact with children who are intellectually impaired during play...kinds of interactions. (Fieldnotes and interviews.)

3.4 Ways that children who are not intellectually impaired interact with each other during play...kinds of interactions. (Fieldnotes and interviews.)

3.5 Types and styles of verbal communication directed by children who are not intellectually impaired towards children who intellectually impaired...direction, question, comment, frequency, repetitions, rate of speech, use of first of name, etc. (Fieldnotes.)

3.6 Types and styles of verbal communication directed by children who are not intellectually impaired towards other children who are not intellectually impaired...direction, question, comment, frequency, repetitions, rate of speech, use of first of name, etc. (Fieldnotes.)

4.0 Relationships:

4.1 Ways that children who are not intellectually impaired characterize the relationships between themselves and the children who are intellectually impaired. (Fieldnotes and interviews.)

4.2 Ways that teachers or aides characterize the relationships between children who are not intellectually impaired and children who are intellectually impaired. (Fieldnotes and interviews.)

4.3 Characteristics of friends of children who are not intellectually impaired as described by children. (Fieldnotes and interviews.)

4.4 Characteristics of friends of children who are not intellectually impaired as described by teachers or aides. (Fieldnotes and interviews.)

2.2.8 Reliability and validity:

This study falls into the category that Lather (1986) referred to as "openly ideological research." It is accepted that children with intellectual impairments should be taught in the same classrooms, play in the same playgrounds, and eat in the same lunchrooms as their peers who are not intellectually impaired. They should be given every opportunity to be physically present in these environments and every effort should be made to encourage interactions with their peers who are not intellectually impaired.

Ethnography is also a highly personal process and no researcher does ethnographic research like another (Goetz & LeCompte, 1984). Therefore, investigators should specify precisely how they did their research to prevent serious problems with reliability. No qualitative study can be replicated without substantial information regarding the methods used to gather the data. Researchers should also clearly outline what their assumptions are.

Given this explicit ideology and the nature of ethnography, it is vital that those who read this case study have confidence in the data. Checks and balances must be built into the

study to ensure that an allegiance to the truth is as strong and explicit as the belief in the "rightness" of mainstreaming.

Reliability in qualitative research only has value as an indicator of validity; the consistency of scores across occasions is of no value in itself (Hammersley, 1987). There is a concern with the accuracy of measurements, but the same strategies are used to assess reliability and validity. It is difficult to provide actual measures of reliability:

> In qualitative studies, researchers are concerned with the accuracy and comprehensiveness of their data. Qualitative researchers tend to view reliability as a fit between what they record as data and what actually occurs in the setting under study, rather than the literal consistency across different observations. As the preceding discussion indicates, two researchers studying a single setting may come up with different data and produce different findings. Both studies can be reliable. One would only question the reliability of one or both studies if they yielded contradictory or incompatible results. (Bogdan & Biklen, 1982, p. 44).

In order to ensure this type of reliability, concurrent sets of field notes were constructed by the principal investigator and a research assistant for each subject on two separate days. Each set of notes is included in Appendix D. When these eleven parallel blocks of field-notes were examined, it was clear that they were written by different individuals. In fact, it is the differences in these accounts that were striking at first glance. However, there was no variation in the social contexts mentioned. These accounts also matched in terms of the markers of interaction: when contact occurred, when conflict was noted, and so on. In this sense the results were not contradictory or incompatible and the field-notes recorded were reliable.

However, the differences that exist lead to questions regarding the accuracy of both sets of field-notes rather than their validity. These differences occurred due to a variety of factors. The research assistant was not adequately trained prior to taking these field-notes. Her accounts appeared to be condensed as opposed to fully expanded field-notes. She did

not appear to have used her condensed, hand-written notes as the beginning of a full and complete account of what occurred in the classroom. The researcher should have noted this difficulty and trained her to take the notes properly prior to the reliability checks. The differences in accuracy were also the result of the normal differences that occur between two people observing the same event and using written notes to record what was observed. The two observers inevitably see the same event differently, particularly if it is a multi-faceted event like human interaction. They also look and write at different times and, when writing, they cannot observe.

In addition, triangulation was relied upon to improve the validity of the results reported:

> Just as a surveyor locates points on a map by triangulating on several sights, so an ethnographer pinpoints the accuracy of conclusions drawn by triangulating with several sources of data. Triangulation prevents the investigator from accepting too readily the validity of initial impressions, it enhances the scope, density, and clarity of constructs developed during the course of the investigation. (Goetz & LeCompte, 1984, p. 11).

Lather wrote that triangulation should "...include multiple data sources, methods, and theoretical schemes" (1986, p. 67). Multiple sources of data were used in this study. Two children with severe intellectual impairments were studied in two different schools and grade levels. This use of comparative cases to test Guralnick's control-and-demand hypothesis strengthened the claims made when the data from both cases pointed in the same direction. In addition, looking at two cases helped distinguish the particular from the general case...it provided a sense of the complexity and individuality of the interactions and relationships.

Other sources of data were relied upon during the research. Two teachers and two aides were interviewed and observed. A large number of children who were not intellectually impaired were observed in each setting, and five were interviewed.

The different measures used in this study included field-notes taken throughout the schools and ethnographic interviews completed with the children's teachers, aides, and five peers. A number of quantitative measures were also used. These included data on the level of social participation of children with and without intellectual impairments and data on the types of language addressed to Gary and Peter by their peers.

The different theoretical schemes that influenced this study include Guralnick's control-and-demand hypothesis, Edgerton's view of a benevolent conspiracy, Murray's scheme of the different types of interactions and relationships that people with severe intellectual impairments experience, and Taylor and Bogdan's sociology of acceptance. These are outlined in more detail in the sections 1.1.1 and 4.5.

A common threat to data validity is reactivity (Deatrick & Faux, 1989), where those being observed or interviewed respond to the presence of the researcher in such a way that the data do not reflect what usually occurs in the environment. In this study, this threat was lessened by having the researcher spend long periods of time in each school: eight months in Peter's kindergarten and twelve months in Gary's school. The children and staff were familiar with the presence of the researcher and with the stance of passive to moderate involvement that was adopted. Outside consultants often came to both schools to do some work with Gary and Peter, and it appeared that the researcher was accepted in this manner. In fact, the researcher had worked with Gary for four months as a practicum student and, as such, had helped design the integration program that was used to structure his day. In addition, he had attended an integration inservice with the staff from the other school and had spoken briefly there about his work in this area.

Face validity is essential to the process of establishing data credibility. It is improved in qualitative research through member checks, where the analysis is recycled back through a sample of respondents (Lather, 1986). In this study the individuals who were interviewed had an opportunity to influence the direction of the results. The interviews were completed towards the end of the school year and the questions posed

implied the interests of the researcher. However, the informants were not interviewed a second time to allow them to fully review and then respond to the preliminary conclusions.

There is a tendency in research to impose theory on reality: to impose one's views on the real world rather than letting the data shape the theory. This tendency must, to some extent, be reversed in order to improve construct validity. Lather (1986) writes that researchers should make use of a "systematized reflexivity" to accomplish this goal. This means that researchers need to show how the theory they rely on has been altered by the logic of the data. In this paper the theory relied on has been altered by the data. Chapter four clearly shows how Guralnick's description has been broadened by the results of this study and by the research of others. A search of the data for results that directly contradicted this description led to the establishing of a new and broader theoretical scheme that accommodated apparently contradictory results. Searching out and explaining contradictory results is essential to establishing construct validity (Lather, 1986).

Lather (1986) also makes reference to catalytic validity. By this she is referring to the extent that the research process re-orients, focuses, and energizes the subjects. The research process has an impact on subjects. She believes that this impact should be consciously channeled so that the subjects gain some self-understanding and, hopefully, self-determination through their participation in the study. This will be achieved by presenting the results of the study to those who participated in it through a written summary of the study.

This triangulation of data sources, methods, and theoretical schemes lent support to the validity of this study (Lather, 1986; Woods, 1986). The results from each area pointed in the same direction; this greatly increased confidence in the study. Face validity was somewhat improved through the ethnographic interviews completed with the children, teachers, and aides.

2.3 Quantitative data-taking:

2.3.1 Level of social participation:

The interactions focused on in this study were those where adults did not participate in or determine the form of the interaction, although they may have initiated it. These unstructured interactions represented a low degree of adult involvement and structuring of activities. Adults were only involved with the children when they were asked for assistance or to ensure that nothing harmful happened. They had a caretaking, as opposed to an educational, role. Staff interactions with children were brief and transitory and the children were responsible for developing and maintaining their own activities.

This type of play or interaction was characterized by Smith and Connolly (1984) as distinct from "structured activities." The latter was defined by a fairly high degree of adult involvement and structuring of activities. During this type of play or interaction, staff were actively involved with the children. They used every opportunity to talk with them and develop play constructively.

This case study was used to examine the contrasts between the social behaviour observed when children with severe intellectual impairments interacted together in segregated environments as opposed to their interactions when integrated in regular classrooms with children who were not intellectually impaired. It also examined the contrasts between the interactions of these other children as opposed to the interactions among children with severe intellectual impairments and children who were not intellectually impaired in integrated environments.

These contrasts were examined to get a sense of the degree to which the two boys were socially involved with their peers during free play activities. Quantitative data on the level of social involvement, when blended with the qualitative data from this area, acted as another measure and allowed further testing of Guralnick's control-and-demand hypothesis.

In order to examine these contrasts, quantitative data was taken on the following three measures of behaviour:

1. Types and percentages of three different levels of social behaviour observed for children with intellectual impairments in the regular classroom (i.e. alone, parallel, group play).

2. Types and percentages of three different levels of social behaviour observed for children with intellectual impairments in the special education classroom (i.e. alone, parallel, group play).

3. Types and percentages of three different levels of social behaviour observed for children without intellectual impairments in the regular classroom (i.e. alone, parallel, group play).

The coding devised by Smith (Bakeman & Gottmann, 1986) was used, with some modifications, to measure the types of play engaged in by children with intellectual impairments in the regular and special education classrooms and for the other children in the regular classrooms. This scheme used modified categories originally developed by Parten in the 1920s at the University of Minnesota (Parten, 1932). Smith reduced Parten's six categories (unoccupied behaviour, onlooker, solitary independent play, parallel activity, associative play, and cooperative or organized supplementary play) to three categories. With changes, these are:

1. Alone:

Target children are considered to be playing alone when they are engaged in any of the following activities:

-The children are not engaged with anything specific. Their behaviour seems somewhat aimless. They might watch something of momentary interest, wander around, play with their bodies, or stand or sit in one place.

-The target children are watching other children play or interact, but do not enter into their play, engage them in conversation or non-verbal interaction (i.e., sustained eye

contact, gesturing towards them, laughing together, or touching). They might talk to themselves, however. To engage someone in interaction means that: (1) one person must be talking or gesturing, and the other person must be attending or responding, or (2) two individuals must be looking at each other, laughing together, or touching each other.

-The target children are engaged in an activity or play alone and independently with toys that are of interest. These toys are different in type (e.g., blocks vs. trucks and cars; crayons, scissors and paper vs. puppets) from those being used by children within two metres of them and in clear view. If they are not playing with toys but are engaged in an activity (e.g., dancing) than this activity must be different from that of children within two metres and in clear view. Their activity or play does not appear to be affected by what these other children are doing.

2. Parallel:

Children are engaged in parallel play or interaction when they are doing one of the following things:

-The target children are still playing independently but their activity naturally brings them among other children. They are playing beside them, not with them, and the toys they are using are similar (e.g., arts and crafts supplies, cars and trucks, blocks, dolls, etc.) to the ones that at least one child within two metres and in clear view is using. The target children are not playing with toys but is engaged in an activity (e.g., [illegible] this activity must be similar to that of at least one child within two metres and in [illegible]

-The target children do not attempt to control the coming or going of children in immediate vicinity. They do not engage them in conversation or non-verbal interaction (i.e., sustained eye contact, gesturing towards them, or laughing together), nor do they touch them. They might talk to themselves, however.

-The target children may walk together with others, or they may follow a group or another child. They do not engage them in conversation or non-verbal interaction (i.e., sustained eye contact, gesturing towards them, laughing together, or touching). To engage

someone in interaction means that: (1) one person must be talking or gesturing, and the other person must be attending or responding, or (2) two individuals must be looking at each other, laughing together, or touching each other.

3. Group:

For the purposes of this study, target children are considered to be engaged in group play or interaction when they are doing one of the following things:

-They are playing or interacting with at least one other child. There is some sharing of play material, some conversation or non-verbal interaction (i.e., sustained eye contact, gesturing towards another, laughing together, or touching), or some attempts to control which children are in the group. As noted above, to engage someone in interaction means that: (1) one person must be talking or gesturing, and the other person must be attending or responding, or (2) two individuals must be looking at each other, laughing together, or touching each other.

-The children play together with toys of a similar type or engage in the same activity together (e.g., dancing, a pretend game, a conversation). It appears that the target children play or interact as they wish. However, because they are sharing play materials, interacting, touching another child, or controlling which children can be a part of the group, the sense is that their interest lies more with the association with others than with the particular activity.

-The target children may also play or interact in a group that is organized for some purpose. The purpose might to dramatize a situation, such as playing house, or to play a formal game, or to reach some competitive goal. There is a sense of belonging or not to the group. There is also a division of labour, a taking of roles, and an organization of activity so that the efforts of one child are supplemented by those of another. For the purposes of this study, group play or interaction occurs when a child has one or more group companions (Smith & Connolly, 1984).

Two additional data categories were added for this study. These are interacting with staff and observation missed.

4. Interacting with staff:

There is a staff person within two metres of the target child and there is some sharing of play material, some conversation or non-verbal interaction (i.e., sustained eye contact, gesturing, laughing together, or touching) between the child and the staff person. Also, the staff person may be talking to the target child without this child responding. For example, the adult may be standing about two metres away from the child and asking him or her to do something. As noted above, to engage someone in interaction means that: (1) one person must be talking or gesturing, and the other person must be attending or responding, or (2) two individuals must be looking at each other, laughing together, or touching each other.

5. Observation missed:

If the observer misses an observation at a particular point, this will be indicated on the data sheet. When the target child is not visible at a particular moment to the observer from his or her fixed observation point, then the observation is considered missed. The observer will not go looking for the child, nor will he or she make any inferences regarding the child's level of participation unless that child is clearly visible.

2.3.2 Sampling and method:

This was an ethnographically oriented case study, and the quantitative data taken supplemented the qualitative data, pointing out trends in the level of social participation of children with and without severe intellectual impairments.

The first dependent variable was the type of play behaviour or interaction observed for children with intellectual impairments in the regular classroom (i.e., alone, parallel,

group play). The target children in this category were the two children with severe intellectual impairments at each elementary school.

The method used in each school varied slightly to accommodate the difference between the different classroom environments. For Gary, data was taken using momentary time-sampling during the first 30 minutes of free time at lunchtime (12:15-12:45 P.M.). The categories used to measure the level of social participation for all three variables were: alone=A, parallel=P, group=G, interacting with staff=S, observation missed=X. The researcher observed this child every 15 seconds and categorized the type of play or interaction he was engaged in at that moment. This data was gathered over four school days. The data sheet is included in Appendix C.

For Peter, data was taken using momentary time-sampling during free play or centre times in the classroom. These times were defined by the teacher at the start of each day of data taking, and occurred between 9:15 and 10:00 A.M daily. Peter (P) was observed in a rotation with the children who were not handicapped (NH), in the following manner: NH1/NH2/NH3/P/NH1...and so on. The numbers refer to the observations made every 15 seconds during the same rotation of three children who were not intellectually impaired. Thus data was recorded on his participation in play every 60 seconds. This data was gathered over four school days. The categories used to measure the level of social participation for all three variables were: alone=(A), parallel=(P), group=(G), interacting with staff=(S), observation missed=(X). This data sheet is included in Appendix C.

The second dependent variable was the type of play behaviour or interaction observed for children with intellectual impairments in the special education classroom (i.e. alone, parallel, group play). Peter was the target child in this category, as he spent part of each school day in a segregated classroom.

The researcher took data using momentary time sampling during free play time in the special education classroom (11:30 A.M. - 12:00 P.M.). The categories used to

measure the level of social participation were: alone=(A), parallel=(P), group=(G), interacting with staff=(S), observation missed=(X). The researcher observed him every 15 seconds and categorized the type of play or interaction he was engaged in at that moment. This data was gathered over four school days. The data sheet is included in Appendix C.

The third dependent variable was the type of play behaviour or interaction observed for children without intellectual impairments in the regular classroom (i.e. alone, parallel, group play). At each school, four children who were not impaired (NH) were selected at random from the class list for observation.

At Gary's school, these four children were observed during morning and afternoon recess (10:30-10:45 A.M., 2:20-2:35 P.M.), and during centre time in the classroom (3:10-3:30 P.M.). They were observed in a rotation: NH1/NH2/NH3/NH4/NH1/NH2...and so on. These observations were made every 15 seconds over four days. The data sheet is included in Appendix C.

At Peter's school, the children who were not intellectually impaired (NH) were observed as indicated above, in a rotation with Peter: NH1/NH2/P/NH3/NH4/P...and so on. These observations were made over four days during centre time as defined by the teacher. The categories used to measure the level of social participation for all three variables were: alone=(A), parallel=(P), group=(G), interacting with staff=(S), observation missed=(X). The data sheet is included in Appendix C.

The observer sat in the same location each day at each school, observed the appropriate target child, and recorded the behaviour he or she was engaged in every time that a "beep" was heard from a tape recorder. This tape recorder was prepared so that a low beep, just audible to the researcher and research assistant, occurred every 15 seconds.

2.3.3 Reliability of quantitative data:

Data was taken for four days in each setting and reliability checks were carried out for three days in each setting using a second observer. This individual was not informed to the purpose of the study and to the hypotheses being tested. Data from these reliability checks is presented in Tables 1 through 5 below:

	Agree	Disagree	A/(A+D)	Kappa	Better than chance
Group	28	3	.903	0.9013	46.67
Parallel	3	2	.600	0.5998	1798
Alone	164	7	.959	0.8910	1.536
Staff	9	4	.692	0.6915	259.3
Totals	204	16	.927	0.9132	5.736

Table 1: Reliability data for variable one, level of social participation for Gary over three days.

	Agree	Disagree	A/(A+D)	Kappa	Better than chance
Group	47	7	.870	0.8406	4.672
Parallel	16	8	.667	0.6556	20.88
Alone	33	9	.786	0.7611	7.650
Staff	6	4	.600	0.5981	130.4
Totals	102	28	.785	0.7655	9.640

Table 2: Reliability data for variable three, social participation for peers who are not intellectually impaired and attend Gary's grade one class.

	Agree	Disagree	A/(A+D)	Kappa	Better than chance
Group	33	17	.660	0.6517	27.83
Parallel	79	35	.693	0.6476	5.388
Alone	82	32	.719	0.6758	5.365
Staff	23	19	.548	0.5409	37.52
Totals	217	103	.678	0.6519	9.012

Table 3: Reliability data for variables one and three in Peter's kindergarten. Interactions of Peter and children who are not intellectually impaired both included.

	Agree	Disagree	A/(A+D)	Kappa	Better than chance
Group	0	0	******	******	******
Parallel	7	14	.333	0.3300	68.27
Alone	98	21	.824	0.7410	2.585
Staff	60	19	.759	0.7232	5.799
Totals	165	54	.753	0.7094	4.974

Table 4: Reliability data for variable two...Peter in the segregated classroom.

	Agree	Disagree	A/(A+D)	Kappa	Better than chance
Group	108	27	0.800	0.7878	13.952
Parallel	105	59	0.640	0.6241	15.446
Alone	377	69	0.845	0.7802	2.866
Staff	98	46	0.681	0.6683	17.824
Totals	688	201	0.774	0.7439	5.576

Table 5: Total reliability data for all variables in all environments.

As can be seen from the above tables, reliability was calculated in the following manner:

Reliability = Agreements / (Agreements + Disagreements)

This method of calculating reliability is more stringent than the usual manner, where one simply divides the total number of observations recorded in a particular category by one observer by those of the second observer. The method used above computed interval by interval differences.

In addition to calculating reliability in this manner, an additional measure of reliability was added. This measure, referred to as Kappa, takes the degree to which one expects a particular reliability figure to occur at random into account:

Kappa = [(A/(A + D)) - (Random Expectation)] / [1.00 - Random Expectation]

Random expectation equals the proportion of his or her total observations that one observer records for a particular variable multiplied by the the proportion of his or her total observations that the second observer records for the same variable. For example, if both observers agreed that a child was alone for 99 intervals out of 100 throughout an observation period, then the random expectation would equal 0.9801. The reliability would equal an impressive 0.990, but the Kappa figure would alert the reader to the fact that the chance of disagreement in this situation was small. Kappa would equal a much less convincing 0.4975. Kappa provides a more conservative estimate of reliability.

The last column in each table provided another indicator of the degree to which random expectation affected reliability. It indicated the extent to which a particular reliability figure (A/[A + D]) was better than chance. It was computed in the following manner:

Better than Chance = [(A / (A + D)] / Random Expectation

Using the above example, if two observers agreed that a child was alone for 99 intervals out of 100, the interval by interval reliability would equal 0.990. However, the figure for "better than chance" would equal 1.010, indicating that this reliability figure was only one percent better than chance, given the distribution of this particular variable across the data categories.

It should be noted that the average random expectation figure for a particular table was computed in this way:

Average Random Expectation = Total Random Expectation / Number of categories for which there was data

This average was in turn used to compute the average Kappa and "better than chance" figures for a particular table.

Looking at the data, one can see that the reliability figures ranged from a low of 0.333 (parallel play, Peter in segregated class) to a high of 0.959 (alone, Gary in integrated class). The Kappa figures ranged from a low of 0.330 (parallel play, Peter in segregated class) to a high of 0.9013 (group play, Gary in integrated class). The figures for "better than chance" ranged from a low of 1.536 (alone, Gary in integrated class) to a high of 1798 (parallel, Gary in integrated class).

The total reliability figures for all variables across all environments demonstrated that a high degree of confidence can be placed in this quantitative data. The overall interval by interval reliability equalled 0.774 and Kappa equals 0.7439. These figures are more than five and a half times better than chance. Yet, overall reliability for parallel play equalled 0.640 and Kappa equals 0.6241. These lower figures were a reflection of the position of this type of play between group play and a child playing alone. These lower figures were offset by the fact that the level of agreement regarding when parallel play did occur was 15.446 times greater than chance. The same was true of interacting with staff. The reliability figure equalled 0.681 and Kappa equalled 0.6683. This reliability figure was still 17.824 times better than chance, however. This was true of the nine other areas where the reliability figures were lower than 0.750. The figures for "better than chance" for these categories ranged from a low of 5.388 to a high of 1798, with a median of 37.52. These figures showed clearly that one can have confidence in these data.

Only one category seemed particularly low: parallel play, Peter in the segregated class. Here reliability equalled 0.333 and Kappa equalled 0.330. In this environment the

disagreement occurred principally when Peter was looking at a book or a puzzle at a table beside another student who was working with an aide on similar work. In this situation one observer indicated that Peter was alone and the other stated that he was engaged in parallel play.

2.3.4 Validity of quantitative data:

The construct validity of a particular measure is the extent to which it can be shown to measure a particular hypothetical construct (Borg & Gall, 1971). In this case the construct measured is level of social participation by children with and without intellectual impairments. The measures of social participation presented have been used by a number of researchers in the past (Bakeman & Gottman, 1986; Guralnick, 1984; Parten, 1932; Smith & Connolly, 1984) and are accepted measures of social participation in children. These measures also have a good deal of face validity. It is fairly apparent when a child is playing in a group, beside another child, is alone, or is interacting with an adult.

2.3.5 Presentation of data:

The data will be presented using three separate bar graphs. Two of these will compare the levels of social participation of each child who is severely intellectually impaired to his peers. The final graph will compare the level of social participation for one child who is severely intellectually impaired in integrated as opposed to segregated settings.

2.4 Subjects and physical setting:

Two children with severe handicaps were observed for this study, each of them in a separate school. Peter's school was a low brick building, with two stories at the back, and

is located beside a four lane road. It was surrounded by middle-class, 1950s era bungalows. He was five years old at the time of the study and attended kindergarten there. The kindergarten classroom was a large, double-sized room that had been a former junior high school home economics room. As a result, it had cupboards and sinks all along one wall and lots of cupboards elsewhere . There were about four low tables with four or five chairs at each and activity areas. There were lots of mobiles hanging from the ceiling and posters and pictures on the walls. These changed depending on the theme that the teacher was concentrating on. The room had a number of large east-facing windows and lots of natural light.

There were 25 children registered in this classroom, with more than 20 present on each day that the researcher took notes in the class. They could play at activity centres: making a large papier-maché dinosaur; playing with dinosaurs and plasticine, making caves out of the plasticine; playing in a store; playing a game with one of the two aides; making a cave; making a spaceship tent; drawing; etc. This classroom had the feeling of being a very busy and noisy place with lots of things for the children to do. In this study the teacher was given the name Mrs. Meyer and his aide was called Mrs. Boychuk.

Peter spent his morning in the kindergarten and his afternoon in the special education room. He went out to recess with the children from kindergarten and ate lunch in the school lunchroom. The same aide, Mrs Boychuk, worked with him in both places. There was another kindergarten aide but she did not appear to work with Peter. Mrs Boychuk was also responsible for another boy who was severely intellectually impaired in the class with Peter and the other children. She worked with the other children from time to time as well.

Peter had no expressive language, but did make a number of sounds. Very occasionally he was heard to use a word. He was able to walk and run without any problems and did not appear to have any difficulties with fine-motor skills. He fed and dressed himself more or less independently, and needed assistance occasionally with

zippers, sleeves, and so on. His mother reported that he was toilet-trained at home, although he had a number of accidents at school.

The second boy who was observed, Gary, was ten years old at the time of the study and was based in a grade one class in a small, older school in a working class neighbourhood. He had been in this classroom for five years. There were 16 children including him in this class. This classroom was a standard size, about 25 feet by 40 feet. The children sat at four round tables in the centre of the classroom, four to a table. One corner of the room was carpeted and had a couch, armchair, teacher's chair, bookcases and coffee tables in it. The bookshelves and the back of the couch enclosed it and made it a separate area. This was where the children started their day and where stories were told. A creative writing centre and music listening centre were adjacent to this area. The far corner of the class served as the coats and boots area, while the corner opposite the door had a sink, cupboards and the teacher's desk. The blackboards and kids' boxes were at the front of the room.

There was one teacher, called Ms. Erikson, and an aide, called Ms. Hall, in the classroom with Gary and the other children. Both worked with him, taking turns to do such things as take him to the toilet, for example. Ms. Hall also worked with other children in the class. A number of other children in the school were designated as peer tutors and worked with Gary on different occasions.

He spent some of his time in this classroom and half hour periods in a number of other classrooms in the school. He was in a grade six class from 9:00 to 9:30 AM; a kindergarten room from 9:45 to 10:10 AM; ate lunch in the school lunchroom with the rest of the children from 11:55 to 12:30 PM; a grade one/two split from 1:20 to 1:50 PM; a grade two/three split from 1:50 to 2:20 PM; and in a grade four/five split from 2:45 to 3:15 PM. At this time he returned to his home room and got ready to go home. Gary rarely went outside at recess or at lunchtime, as it was thought to be too cold for him during the

winter. Also, he did not take part in music or art class with the other grade one students. During these times he remained in his classroom, alone or with his teacher or aide.

Gary had no expressive language skills. He occasionally made sounds, laughing when tickled for example. He could eat some foods on his own, although a teacher or peer tutor often helped him at lunch or snack time. He needed assistance with dressing. He was able to walk and use stairs independently, but rarely ran. Due to a back problem, he wore a full brace from his waist to his armpits. He was not toilet-trained and was taken to the toilet regularly by the teacher or aide.

3.0 Results

This chapter presents the results of the quantitative and qualitative data regarding Gary and Peter. The outline presented in section 2.2.7 was used to organize this data. Every effort was made to simply present the data, leaving the summary and conclusions to chapter four, the discussion.

3.1 Ways that children with severe intellectual impairments are characterized

3.1.1 Ways that children who are not intellectually impaired characterize children who are intellectually impaired:

Children without intellectual impairments who shared the same classrooms with either Gary or Peter characterized them in a variety of ways. The grade one children who were interviewed stated that Gary could both walk, run, and play, as they could. The peers from Peter's kindergarten class stated that he liked taking part in some of the same activities as they did, such as playing in a centre built to resemble a car, and climbing the monkey bars.

When asked in interviews what Gary did in his grade one class, Chad referred (May 1, 1990) to him playing and working and indicated that he needed help with his work. In her interview on May 8, 1990 Tara stated: "...Gary is handicapped, and he doesn't work, he just plays with things because he can't talk. And he just...he can't write, he just plays around with the three bears and LEGO and that toy computer."

The students from the kindergarten and the grade one class asserted that neither Gary nor Peter could talk. When asked what Gary understood, all of the students from the grade one room stated that his understanding was limited to simple commands linked to his name. Chad stated: "He understands when you say 'sit down, Gary,' 'come here, Gary.' Other things like 'hang up your coat, Gary.'"

Carol also indicated in her interview (May 1, 1990) that he could not read and needed to be fed, or else he would "...stuff everything in his mouth." Tara was observed advising the teacher that offering Gary some food was a good way to get him to do something. Children who shared a lunch table with Peter described to the investigator how to help Peter with his lunch.

Two children at Peter's school described him as a "handicap." Jack was asked in his interview:

Investigator's language (IL): What kind of a guy is Peter? What kind of a kid is he?

Child's language (CL): He's a kind of handicap.

IL: Oh, what does that mean?

CL: Mmm...

IL: What does it mean when somebody is a handicap?

CL: They don't...they talk kind of funny. They go...(makes noise).

IL: Oh, I see. Is there anything else that he does because he's a handicap?

CL: Peter doesn't know how to colour right. He scribbles. When he gets older, he knows how to colour right.

3.1.2 Ways that teachers or aides characterize children who are intellectually impaired:

Gary:

When interviewed (April 24, 1990), Gary's teacher characterized him as "an extremely easy-going, even-tempered boy." Ms. Erikson stated:

That's the first thing I noticed about him. I mean, that poor kid gets tugged in so many different directions, and he just goes. And...the biggest protest you'll get out of him is lying on the floor. He doesn't tantrum, or he doesn't scream, or he

doesn't...he might do his frustrated thing with his hands, but that's it. His personality, I think, is really even-keeled.

Ms. Hall, the aide who worked with Gary most of the time stated in an interview (April 17, 1990) that she saw his day-to-day behaviour affected by a change in his moods:

> His moods affect his behaviour; like how he's going to be that day. If he comes in (inaudible) he can be up to something that day. Mischievous. And if he's frustrated or tired it can affect his mood, whether he co-operates with kids and stuff. It varies; some days he's really adventurous, he can be in an adventurous mood and he's always in trouble the whole day. Then you have other days when he sort of jokes with the other kids, I guess; that's when he doesn't listen. He's playing games.

Ms. Hall also stated that Gary enjoyed it when the other children shared physical activities with him and when they talked to him. He liked being recognized, being noticed. She had observed him with toddlers in the school and noted that he got really excited when he saw them in the hall. She indicated that Gary liked the very colourful and highly patterned shoes of a boy in his class and often played with them, when they were on or off the boy's feet. Gary could be physically affectionate as well. He would stop certain staff or students in the hall and give them a hug. Ms. Hall said: "...sometimes the girls he's really happy with."

In terms of Gary's level of understanding his teacher said in an interview that "...he picks up a lot more than we think he does." She indicated that he usually responded to "no" if another child asked him to stop doing something. Ms. Hall stated that Gary knew if a person was showing concern for him:

> I just wonder how much he understands sometimes. Because when you actually ask him something, it seems he does understand what you're asking him. He leans toward you; there are special moments when he will. To me it seems he understands what I'm saying.

On the other hand, she indicated that Gary did not understand when one of the other students said "cruel" things to him.

Ms. Erikson remarked in her interview that Gary knew what he liked and did not like. He preferred certain toys to others and would take a staff person by the hand and lead them to places where he wanted to go, such as the kindergarten room or the office where he could play with the phone. On the other hand she said that "...he doesn't have enough...in his abilities yet to make his real dislikes known." He was not yet able to show that he preferred one food over another or working with one person over another. This made her job more difficult. Other children in the class were able to tell her what parts of a lesson they understood and what parts they did not understand. She often had to guess what his preferences were or what he understood, as she indicated in her interview:

> It's kind of like when you have a baby and it starts crying and you know it's fed, and you know it's warm and you know it's dry. "Okay, umm, let's go through all these things." Then you find out it's gas, or you find out it's...and it would just be so much easier if they could say, "I have a stomach ache."

Gary was occasionally characterized by the other teachers or aides as funny, and the other children responded with laughter to these characterizations. For example, one day he was brought into another class by two girls. The teacher interrupted the lesson and said to them: "Don't sit him at that table, dear, we don't need to have him eating the pens today." There was general laughter in the classroom. She continued: "He's already had his lunch today."

Peter:

Peter was characterized in a variety of ways by the staff who worked with him. Mrs. Boychuk, the aide who worked with him most closely, stated in her interview (April 23, 1990) that:

Peter is a cute little, reddish-blond-haired kid with blue eyes, that he just has to look at you and you melt. And he has a beautiful smile and a great sense of humour. And probably, when he first meets somebody, he plays this shy routine. He wins you that way, and once you're won, he's got you. He could do almost anything and you could be quite angry with him, but he could make you laugh again the next minute because he's a very loveable little person.

The teacher, Mrs. Meyer, believed that all Peter needed was language and "...he would be in the trainably mentally retarded class." He understood the classroom and who was in charge. However, he needed help, as she explained to Ben one day in class: "Go tell him. He needs you to tell him what to do." The aide, Mrs. Boychuk, also indicated that "...he fit in very well with the class." He knew the routine of the class, waited his turn, and watched and copied the actions of the other children. However, she stated that he often tried to get away with doing very little classroom work: "... (H)e's completely happy if he's left to wander and do his own thing... But the minute you ask him to work, that's when he doesn't want to."

Mrs. Meyer indicated in her interview on April 25, 1990 that Peter's ability to communicate was limited to "...one or two words." She stated: "...he's almost seven now so let's face facts. He's not delayed. It's a problem now." This problem with communication was, she believed, the major factor differentiating him from the other children. Mrs. Boychuk mentioned that this difference was noticed by some of the other children in the class. One boy, Paul, told her that he had a dream where Peter and the other boy who was severely intellectually impaired and in the kindergarten room could talk.

3.2 Level of participation by students with severe intellectual impairments in classroom and play activities

3.2.1 Activities in which the children who are intellectually impaired participate with their peers:

Gary:

Gary participated in morning circle with his peers. He would sit with the other children in the carpeted corner of the classroom while they did show and tell and play with his battery-operated keyboard or just lie on his back. After morning circle he would go with two or three other children to the library and watch a Sesame St. video. He would also remain with the rest of the children while a teacher was reading a book to the class. He stood in line with his peers to go out for recess or to the lunch-room, where he sat at a table with them and ate his lunch with the assistance of his teacher or aide. Gary also spent some time in the kindergarten room each day and, on occasion, children here would sit next to him and hand him toys to play with.

His teacher, Ms. Erikson, stated in her interview that other children played with LEGO, blocks, and a Fisher-Price bear toy when they were with Gary. As mentioned earlier, Martin also played a game where Gary tried to catch his highly-patterned and colourful shoes. Sam played with Gary with the toys from his toy box. Tara read to him. Gary participated in the school's winter carnival by riding on toboggans with the other children. He laughed when a boy from grade six, Damien, had him running around the gym and was very physical with him.

In their interviews, the children in Gary's home room mentioned that they played with LEGO, the computer, a matching game with shapes, and the Fisher-Price bear toy when they were with him.

Peter:

Like Gary, Peter participated in morning circle with his classmates. He would sit quietly, watch the other children and teacher, and listen while Mrs. Meyer spoke to the class.

Peter also took part in the class activities in the kindergarten room. These activities included listening to music, listening while other children told stories, and painting. He was not not always keen on participating, however, as the following excerpt from the field-notes of Jan. 29, 1990 shows:

> The teacher says: "Get a paintbrush." He hides his face while sitting on the floor. He moves over to his table and Mrs. Meyer repeats: "Get a paintbrush." He hides his face again. She takes his arm and he moves away from her. She leads him away from his table to the centre of the activity and asks him: "Which one are you going to paint?" while looking at and pointing to the fish, etc. that the kids are painting on the floor of the classroom. He walks away again and sits at another table, hiding his face in his hands again. He then raises his head and starts to watch the others. Mrs. Meyer approaches him again and leads him to the table with paints and paintbrushes on it, gets a paintbrush, paint and some paper for him. She shows him a place to sit in the middle of the activity. He is surrounded by other children painting, talking to each other. He does not paint, but sits and watches other kids as they paint. Mrs. Meyer offers him his brush and he puts his head down, then raises it and pushes the brush away, then pushes the paper away. A boy is sitting directly opposite him painting, about two to three feet away. Peter watches him, then takes his paintbrush and starts to paint on his piece of paper. He is sitting in the centre of five other children who are reaching across to get paint and are working on their paintings. He paints and watches the others around him intently as they work. They do not interact with him, but continue with their painting and talking.

Peter also went to the library with his class and selected and took home books on his own. He went to gym with his peers and took part in some of the activities there, such as running and playing on different apparatus. He helped to clean up the classroom with his peers when directed to do so at the end of an activity. He also went to both recess and lunch with the other children in the school.

On one occasion, the class, Peter included, was sent out into the hall for not paying attention while Brian was telling a story. As they left, Mrs. Meyer smiled and said to Mrs. Boychuk: "Well, he was being rowdy like the rest of the rest of them, so he might as well leave too."

As for playing with the other children, he was observed drawing at the same table as his peers and playing in the 'car.' At other times he played with Jade with a large container filled with beans and played a game of chase with Jim in the classroom.

Mrs. Meyer indicated in the interview that games of chase were what the other children wanted to play with Peter. She stated in her interview that he did not play with the other children very often: "What Peter will do is he likes our felt pens and he likes doing Ninja Turtle pictures with the kids. And he'll sit and work with them, and that's the only time." The other children in Peter's class who were interviewed stated that Peter liked playing in the car more than anything else.

3.2.2 Activities in which the children who are intellectually impaired do not participate with their peers:

Gary:

There were a number of activities that Gary did not participate in while he was at school. When his peers were engaged in an academic activity, he most often stayed by himself in the back of the classroom and manipulated his battery-operated keyboard, toys,

or books. This was observed when the other students were reading, spelling, working on arithmetic, writing, or working on the computer.

Gary also did not participate in activities when the class was colouring. The following is a typical example of this from the field-notes of March 20, 1990:

> The class is working on writing and reading. They have to read "Jane is dreaming about..." and fill in the blank, then colour in the dream. While they do this, Gary continues to sit at the table with the toy box in front of him. Ms. Hall hands him toys from time to time. He rummages through the toys, puts some of them in his mouth, and puts them back in the box. The class works together on choosing Jane's dream and spelling out their choices. They then draw in their choices.

Gary also did not participate in other arts and crafts activities. These included working with papier-maché, modeling clay, or cutting and stapling.

Gary did not attend music class at the start of the year. Later, he attended it with children his own age from the grade 4-5 split. He sat with two of them at the front of the room and worked on placing plastic shapes in a template while the rest of the class worked on preparing for the spring concert.

He did attend gym with the rest of the children in his grade one room, but often did not take part in the same activities as they did. For example, while the rest of the class was learning how to skip, Gary lay on the floor. Also, while he went to the kindergarten room each day, he did not play with the children there at the various play centres.

Gary did not go outside at recess or at lunchtime during the winter because he lay down on the ground and got quite cold due to his poor circulation. He often stayed in at other times as well, if the child who was assigned to be with him decided to stay inside. During these times, one or two older children would bring him to his home room and stay with him until the next period began. These children spent most of this time talking to each other and listening to music. This excerpt from the field-notes of April 10, 1990 represents a typical lunch hour:

Gary is in the grade 1 room after lunch with Sharmaine and Charlotte. He lies on the floor and plays with the organ with his feet and hands. The girls are sitting on the couch listening to music and talking to each other. Sharmaine says something to Gary from time to time.

Peter:

Peter did not take part in a number of activities with his kindergarten classmates. Although he visited the playhouse centre often and watched other children, he did not join in their play.

Peter was observed watching Aster while she played with puppets, watching some boys playing at the music centre, watching three boys talking together, looking at two boys while they wrestled in the classroom, and observing the other children cleaning up after an arts and crafts activity. In each case, the other children did not refuse to interact with him. In two cases they agreed to include him in their activity after Mrs. Boychuk asked them to do so. However, no interaction took place. The following is an example of this type of interaction from the field-notes of Nov. 22, 1989:

> Mrs. Boychuk approaches him and says: "Peter, you have to find something to do" and leads him over to two boys playing with LEGO. Peter sits down and Mrs. Boychuk asks the boys if he can play with them. They say yes. Peter looks around the classroom. The two boys resume talking to each other about what they are making out of the LEGO and how their game should go. They do not make eye contact with Peter or talk to him. Peter sits and watches the boys and looks around the classroom, watching what is going on there as well. Mrs. Meyer is standing nearby talking to the early childhood consultant. She looks at Peter and says: "What are you doing, Peter, making something out of LEGO?" Peter puts his head down and in his hands. Mrs. Meyer walks over and tells him: "Find something to do." He walks away.

Peter did not take part in physical activities such as running and climbing at recess during the observation period. On one occasion when he approached the playground apparatus, he was accidently knocked down by boys sliding on it. He left the area after this incident.

He did not take part in a number of arts and crafts activities with the other children in the kindergarten. He watched, but did not participate, when the other children built airplanes out of cardboard tubes, coloured, made and painted cut-outs of their hands, made puppets, and made valentine mice.

On two occasions the teacher, Mrs. Meyer, asked a child to take part in an activity with Peter. The first time Sherry did not talk to him and he left without interacting with her. The other time (Feb. 26, 1990) Sherry was asked again to help him learn a game. However, she started to play it with Aster, and Peter left again:

> At the end of the activity, Mrs. Meyer asks for a volunteer to help Peter learn how to play a matching game. Sherry and Aster put up their hands and Sherry is picked. She offers her hand to Peter and he takes a finger and she leads him to a table. She says "Ow, Peter, don't do that to my finger...don't squeeze it." They go to the table and Aster joins them. Aster and Sherry start playing with the counting/matching game together at the table. Peter stands to one side and plays with the counting machine. He watches the girls as they play on occasion. They do not look at him or talk to him. They divide the pieces from the game into two parts and each work on a half, separate from the other. They try to join the puzzle pieces that they have together.
>
> Aster: "They're, I beat you. You didn't even put them together."
>
> Sherry: "Yes I did."
>
> Aster: "No you didn't"
>
> Aster and Sherry talk some more and Aster tries to get another game going between them but Sherry does not express interest. Aster leaves.

3.2.3 Level of participation in play by children with intellectual impairments when playing or present with the other children...group, parallel, alone, staff:

Gary:

The quantitative data indicated that during lunchtime Gary took part in group interactions 10.51% of the time, parallel interactions 1.69% of the time, was alone 83.05% of the time. He interacted with staff 4.75% of the time.

Most of the group interactions recorded in the field-notes were with students who were assigned to spend time with him as peer tutors. Here is an example from Jan. 16, 1990:

> When they get to the room, Betty sits down with Gary on the couch. Gary leans back on the couch and focuses on a toy he is holding. Betty watches the math lesson taking place on the front blackboard and hands toys to Gary one at a time. Gary examines these. He does not look at Betty. Gary drops a toy and Betty says: "Gary, pick it up, pick it up, pick it up." He does not pick the toy up, so Betty does so. Gary continues to play with toys by holding them and looking at them. He sits facing forward on the couch, while she sits sideways on the couch and faces Gary and the front of the class. He looks at the toys and so does she. Betty pays attention to what Gary is doing, but does not talk to him. Some of the time she focuses on the class activity.

One or two of the group interactions took place with peers who interacted with Gary of their own accord.

Only five interactions out of 295 noted during the quantitative data taking were classified as parallel, and none were noted during the qualitative data-taking.

Gary spent time alone at the back of classrooms when the rest of the class was working on an activity that he did not do. He also spent time alone in situations when he was with his peers, as this example from the field-notes of April 24, 1990 shows:

> Gary is sitting at the computer with Dick on one side, a girl on the other side, and the teacher behind him. The girl and the teacher leave after one or two minutes and Dick remains with Gary working on a dot-to-dot program of selecting letters. Dick is working the computer, while Gary sits. He looks around the classroom and glances at the screen occasionally, particularly when the computer makes a noise. Dick does not talk to, look at, or touch Gary.

Gary did not interact often with the other staff members during the times that both qualitative and quantitative data were being taken. Staff took Gary to the toilet several times each day, helped him with his snack and lunch, and worked or played with him while his peers were involved in other activities. For example the lunchroom aide, Mrs. LeBlanc, walked around the schoolyard with him, helped him sit on a skateboard, and tried to get him involved in other activities.

Peter:

The quantitative data taken during 'centre time' in the kindergarten showed that Peter took part in group interactions 0.87% of the time, parallel interactions 11.30% of the time, was alone in the kindergarten room 58.26% of the time, and interacted with staff 29.56% of the time.

The kinds of group interactions Peter participated in varied. Other children in the kindergarten room sometimes interacted with him when they were directed to do so by the teacher or aide, and these interactions were most often momentary. However, Jade played with Peter for more than 10 minutes when asked to do so by Mrs. Meyer, the teacher. Interactions were also initiated by the children themselves on a number of occasions. Peter was twice observed rough-housing or chasing Jim in the hall. He was also seen interacting

with older girls outside at recess. One girl walked and talked to him and initiated a game of not allowing him to get out of a doorway by standing in his way whenever he tried to leave. Both Peter and the girl were smiling during this interaction.

Peter engaged in parallel interactions in the kindergarten room, both during structured activities and 'centre time.' The following excerpt from the field-notes of Jan. 22, 1990 is an example of the former:

> The class is sent to their tables to draw pictures of arctic animals. Mrs. Meyer says "You too, Peter." Peter moves to his seat and sits down. He looks at the other children and watches what they are doing. They are talking to each other, pulling pencils, scissors and so on out of the container in the centre of the table. Peter watches them closely and does the same thing that they do. He colours diligently on his piece of paper. The other boys at the table talk to each other and work on their drawings. They do not talk to Peter.

Some of the time that Peter was alone he did not participate in the structured activities of the kindergarten room. He was also observed on several occasions to actively push others away who tried to interact with him. However, the majority of the times (12 of 17) that he was observed not interacting with others he spent watching his peers play or interact together. The following example of this type of social participation was recorded on Nov. 22, 1989:

> Peter takes his helmet off and walks up to a boy who is looking through a toy film camera and stands beside him, looking at him. The boy looks back at Peter briefly and then goes back to playing with the camera. He does not interact with Peter. Peter then stands in the centre of the classroom and watches two girls who walk by carrying an athletic bag and talking to each other about a game they are playing. He follows them for five to ten feet and then stops and resumes walking around the classroom. They do not look at or interact with him.

The staff in the kindergarten room interacted with Peter in a number of different ways. They occasionally just directed him as they did with any other child in the class. However, Peter interacted most often with Mrs. Boychuk, the aide assigned to work with him. Some of the time she encouraged him to interact with his peers and some of the time she interacted with him directly. For example, she got into the car with him and played. However, Peter most often (6 of 14 staff interactions) was observed approaching staff first. The following field-notes were made Feb. 12, 1990 and illustrate this type of interaction:

> Jade goes at Mrs. Boychuk's request to get Peter and play with him. He walks with her a short distance and then turns around. He approaches Mrs. Boychuk and touches her leg. He gets the box of coloured blocks and gives it to her. She says "You want this opened, I suppose, Peter?" He sits with Mrs. Boychuk and looks at the contents of the box while standing next to her. He vocalizes to her while making eye contact: "Dee-dee-dee." He sits next to Mrs. Boychuk and plays with the blocks, seemingly talking to himself.

3.2.4 Level of participation in play by children who are not intellectually impaired...group, parallel, alone, staff:

Gary's classroom:

During recess, and afternoon free time the four children who were not intellectually impaired and were in Gary's grade one class participated in group interactions 40.00% of the time, parallel interactions 23.33% of the time, were alone 29.05% of the time, and interacted with staff 7.62% of the time.

All of the examples of children interacting at Gary's school were of group interactions. His peers talked to each other while working, played games together, or talked together during free time. A good example of this last type of interaction was

observed on April, 10, 1990. Three girls, Anne, Sharmaine, and Linda, were assigned to spend recess with Gary. Here are the field-notes of their interaction, interspersed with their interactions with Gary:

> Gary is sitting on the floor and then lies down on floor holding a book. Anne stands beside Gary, watches and walks around him then walks away and puts a record on. Gary is touching the book and putting it in his mouth. Sharmaine and Linda come into the classroom. Anne walks away from Gary and puts a record on. The three girls sit on the couch together and listen to the record, singing along to the Sharon, Lois, and Bram 'monkey song.' Gary continues to lie on his back by the book-shelves beneath the window and holds a book in his hand and chews on it. Sharmaine and Linda move over to where Gary is lying on the floor and sit down on the floor next to him. The girls hold his hand and look at it and ask him to pick up a ball. Sharmaine says: "Gary, Gary." Anne plays with the basketball hoop in the centre of the couch area. Sharmaine and Linda talk to each other about bedroom furniture. Gary is holding a book and begins to pull other books off the shelf. Sharmaine says: "Gary no, look, no more books for you, Gary, Gary, Gary, Gary, Gary. Sit on your chair, here Gary..." They get Gary to sit in the chair and give him his battery-operated keyboard. He rocks and holds onto to it. The two older girls, Sharmaine and Linda, continue to talk to each other. They put the toys away and then sit on the couch. They compare houses and talk to each other about their sisters. Anne listens to the record player. The school bell rings. Gary is sitting on the chair with his organ. The record player is turned off and Anne turns it on again. Linda says: "Anne, when the bell rings we have to shut this off." Sharmaine and Linda continue to talk. Sharmaine says: "My house has cupboards, a cherry brown cupboard. Anne, shut if off!" Anne stops playing with the record player. Linda says: "Shut it off...we're supposed to...in the grade one and grade two..." Anne

does not talk to the other girls. Gary throws the keyboard onto the floor and stands up. Sharmaine tells him: "Not wandering off on me. Come, sit."

The children in Gary's class indicated that they liked playing board games, colouring, on the monkey bars, in the sand-box, hide and go seek, tag, in the drama centre, and hopscotch. The teacher and aide stated that these children also liked playing skipping, Barbies, soccer, baseball, dolls, with LEGO, and imaginary games.

Peter's kindergarten:

The quantitative data taken during 'centre time' in Peter's kindergarten indicated that the three children who were not intellectually impaired and were observed took part in group interactions 34.82% of the time, parallel interactions 37.50% of the time, were alone 24.55% of the time,. and interacted with staff 3.12% of the time.

The kindergarten room was a play environment as well as one that used for beginning school work, so there were many more opportunities for active play. This excerpt from the field-notes, recorded Jan. 22, 1990, provides an overview of some of these activities:

> The other children in the classroom were taking part in a variety of activities. Four girls were dancing to classical music in front of mirrors, laughing and talking with each other, twirling around and around with play dresses on. Four boys were playing with a marble works game, not talking much and focusing intently on the game. Three girls were cutting out hand-shapes and painting on them, talking to each other while did so. Two boys were making a castle on the floor out of oversized wooden blocks. Two boys were sitting at a table and playing with an electronic game, not talking, with one playing and the other watching. Two boys were sitting at a table with Mrs Jones making puppets out of pieces of felt.

This next section of field-notes, although quite long, is characteristic of what was observed between a boy and a girl who were not intellectually impaired and were playing together in the kindergarten. It was recorded March 19, 1990:

Chris and Keltie are playing together with the container filled with dried beans, pouring and measuring them.

-Chris: -Only put blacks in if you want bombs (While putting beans in glass containers)

-Keltie: -Okay

-Chris: -Let's wear masks to protect...Let's say whites are bombs too

-Keltie: -Yeah

-Chris: -I have a couple of whites

Short gap in data-taking.

-Keltie: -I'm done with my potion

-Chris: -My potion

-Keltie: -It's both of ours

-Chris: -No, this is mine

-Keltie: -Both of them are ours

-Chris: -No, this is mine

-Keltie: -Some of mine is in there (gestures at beans in container)

-Chris: -Let's use this one

-Keltie: -Okay...let's do it with our hands

Short gap in data-taking.

-Keltie: -Chris, it's my turn

-Chris: -I'm trying to get all these in (gestures to beans in funnel)

Loretta steps up to container of beans and starts playing with them. After a minute or so, Keltie moves beside her to get some more beans for the container she and Chris are filling. Loretta walks away.

-Keltie: -Let's use this one now

-Chris: -One by one

-Keltie: -This much in (shows handful)

-Chris: -No, one by one

-Keltie: -This much goes through here

-Chris: -I guess this one was better (takes other funnel)

-Keltie: -Then let me, right? (She pours after Chris)

Short gap in data-taking.

-Chris: -Hairdressing centre!!

-Keltie: -What?

-Chris: -Hairdressing centre!!

-Keltie: -Yeah!

They run over, take a look at that centre, then come back.

-Chris: -Ours!

-Keltie: -Yeah!

Short gap in data-taking.

-Chris: -Another litre full

-Keltie: -No

-Chris: -Another...there we are! There we are

-Keltie: -Stop! ...pour that in

-Chris: -No, we're going to start all over again. Remember?

They continue to fill containers with beans.

-Chris: -No, no, no Keltie

-Keltie: -No, let's just fill one up. Then, uh, then we leave it, then fill it up, then leave it, then fill it up, leave it, fill it up.

-Chris: -No

-Keltie: -We already got it filled up

-Chris: -Leave it

Short gap in data-taking.

-Keltie: -Chris!

-Chris: -Yeah?

-Keltie: -Leave that one. Now we fill up this one

-Chris: -There that's full

-Keltie: -Now we do it over again or go a centre. What do you want to do? Fill them over again or go to a new centre?

-Chris: -Go to a new centre. (Looks at boys playing with trucks behind them)

The two leave together and walks around the class. Chris opens a cupboard and smiles.

-Chris: -Keltie (cupboard has shelf with many small plastic animals on it)

-Keltie: -I know how seals walk. Chris! (She drags herself around like a seal. He smiles and then he does the same thing. The two play together with the small plastic animals on the shelf, making them talk to each other.

When asked to name their favourite games in interviews, the other children in Peter's kindergarten stated that they liked playing policeman, in the car centre, at the music centre, at the water table, with Play-Doh, with LEGO, and with the computer. The teacher and aide asserted that these children also liked to play Ninja Turtles games, aggressive games, house, hospital, and with blocks.

The other children engaged in a number of parallel activities in the kindergarten. These often took place while they were working on a structured activity or were busy with an arts and crafts activity during 'centre time.' Here is an example from the field-notes of April 25, 1990 of a girl, Anita, playing alongside Peter in the car centre:

Anita is driving the car on her own and is talking to herself about the game she is playing in the car. Loretta and Robin have gone to play elsewhere. Peter gets in

the passenger door, and looks at Anita. She does not look at him or talk to him. He continues to open and shut the front passenger door. From his seat, he waves at Mrs. Boychuk and continues to open and shut the door. Anita picks up the phone in the car while sitting behind the wheel and begins to talk loudly into it: "This is a recording and I need my mum right now. (Voice tone changes and becomes softer.) "Oh, hi mum." Peter continues to open and shut the front passenger door while looking around the room. Anita says into the phone "Hi, mmmmmuummmm" drawing out the final word. She does not look at or talk to Peter. Peter continues to open and shut the front passenger door while looking around the room. He gets out of the car and looks at Anita. He gets back in. He watches Anita. She has stopped talking on the phone and gets out of the car. Peter waits a moment and then quickly slides over to the driver's seat. He turns the steering wheel back and forth rapidly and opens and shuts the driver's door.

The other children in the kindergarten spent 72.32% of their time in group or parallel interactions. However, almost a quarter of their time was spent alone, either busy with arts and crafts, books, imaginary play, or walking around the classroom looking for a potential activity. This sample of field-notes from Nov. 22, 1989, shows two girls playing side by side, yet alone. Peter's aide, Mrs. Boychuk, tried to get him included:

Peter walks around the room a bit and then goes to the tape recorder. Mrs. Boychuk joins him there and directs him to the table where two girls are sitting, one drawing and one playing with a puppet. Mrs. Boychuk says: "Can Peter join you here and draw pictures?" Aster says: "I'm telling a story with the doll." Mrs. Boychuk says: "I'm sure he'd like that...talk right to him." Peter sits at the table between the girls with paper and pens in front of him. He watches Aster play with the puppet...Anita is busy writing on some paper. Peter plays with the pen and paper for awhile. Aster puts the the Little Red Riding Hood puppet down, gets up

and leaves. Peter twists around in his seat, looks at the teacher, then gets up and starts walking around the class.

The other children in Peter's kindergarten interacted very infrequently with the staff in the room during 'centre time.' The teacher and the second aide helped children set up activities, prepared structured activities for later, and helped with arts and crafts activities.

3.2.5 Level of participation in play by children with intellectual impairments when playing or present with other children who are intellectually impaired in a segregated setting...group, parallel, alone, staff:

Peter:

Peter was in the integrated kindergarten in the morning and spent the rest of the day after 11:15 in the segregated resource room. He ate lunch in the school lunch room with the rest of the children from the school, sitting at one end of the table with his aide, Mrs. Boychuk, and Max, the other boy with severe intellectual impairments from the kindergarten.

During his free time in the resource room (11:15-12:00), Peter did not engage in any group interactions. He played parallel to other children with severe intellectual impairments 4.83% of the time, spent 38.62% of his time alone, and interacted with staff 56.55% of the time.

The parallel interactions he took part in included listening to the teacher read a story along with some of the other children in the resource room or engaging with similar activities while sitting next to another child. These field-notes were recorded on Feb. 26, 1990, and illustrate a very brief parallel interaction:

Peter joins Max who is taking blocks out of a box and handling them. He pulls on the box a few times, trying to get it away from Max. He does so, then he gets up

and leaves the area. He walks around the class to a table and sits down. Max continues to play with the blocks.

Most of the time that Peter was alone in the resource room involved him playing with something on his own or walking around the classroom apparently looking for something to do. Here is a sample of the field-notes of Nov. 13, 1989, where Peter is alone part of the time and approaches staff (and the researcher) a number of times:

> When the teacher was out of the room for a while changing another student, he spilled a drink on the teacher's desk, which I cleaned up. He wandered over to the tape recorder and began to try to get tapes into it. He came to get me a number of times to help him get the tape in, take it out or turn it over. He played constantly with the dials and switches of the tape recorder, opening it and closing it, turning it up a number of times. The teacher got up several times to get him to turn the volume down hand-over-hand and finally told him he could not listen to it any longer. She found him a Walkman but he did not want to put the headphones on. She left him and went back to reading the story. He wandered around the classroom chewing on a book.

As can be seen from the above excerpt, staff were involved with Peter during free time in the resource room re-directing him from activities considered inappropriate, helping him find new things to do, and playing or working with him.

3.2.6 Quantitative data regarding level of participation in play for Gary and Peter:

Quantitative data on the level of participation in play was taken for both Gary and Peter in their integrated classrooms, for randomly selected peers in these classrooms, and for Peter in the segregated resource room where he spends his afternoons. Tables 6 and 7 present the data from the four days of observation in each setting:

	Group	Parallel	Alone	Staff	Group %	Parallel %	Alone %	Staff %	Interv
Peter...int class	1	13	67	34	0.87%	11.30%	58.26%	29.56%	115
NH peers	78	84	55	7	34.82%	37.50%	24.55%	3.12%	224
Peter...seg class	0	14	112	164	0	4.83%	38.62%	56.55%	290

Table 6: Peter's school...four days' data

	Group	Parallel	Alone	Staff	Group %	Parallel %	Alone %	Staff %	Interv
Gary...int class	31	5	245	14	10.51%	1.69%	83.05%	4.75%	295
NH peers	84	49	61	16	40.00%	23.33%	29.05%	7.62%	210

Table 7: Gary's school...four days' data

These data indicated the number and percentage of intervals that Gary, Peter, and their peers who were not intellectually impaired spent in group play, in parallel play, alone, or interacting with staff in each environment.

3.3 Interactions

3.3.1 Ways that the other children characterize their interactions with children who are intellectually impaired:

Gary:

The majority of times (13 of 22) that children characterized their interactions with Gary, they referred to helping him, taking care of him, or getting him to do what they wanted. The statements in the field-notes from Carol (Jan 16, 1990): "Ms. Erikson, I'll look after Gary. He's my buddy" and from Martin (May 8, 1990): "Could I look after Gary today, Ms. Erikson?" are typical of this view.

Tara's responses in her interview of May 8, 1990 also indicated a similar attitude:

IL: ...Tell me about Gary and how he makes friends. How does he get along with other kids?

CL: Umm...you have to get him to look at you and do what you say him to do.

IL: Uh-huh.

CL: Like, (inaudible) when he looks, and you tell him to get up and he gets up, or sits down, and does all the things because he's looking at you. But sometimes he doesn't want to.

IL: Oh, he doesn't, eh? What do you do then?

CL: Ask Ms. Hall or Ms. Erikson. And he does it most of the time with Ms. Hall or Ms. Erikson.

(Other issues discussed for a few minutes.)

IL: And, umm, when you ask Gary to play with you...to play LEGO or whatever...that's this question, here...what does he usually do?

CL: Sometimes, he's lazy; he won't do it. You have to get his hand, or get Ms. Hall to tell him to.

IL: I see. So you usually try to take his hand...?

CL: Or, if he doesn't listen, umm, it's Carol's turn to play with Gary. Because me and Carol take turns.

IL: Oh, you do? I didn't know that.

CL: Taking care of Gary.

As the above excerpt from the interview with Tara showed, even when the investigator used the word 'play' to characterize the interaction taking place between another child and Gary, the child being interviewed would sometimes change the characterization to 'helping.' For example, in her interview on May 1, 1990, Carol was asked:

IL: What's it like playing with Gary?

CL: It's hard to play with Gary when the kids are not there.

IL: When what?

CL: When the kids were not there...like, camping.

IL: It was hard to play with him?

CL: Yeah, because he, uh...never listened.

IL: Mmm-hmm.

CL: And it was hard for...to do the work without the other kids helping.

However, not all of the children's characterizations of their interactions with Gary fit this mould. All three of his peers who were interviewed referred to playing with him. Carol also said: "I'm always playing with Gary." Chad, when interviewed at the same time, was asked: "What sorts of things does Gary do while he's at school, Chad?" He replied: "Play, laugh, and we tickle him." In her interview, Tara was asked:

IL: But what sorts of things do you do with Gary in school?

CL: Play with him.

IL: What games do you play with him, or what toys do you play with?

CL: I play with LEGO, I play with this computer or I play with the cars.

IL: Which of those things do you like to do, Tara?

CL: Play with the computer with him.

IL: What do you do when you play the computer? What's the game?

CL: I rewind it and then...I get Gary's hand and push it down with him, and then...umm, every time you push the number, at the bottom, then they start moving.

IL: What, the stuff on the screen starts to move? Oh, neat. Computers are sort of fun. And does he like that, do you think? Does he enjoy it?

CL: Yeah. Every time we do it, he starts laughing.

Some of this play was described by the boy, Chad, as a kind of parallel play, where the child who was not intellectually impaired used the toys in one way and Gary used them in another:

IL: What do you do when you play LEGO with him?

CL: I get a big green thing and I start to build a house.

IL: And what does he usually do when you're doing that?

CL: He...sometimes he puts it in his mouth.

IL: Uh-huh.

CL: And...he plays with it...all kinds of stuff.

IL: When you say he plays with it, does he help you build stuff with it?

CL: Not really.

Chad also characterized his interactions with Gary as an opportunity to gain free time without having it affect the free time available to him at other times:

IL: When you do stuff with Gary, what do you usually do with him?

CL: Play with him.

IL: What sorts of games do you usually play? Does he have some particular games or toys that you play with?

CL: (Inaudible) games. And Ms. Erikson told us, whenever she tells us we're allowed to take care of Gary, she will say, "You're allowed to help Gary do math." That's when you can pull out Gary's toys. And we will still be having free time...extra free time.

IL: So you won't use up your free time when you're playing with Gary?

CL: No.

Peter:

As a result of difficulties with interviews, there is little data available regarding the ways in which Peter is characterized by the children in his kindergarten class. These difficulties included one child who refused to be interviewed, another whose responses were monosyllabic, and a third whose imagination, rather than reality, may have dictated some of his responses. One boy was heard referring to Peter helping another child as they painted together on the same piece of paper. In an interview completed May 7, 1990, Jack characterized Peter's being in the car with himself and two other children as imaginary play:

IL: What does he do when he's in the car?

CL: He plays...he plays robbers. Me and Kevin are the policemen and Jade and Peter are the robbers.

IL: Oh, really?

CL: Jade and (inaudible) are the robbers, and Peter robs some money, and then we can't find them. And Peter...then she goes...(inaudible.) And then we found them, and then we threw them in jail. And then we threw...then we threw...then we threw Peter to jail, too.

IL: Oh, I see. What does Peter do when he's a robber? What does he do exactly?

CL: When he...every time he sees a store, he robs it.

This was not observed, nor did the teacher or aide refer to this type of play in their interviews conducted around the same time, so it is not known to what extent this description is true or the product of Jack's imagination. At the very least, it can be said that Jack can imagine Peter as a playmate and appears to characterize him as such in his own mind.

3.3.2 Ways that teachers or aides characterize the interactions between children who are intellectually impaired and the other children:

Gary:

The majority of times (18 of 24) that Gary's teacher or aide characterized his interactions with the other children they referred to him being "looked after," to children "working with him," or getting him to do things. In her interview Gary's teacher, Ms. Erikson, described the interactions that two of the children had with Gary:

Teacher's language (TL): Martin is more the type...he doesn't really play with Gary; he's more the responsible type. "Here, Gary, I will take you to your chair. Here, Gary, you may have your toy." So he's more like that. Whereas Carol will

have like a mini-conversation with him. "Oh, good job, Gary. Here try this; see if you can get them stuck together." You know? She kind of...

IL: Yeah, she talks a lot.

TL: Just blah-blah-blah. And Martin's not...Martin, I think, wants to, but he just...hasn't figured out what he's supposed to do if Gary doesn't answer. You know? And Carol just...Carol...she's...she just answers for him to keep it going.

As with the children, the teacher and aide would change the focus in interviews from "play" and begin to use the [illegible]." When asked in her interview to describe the play between Gary and Carol, Ms. Hall replied that the girl was directing him. She would "...guide him in what he's supposed to be doing and keeps him on task...She's very firm with him."

However, this emphasis on looking after Gary did not mean that his peers resented spending time with him. On the contrary, his teacher and aide noted that a number of the children enjoyed it and that it was viewed as a privilege. Ms. Hall stated:

TL: Like, Brenda from Mrs. Keretchko's room says it's a privilege to work with him. So do some of the older kids as well, even at recess time. Instead of going outside, they'll come look after him. They don't seem to mind. Some kids do, but some kids really enjoy it.

The teacher, Ms. Erikson, described Amy's interactions with Gary during her interview. She characterized this as a one-sided interaction; it was play for Gary but not for Amy:

TL: But there's another little girl, Amy, in Mr. Estey's room who's really, really good with Gary, and she's the same way. She talks to him a lot, whenever I've seen her with him. And she'll usually be the one that picks him up after lunch because everybody else is outside playing, and she'll usually say: "I'll look after Gary for you."

IL: Mmm-hmm.

TL: And she's really good with him. But she's constantly...and with kids like Gary, I think that's one of the hard things about playing with him when you're a kid. You're the one doing all the talking and you're not getting anything back. If that doesn't bug you, fine. He's really easy to play with. But if that's something that you sort of use as play for yourself, then the kids fall out of it real fast.

Both the teacher and aide made reference to a number of interactions that Gary liked. In particular, he seemed to like it when the other children were physical with him and talked directly to him. Ms. Erikson stated that Gary loved the toboggan rides at the school's winter carnival: "The kids really had a lot of fun with him. They would ask for him to come on their side now, and they would put him up on the front and...pull him around the field."

Ms. Erikson and Ms. Hall also indicated in their interviews that Gary was physically affectionate with certain students and staff; those with whom he felt comfortable. Ms. Erikson stated that he was more "mushy" and "huggy" with these individuals. As mentioned earlier, Ms. Hall mentioned that he was particularly happy with some of the girls.

Peter:

A number of the children in Peter's kindergarten room helped him play or worked with him when the class was engaged in a structured activity. This often happened when they were asked to interact with him by the teacher, Mrs. Meyer, or aide, Mrs. Boychuk. They characterized the children as having a number of different styles of interacting with Peter. In her interview, Mrs. Meyer stated:

IL: I wanted to ask you, what do they usually do when they want him to do something? How would Jade get Peter to do something, or...

TL: She would just call him and talk to him. But she talks to him, kind of...mothery, sort of. Jack would just grab him by the hand and pull him along, or

whatever. And Jim you'd probably would have to ask many times to take Peter with him.

Mrs. Boychuk also indicated that Jade tended to look after Peter: "Jade corrects him gently." She would try to keep him on task and show him what to do when the children were cutting or colouring together. Mrs. Boychuk felt that other children, such as Aster, tended to order Peter around.

Mrs. Meyer and Mrs. Boychuk both stated in their interviews that Peter often avoided interacting with the other children in his class. This, Mrs. Boychuk asserted, was one of the ways that he was different from his classmates:

TL: He can't play in a group. He tends to go off by himself. He may be interested in what they're doing and watch them, but he can't participate with them. He'll watch them for a while and then he goes off and does his own thing.

IL: Can you give me an example of a group activity?

TL: Well in the house, say he joined the centre in the house, he may go in there and then if two or three other kids come in, he'll leave.

IL: Always? He always does that?

TL: Yes. Then he'll watch. When they leave, he'll go back in if he really wants to be in there.

IL: He doesn't try to stay?

TL: Very rarely. He tends to back off. He's getting better now, we're in our seventh month; he's getting better now, in that he'll stay, or if he's colouring at a table and they join, he'll stay there and colour, where he used to walk away. Now he'll stay.

As indicated in the above excerpt from Mrs. Boychuk's interview, he was changing in this regard. In fact, there was now one centre in the kindergarten room where he would join the other children while they were playing. He often returned to play in the wooden model

of a car, complete with a motor, steering wheel, and three seat-belts in front and in back. Mrs. Boychuk remarked:

> He joins them in the car, he wants to be in the car. So he will actually join them and will not leave when they get in. He would very much like to be the driver, but if he sees that he can't be and can't sit in the front because there are already three there, he will sit in the back just to be part of it, and waves and puts the seat-belts on. And watches very carefully if the driver gets out and nobody moves in right away. Because if the driver gets out to make a repair -- sometimes they get out to look at the motor, that's part of the ride to Kidsland. Then he watches. If he can't get out fast enough to get in there, he leans right over the seat to get his hands on that wheel.

Mrs. Boychuk said that the other children would include him in their play at this centre and that Peter would stay when they began speaking to him:

> You'll hear them say: "Put your seat-belt on Peter, we're going to Kidsland." I can hear them telling him where they're going. "No Peter, you can't drive, it's not your turn" -- I can hear that. He must take the keys because I can hear them say, "Give me the keys back." So he actually really sticks up for himself in the car. I found that utterly amazing, because that's the one activity that he really relates to.

Mrs. Meyer referred to the Peter playing with his peers in other ways. They wanted to chase him, Peter wanted to rough-house with Jim, and he also wanted to sit and walk beside this boy. Mrs. Boychuk believed there were limits to Peter's play with the other children in his kindergarten:

> IL: Are there other things the other children play with Peter while he's at school, like in the kindergarten room?
>
> TL: No. They'll join him if he has something they like. But then they tend to kind of be on their own. He backs off or, like, they don't say to him, "You be the

cowboy, I'll be the whatever." They don't. I think it's the speech. They can't relate to him not talking.

3.3.3 Ways that children who are intellectually impaired interact with the other children during play...kinds of interactions:

Gary:

The interactions that Gary had at school can be divided into three general types: interactions with peer tutors, interactions with children asked by staff to do something with him at a particular moment, and casual interactions with other children.

During most of the observed interactions between Gary and his peer tutors the other children did not talk to him except to say his name and give him directions. They were observed helping him by handing him toys, walking with him, cleaning him up, having him put pieces in a puzzle, getting him drinks, getting him dressed to go outside, having him pour water into containers in the sink, working with him on the computer, helping him ride his tricycle, getting him to put different shapes into the slots of toys, and spending time with him at recess and after lunch.

An excerpt from the field-notes will be presented that characterizes this type of interaction. It was recorded Jan. 23, 1990, starting at 9:00 A.M.:

> Curtis from Mr. Estey's grade 6 class shows up to pick up Gary and take him to the other classroom. Says "Come on, Gary, come on, Gary." Says it again "Come on, Gary." He takes both of Gary's hands and pulls him to his feet. With the help of Ms. Hall, he leads Gary over to the table, she gets his toy box and starts him off down the hall. Curtis leads, stopping occasionally to pick up toys that Gary drops. He speaks little to Gary, only occasionally saying "Gary" or "Come on, Gary" to get him to follow him. They enter the classroom together and Curtis puts the toy box down and leads Gary to the sink. He rolls Gary's sleeves back and has him

play in the the sink, pouring water from a container into the sink. He then dries Gary's hands off and leads him to the couch. He has not attempted to make eye contact with Gary or talk to him except to say "Gary" or "Come on, Gary." He guides Gary to do different things during this time. Gary sits and looks forward...occasionally looks at the toy Curtis is holding. Curtis takes toys out of the box one by one, plays with them and assembles them if needed. He hands them to Gary if he is not playing with anything and begins to make some noise. Curtis attends to the toys and Gary stares ahead. Gary sits on the couch, handling toys or staring ahead... swinging his legs and mumbling. When his voice rises, Curtis hands him a toy, the one he has been playing with or one from the box on occasion. Curtis then goes back to attending to a toy (Transformer) that he is playing with or to looking at the blackboard and following the teacher's lesson. Curtis begins to hand Gary toys or hold them close to Gary's face. Gary looks at the toys and at Curtis occasionally as he does this for about one minute. Gary turns and faces Curtis. He looks around the back of the class and rummages in the toy box. Gary watches as Curtis plays with toys from the box. Curtis holds them up for Gary on occasion.

The peer tutors who were interacting with Gary also prevented him from doing things that they considered inappropriate. This included taking books off shelves, dumping cereal on the floor, getting up out of a chair, exploring a classroom, lying on the floor, playing with instruments in the music room, putting his fingers in his mouth, waving his hands in front of his face and vocalizing, and putting toys in his mouth. The following field-notes were recorded in a grade two room on Jan. 23, 1990:

> Brenda is sitting beside him and she pays attention to the lesson being taught at the front of the room. Gary drops one or two toys and Brenda picks them up. She does not look at him or talk to him. He remains at his table, in his chair, and plays with his toys while the class continues with the lesson. He gets up from his chair

and starts to walk toward the window. Brenda gets up and follows him. She takes his arm and leads him back to his chair. She does not look at him or talk to him. He gets up a second time and walks towards the window again. Brenda again leads him back by the arm without looking at him or talking to him.

Often, when peer tutors interacted with Gary they did talk to him apart from giving him directions or repeating his name. This excerpt from the field-notes of Nov. 21, 1990 illustrates this type of interaction:

> Charlie walks back with Gary to his grade one classroom and helps him get his coat, boots, hat and mitts on. While smiling at Gary, he says in a "baby" tone of voice: "Hi, Gary, how are you?" He leads Gary to the front door of the school to leave for the day, smiling and looking at him, talking to him and holding his hand while they walk together. He does this the whole time they are together.

There were interactions between Gary and his peer tutors where affection was shown. The above example from the field-notes demonstrates this, as does this excerpt from Feb. 27,1990:

> The older boy takes Walt and Kira back to Ms. Erikson's room, then walks down the hall to the grade six class. He talks to Gary and looks at him when Gary strays off course into the kindergarten room, for example. Gary walks past the grade six door and continues down the hall. Charlie comes out to help the other boy and Gary turns and follows him. Before entering the room he approaches the first boy and leans against his chest. The boy smiles and says "Okay, okay" and lets Gary hold onto him and they walk into the classroom like this. He helps Gary sit down and gets his toys.

Teachers and aides in Gary's school often asked the other children to help him in different ways. These included getting him a toy, preventing him from playing with things from the teacher's desk, helping him to his seat, playing with him, reading him a book, getting him to stand in line with his class, and keeping out of the arts and crafts area. A

typical interaction in Gary's grade one room occurred on Jan. 23, 1990 when the teacher, Ms. Erikson, asked Kerry to help Gary to his seat. The field-notes state: "Kerry goes to Gary and says: "Come on, Gary, come on, come on, Gary" and walks in front of him, clapping her hands and leading him to his table. He sits down and eats his snack." On another occasion (April 10, 1990) Gary was in the kindergarten room:

> Another boy is sitting on the floor near Gary in this area. The teacher comes up and says: "We need to find him some toys that are bigger. These are too small. He'll put them in his mouth. Can you find him some?" These comments and the question are directed to the boy who is sitting next to Gary on the floor. This boy opens the Fisher-Price play house in front of Gary as he lies on his side on the floor. He takes the toys out of this house and places them in front of Gary. He looks over at me twice as I watch the two of them from a distance of about 15 feet. Gary picks up one of the FP toy tractors and rolls over to his back on the floor. Gary holds the tractor in his hand near his eyes and plays with the wheels. The boy picks up a horse from the play set and holds it in front of Gary's face and looks at him. Gary takes the horse and holds it, then casts it aside. The boy gets a bucket of letter blocks down from the shelf and places them on the floor. He sits back down on the floor and takes some of them out and lines these up between Gary and himself. Another boy comes up and says: "Want to play?" The first boy replies: "I'm helping Gary. I'm helping Gary play." The second boy moves away and plays elsewhere. The first boy remains seated on the floor next to Gary and shows him different toys. He hands him the horse again. A third boy comes up to Gary and takes the tractor from him and says: "You have this. I have this." Gary is holding another toy in his hand. The first boy hands him blocks and Gary continues to lie on his back.

The other children also interacted with Gary on their own throughout the school day. They were observed helping him at different times without talking to him except to

say his name and give him directions. This excerpt from the field-notes was recorded Nov. 21, 1989:

> Gary arrives in the class with the two children helping him and there are only two other children in the class, Jerry and a girl. There is no teacher present yet. The girl says: "Bring him here, put him in his chair." Gary is led to the chair and sits down, organ in front of him. He tries to play with his organ but nothing happens. The girl says: "Show him how to turn on his organ, Jerry." Jerry walks over from the other side of the circular table and turns on the organ. The class and teacher return and take their seats.

The children who were not his peer tutors would also intervene with Gary and prevent him from doing things that they considered inappropriate. On Jan 23, 1990, the following interaction was observed between Gary and another boy in the kindergarten room:

> Gary approaches the blackboard and picks up a pointer. A boy comes up the him and takes the wand and says: "No, Gary, no." I ask why he can't have the pointer and the boy looks at me and does not respond. Gary approaches a nearby book-shelf and the same boy steps in front of him, holding the pointer, and says: "No, Gary, no, N. O."

Gary's peers also talked to him while they helped him to do things. For example Amy was observed helping Gary Feb. 27, 1990:

> Amy, from grade 6, is working with Gary in the class while the rest of her classmates play at lunchtime. She gets him off the floor to the couch and sits him down. She sits on the floor in front of him and plays with the plastic shapes with him. She talks to him in a normal tone of voice:
>
> -Good, that's right.
>
> -No, not that one.
>
> -Okay, where does this one go?

-It goes there.

-Let's try the red one.

-No, it doesn't go in the square.

-No, it doesn't go there.

-Does it go...

-You must like the colour blue.

-No, not there.

-Pick it up.

-Where does it go?

-Where does it go?

Gary continues to handle the pieces and tries to put them in their spots as Amy directs him as above.

Children who were not his peer tutors tolerated Gary as he touched them, greeted him in the hall or the classroom, and showed him cars and other things that they had brought in for show and tell. They also showed him affection on five occasions. For example, on Jan. 23, 1990 Gary was in the back of the grade two room along with the rest of the children while the teacher read a story:

> Gary is lying on his back in front of Helen and Molly. They look at him and Helen touches his hair with her hand and smiles at him. Molly does not touch him, but she looks down at him occasionally.

Six interactions were observed between Gary and the other children in which he was treated in a negative way. Most of these appeared to be fairly minor and it was not clear if they had any impact on him. For example, a boy in the kindergarten room shouted at him: "Hey, what are you looking at?" and then walked away. Gary did not respond to this. Another boy in his class said: "Good boy, Gary, good puppy dog." The boy was chastised for doing this but once again Gary did not respond. Finally, this excerpt from the field-notes of March 20, 1990, illustrates another of these negative interactions:

Gary sits in the chair in front of the computer. One child stands on one side, two on the other. Cory, Fred, and another boy block Gary's view of the computer. They talk to each other while running and responding to the counting program. Gary sits on his own, as their backs are turned towards him. Cory leaves and Fred lifts Gary off the chair and says: "Go play, Gary." The teacher intervenes and says TL "Excuse me, young man, whose turn is it to play on the computer? She makes Fred leave the computer and turns it off.

The other children who were interviewed were asked what they did to get Gary to start playing with them or to do something particular while they were playing. All three of them stated that they simply told him what to do and, if that did not work, they told the teacher or aide.

Peter:

Peter did not have peer tutors assigned to him at school. As a result, he took part in fewer group interactions. The quality of these interactions was different. Peter's peers helped him on a number of occasions without talking to him apart from giving him directions or repeating his name. He was not always interested in the help that they offered, as this excerpt from Jan. 22, 1990 shows:

After the story is completed the class works briefly on their story projects and then heads off to the gym together. Mrs. Meyer leads Peter by the hand down the stairs and starts him down the hall. He pulls away and continues on his own. Two boys come up and each try to take one of Peter's hands. He pushes them and pulls his hands away. "He pushed me" says one boy. "Me, too" says the other. They leave him and head down the hall on their own. Peter continues down the hall on his own, smiling and lagging behind the others, occasionally exploring other rooms on the way.

The other children would also help him on occasion and talk to him at the same time. For example, on April 18, 1990, Peter was observed receiving help from Jack at the 'car' centre:

> Peter is in the driver's seat of the play car and Jack walks over and opens the driver's door. He gets down and points to the sewing machine pedal that the kids press on when driving to make the sound of the car's motor. Jack tells Peter to press on it. Peter does this and Jack smiles at him and shows him again. Peter smiles and again presses on the pedal and steers the wheel at the same time, looking around the room, beaming.

While the teacher and aides did not formally assign one or more children to be Peter's peer tutors, they asked children to play with him, helped him with his shoes, told him a word, and participated in an activity with him during gym. One girl in particular, Jade, had a reputation of being good with Peter. Here is an example of their play from Feb. 12, 1990:

> Mrs. Meyer asks Jade: "Jade, will you play with Peter?" Jade walks to the centre of the classroom and looks around. Peter is behind her and she does not see him. She calls loudly: "Peter." She finds him and they walk to a table. They play with some coloured blocks. There are patterns of blocks indicated on pieces of paper and one is supposed to match the coloured blocks to the coloured outlines on the paper. Jade plays this game for awhile and Peter stands beside her, watching her and occasionally moving the blocks around. Jade then puts the blocks back in their box and puts the box back on the shelf. She says "Wait, Peter, I know what we can play." She gets a large container filled with white beans and number of scoops and containers for filling and pouring and places it on the table. She says: "Come here, Peter. Let's play." She uses a normal tone of voice. He looks at her and watches what she is doing and plays with the materials in the same way that she does...filling up ladles with beans and pouring these into other containers. She

does not look at him but looks at the container of beans and the scoops and containers. She says: "Peter, we're making, we're making. We're making cookies, Peter...Okay, Peter, come on." She fills different containers up. "Into the glass, Peter." She continues to play, focusing intently on the beans and scoops and containers. Peter stands beside her and also pours from one container to another, looking at Jade occasionally and smiling, or watching she is doing. Jade says: "You're a good boy, Peter." (There is an upwards inflection on the word "good".) Both work at scooping and pouring and stand side by side...Jade focuses on the container of beans and Peter watches the beans and also looks at her from time to time. She does not make eye contact with him while playing. He reaches into the container and lifts one of the containers that Jade has been filling. She says: "Peter, please don't empty this" and takes the container away from him. He starts to play with a glass vase, setting it on the table next to the container. He knocks over the glass vase and Jade says: "Peter, don't break that. Don't do that." He walks away momentarily after she says this and then returns. He stands next to the table and watches Jade as she continues to play with the beans. She says: "Peter, I need this. I need this. I need it really fast. Really fast, Peter." Jade does not look at Peter as she says this, but continues to focus on the container. Peter looks at her while she talks. (It is not clear to me what she is talking about.) Mrs. Meyer comes and talks to Peter. He moves away and follows the teacher as she walks to another place in the classroom. He then returns to the table where Jade is playing. She does not look at him but says: "Peter, I'm trying to fix this for you." He leaves and walks away.

On another occasion (Nov. 22, 1989) a boy was asked to help him get his shoes off before recess. A second boy approached and offered to help. The first boy pulled Peter's leg out from under him as he sat on the floor. The second boy said he would "...do the other leg." He pulled the other leg out from under Peter and took off that shoe while the

first boy took off the other shoe. Peter looked at these boys while they did this. They made no eye contact with him and did not talk to him.

Peter's peers greeted him, to smiled at him when he looked at them, and to showed him things that they had made. Older children walked and talked to him in the schoolyard at recess. His peers rarely (once each) prevented him from doing something or interacted with him in a negative manner.

The other children played with him on four different occasions, including once out in the schoolyard at recess. Towards the end of the school year Peter began to spend more time with Jim, a boy in his kindergarten class. Here is an example of them playing together from the field-notes of April 25, 1990:

> The teacher is reading and Peter edges away from the group. He moves slowly towards Jim, who is sitting in the grumpy chair (time-out chair), apart from the group. Peter runs up to Jim and hugs him. He gets up and Jim reaches out with arms. Peter puts his head in Jim's lap and Jim hugs him. The aide, Mrs. Boychuk, asks Peter to rejoin the group and he does so. Jim calls out from his grumpy chair: "Peter, Peter!" Mrs. Meyer, the teacher, says to Jim: "Jim, you do me a favour and come and sit next to him and show him how to sit." Jim gets out of the grumpy chair and sits next to Peter. Jim tells the teacher: "He's scratching my ear." Jim gets up and walks away from Peter, around the outside edge of the semicircle away from the cupboards. Peter gets up, smiles, and raises his arms towards Jim. Jim, who is standing about eight feet away, laughs and moves away from Peter. Peter laughs and chases after Jim, who runs away from him around the outside edge of the semicircle to the front between the teacher and the students. The teacher stops her reading and says to them: "Go, you two. You can't run in here. If you're going to run, leave." Jim is laughing and runs out of the classroom by continuing in his circle and out the door to the locker area. Peter, with a huge smile on his face, runs after him with his arms raised in the air. Peter continues to chase

him in the hall by the lockers. I can hear the sounds of both of them laughing. Jim is calling "Peter!"

The above excerpt demonstrates the affection that Jim and Peter showed for each other. Displays of affection were observed on a number of other occasions, particularly from older girls wanting to hug him in the schoolyard at recess. Peter avoided these children on some occasions, accepted hugs and affectionate back-rubs at other times, and hugged and touched other students on other occasions.

/s that children who are not intellectually impaired interact with each other
ng play...kinds of interactions:

s classroom:

er children who attended Gary's school interacted with each other during
y or games by talking, laughing, sharing food and singing together, and occasionally engaging in negative interactions. For example, two girls who spent time together with Gary at recess and lunch were observed interacting together on March 20, 1990:

> Charlotte and Sharmaine come to the class with Gary. Sharmaine says to him: "Are you having a good time, Gary. You've been laughing all the way here." (Sharmaine has her arm around Gary and is smiling.) Charlotte is sitting on the couch by the record player. Sharmaine sits beside Gary on the chair, then moves over to the couch to sit with Charlotte. She says: "Gary, Gary, Gary, come here." He remains where he is on the chair, then moves to the floor where he plays with the basketball hoop. The girls sit beside each other and do not talk to him. Sharmaine glances at him occasionally. They face each other, eat chips and laugh at lyrics of the songs together and share chips. They talk to each other, sing the songs together. Once or twice, Sharmaine glances at me or at Gary and then goes to get him an activity. Sharmaine then gets him and brings over to where they are sitting

and he sits on the floor between their legs. She puts her arm around his shoulders and says: "Don't laugh at me. He's always laughing at me" (to Charlotte). Gary gets up and moves to the other end of the couch and sits down. The girls continue playing with the record player, talking and laughing together. Martin comes in and has to stay in because he has a cold. He talks to Sharmaine because her sister babysits him. Gary moves from his end of the couch onto the floor and down to Sharmaine. He gets on his knees in front of her and she gives him some chips. He continues to lean over her and look for more. She says: "No Gary, no more. Ms. Hall said a few, not all."

Gary's peers also played a variety of games together, as described in section 3.2.4. Here is an excerpt from the interview with Tara, where she described a game played in the drama centre during afternoon free time:

IL: What do you do when you play drama? I've seen the clothes there but I haven't really listened to what you guys do.

CL: Umm, play house (inaudible) or vampires. (inaudible). The vampires are our neighbours.

IL: Really? The vampires are your neighbours. Are they bad neighbours? Do they do bad things to you?

CL: Yeah, they bite us so we can be a vampire, but they can't catch us.

IL: Oh, that's good. Does anybody play the part of the vampire when you're playing drama?

CL: Yeah. Sam (inaudible), Chad, or Martin or Henry...

IL: They're the vampires and you and...

CL: ...Anne...

IL: Who's with you in the house, then, if all those guys are the vampires?

CL: Me and Anne. Only two people...

IL: You and Anne.

CL: Only two people are allowed...four people are allowed. A bunch of...two boys sometimes thinking they'll be vampires and we...me and Anne, we be the girls who clean up our house. And those guys have a messy house.

Peter's kindergarten:

The other children in Peter's kindergarten interacted together in a variety of ways while they played, as previous excerpts have shown. They engaged in imaginary play, played games together, rough-housed, talked while playing, and also occasionally engaged in negative interactions with each other.

Here is an example of imaginary play from the field-notes of April 18, 1990:

Robert is sitting at the driver's wheel pretending to drive. Rusty is sitting beside him. Joe and Kevin come up to the car with policeman's motorcycle helmets on.

Joe-Robert "Let me see your wallet."

Kevin-Joe "Put him in jail."

Robert-Joe,Kevin "No." (refuses to show wallet)

Kevin-Joe "Put him in jail."

Robert-Kevin "Pretend you were right there."

Kevin-Robert "I have the keys."

Robert-Kevin "No you don't. There's an extra pair."

Robert-Others "Pretend I was low on gas."

Kevin-Rusty "Rusty, this means go. Rusty, this means go. (He is at the passenger door leaning over while Rusty looks at him.) Joe and Kevin leave and move to the area where the blocks are and begin to play together there.

Robert-Rusty "Help, I'm low on gas."

Rusty "We're out of gas. Help, we're out of gas."

Rusty-Joe,Kevin "Hey, policemen, over here, we're out of gas.

Robert-Joe,Kevin "Hey, policemen, we're speeding."

Joe-Robert,Rusty "Get you in a second." (He called this from the other side of the room.) Robert gets out of the car and walks over to the blocks where the Joe and Kevin are playing. He says to Rusty "You can drive for a second."

Children in Gary's class and in Peter's class stated that they used similar ways of getting another child to play with them. Tara, from Gary's class, said in her interview: "I play Rita's game and then we play my game." Jack, from Peter's kindergarten, was asked:

IL: But listen, if you want to play one game and Kevin wants to play another game, how would you get Kevin to play your game? What would you do? Let's say you wanted to play in the car and Kevin wanted to paint. What would you do, do you think, to make Kevin come play in the car with you?

CL: I will...I will...I will pick his favourite game. He likes to play policeman. Every time...every time he wants to play something else and I want to play in the car, I say, "Do you want to play policeman?" And he says, "Okay, I'll play."

3.3.5 Types and styles of verbal communication directed by the other children towards children who are intellectually impaired...use of first of name, frequency of commands, repetitions:

The frequent use of the first name was observed in the speech of peers addressed to Gary and Peter. Of all the words recorded that were addressed to Gary, 21.93% (175 of 798) were his own name. The same was true of Peter...19.44% of the words recorded that were addressed to Peter were his own name.

The frequency of commands addressed to Gary and Peter differed substantially. Of the phrases recorded that were addressed to Gary, 70.65% (142 of 201) were imperatives, "...direct commands or warnings...(whose) main function is to control the behaviour of other interactants" (Corsaro, 1985). Twelve of the 31 phrases recorded, or 38.71%, that were directed to Peter were imperatives.

The frequency of repetitions addressed to Gary and Peter also differed greatly. Gary's peers repeated themselves 41.79% of the time (84 of 201) when addressing him, while Peter's classmates repeated phrases 16.31% of the time (5 of 31).

While the field-notes previously recorded give some indication of the styles of language addressed to both Gary and Peter, the following excerpt from the field-notes gives the flavour of the language directed to Gary. Because of the possibility that this large chunk of verbal data would skew the data, it was only used for analysis in terms of counting how often Gary's name was used by his peers. This data was recorded on Jan. 23, 1990:

> Carol continues her instructions : "Gary, break, break, break, break, break. No, don't suck on it. Break, break, good! Break, break, he likes to suck on it. Gary, break, break. Maybe this will be funner, let's go for a walk...No, no Gary (as he walks out of the room). Come, come, come, Gary...Gary, come. I don't know what you would like to play with. Come, Gary, come, come. No, no Gary, come, come Gary, come Gary, come. No, no, no Gary, come. Sit, sit, sit, sit Gary. Put, put, put Gary, put Gary. See, see, see Gary. Put, put Gary, put, put, put, put, put. No, Gary, put, put, put Gary. No, Gary, put, put, put. Gary, put. Come, come, come Gary...(claps her hands) come, NO GARY. Come, sit, sit, put, put, put Gary, put. Gary, no, put, put, put, put. Gary, put, put Gary. Put Gary. Put, no Gary, put, put, good boy. Put, put, put, put Gary. Good boy, he got it in hisself this time. Put, put, put Gary, put. Come (gets him up off couch), come, come, no, come, come, come, no, no. (She tries to put a red hat on his head.) No Gary, no, no, no, no. No Gary. Come, come, come Gary. Come. Sit, sit. Put, put, put Gary, put, put, put together. (I lost track at this point; the instructions went on for another couple of minutes.)

3.3.6 Types and styles of verbal communication directed by the other children towards their peers who are not intellectually impaired...use of first of name, frequency of commands, repetitions:

Because the main focus of the data-collecting was Gary and Peter, much less data was collected on the interactions of their peers with each other, in particular the exact verbal interchanges. Only 66 words were recorded between Gary's peers, and they used each other's names only twice, or 3.03% of the time. Of the 15 phrases, two were repetitions (13.33%), and three (20%) were imperatives. The layout of the kindergarten room allowed data to be more easily collected on the interactions of the other children . Of the 284 words that were recorded between Peter's peers, names were used nine times or 3.17% of the time. One hundred and eighteen phrases were recorded. Eighteen were imperatives (15.25%) and 20 were repetitions (16.95%).

3.4 Relationships

3.4.1 Ways that the other children characterize the relationships between themselves and the children who are intellectually impaired:

Gary:

When interviewed, Gary's peers did not state that he had a particular friend in the school. One boy, Chad, indicated that Gary was friends with "...everybody in my class...and everybody in the upper grades." Apart from herself, Tara referred to teachers and other school staff when asked who Gary's friends were. When asked what it was that these people did to be Gary's friends, Tara mentioned the work they did with him:

IL: And what is it that makes us his friends? What sorts of things do we do that make us his friends?

CL: We be so nice, and work hard and we don't make him cry.

IL: Yeah, that's true. What sorts of things do we do to be nice, do you think? You, for example.

CL: Make sure he doesn't fall off his bike, make sure that he doesn't hit himself with a toy, and be nice and talk nice.

However, this response was different from that of a grade six girl, Amy, who appeared to feel a certain sense of kinship with Gary. When Ms. Hall was asked how children felt about spending time with him, she replied:

> Some kids really enjoy it; they don't mind. This one girl in Mr. Brinton's class...or maybe it's Mr. Estey's class...Amy, she likes being with him. She's kind of a loner, and she said, "I'm kind of like Gary; I don't really fit in." And she didn't mind...she liked looking after him.

Peter:

The responses from the two children who were interviewed in Peter's kindergarten class differed. Jim stated that Peter was friends with "everybody," and that he did not know the reasons for this. Jack mentioned that Peter was friends with Jade. He was asked why she was Peter's friend and replied:

CL: Because Jade...Jade...because Jade shares a snack if Peter doesn't have a snack.

IL: And how does that make her Peter's friend? How come she's Peter's friend? What does she do to be Peter's friend?

JL: She gives him candy, she gives him (inaudible)...

3.4.2 Ways that teachers or aides characterize the relationships between children who are intellectually impaired and the other children:

Gary:

Gary's teacher and aide did not mention any child as currently being a f[illegible] of Gary's, but Ms. Erikson stated that "...we had a boy in the class, Ricky, who considered

Gary his best friend. He would talk right to Gary and touch Gary's hair and Gary would listen to him and allow himself to be touched." This boy moved away.

In their interviews, Ms. Erikson and Ms. Hall characterized the relationships between the other children as helping ones. However, they indicated that there were two types of helping relationships. In the first relationship, the children who were not intellectually impaired were directive with Gary. As the kindergarten teacher in his school stated: "The kids are good, they're like his guardians...." Ms. Erikson distinguished between these two different types of relationships in the following way:

> TL: There's a real variety. And I don't know how some kids sort of have this ability to accept Gary just from where he is. They don't expect him to be any different than how he is. They will accept him if he gets more involved in things; they will accept him if he wanders around the room sticking pencils in his mouth. And some kids will get real panicked if he's walking around the room. Almost. You know, like, "Oh, where is he, where is he, what's he doing?" And it's almost like...umm, they're the ones that almost drag him down the hall when they have to go...not trying to be mean, or not really thinking about Gary, but they're not giving Gary the time to walk. I don't know if I can...They almost boss him, the ones who worry about him a lot. And the ones who know "Gary is Gary and he'll get there," are really laid back with him. And they're not so worried if it takes him 20 minutes, 15 minutes, 10 minutes to get down the hallway.
>
> IL: Mmm-hmm. Do you think they're like that with him...like, kids like Carol...I don't know who else you'd put in that group. Are they like that with him because they say, "Ah, well, this is a kid who has a handicap and we have to move more slowly," or is it just, "This is Gary"?
>
> TL: I think it's just, "This is Gary." A lot of them don't even...I've never heard the word in the school used...'handicapped.'

In Ms. Erikson's opinion, the children who enjoyed being with Gary, who were more "laid back" with him, were the ones with whom he shared more physical affection, while the ones who fretted about him he tended to dismiss.

Peter:

Peter's teacher and aide described a range of relationships that the children in his kindergarten had with him. The teacher, Mrs. Meyer, stated that Jack accepted Peter as just another kid. She said some children, particularly the boys in the room, directed him more and did not take an active role in helping him do things. Both Mrs. Boychuk and Mrs. Meyer stated that Jade, a girl in Peter's class, mothered him. Mrs. Boychuk described their relationship in her interview:

> TL: (T)he other kids tend to say...it's changing a bit but, like, "No, Peter" -- they feel they really have to almost be his boss. Whereas she doesn't. She'll say, "No Peter, you should do it this way." She's kind of a mother to him.
>
> IL: Oh, really?
>
> TL: Or maybe a better word would be a kind friend, an understanding friend who realizes he can't...he probably won't do it but she can talk away to him and he'll sit and listen. I think she realizes that.

Mrs. Meyer also said that some children tended to treat Peter like a big doll, and that this was a problem for him.

Peter responded differently to the children in his class. Mrs. Boychuk and Mrs. Meyer both indicated in their interviews that Patrick viewed Jim, as his friend. Mrs. Meyer described it as follows:

> Jim is, like you say, somebody his own size and he (Peter) figures he's probably into as much mischief; he can find his true soul mates across the room. That's why I figure Peter's smarter than we give him credit for; he seems to have that little knack. Otherwise I don't think he'd relate to these people that well.

3.4.3 Characteristics of friends of children who are not intellectually impaired as described by children, teachers, and aides:

The children who were not intellectually impaired and were interviewed stated that they were friends with other children because these individuals told funny jokes, were nice, did not "say swears," gave them things like candy and toys, and wanted to play with them.

In their interviews, the teachers and aides most often said children are attracted to each other because of similar characters and styles of play. Some children were very physically active, and preferred to play with others who shared this interest. When asked about Carol, Ms. Erikson described it in the following way:

> IL: (W)hat are those girls like, and what is it about them that you think that Carol really likes? Why does she want to play with them?
>
> TL: I think Tara and Anne and Kira are quite assertive...I was going to say aggressive, but they're not really aggressive. They're very assertive. So when they start to play games, they will usually be the ones to start them. They carry the (inaudible.) So as soon as those three decide, "I don't want to play this anymore," the game dies. They're like the leaders, almost. And Carol likes being around that; she likes being part of the leader group, so she'll help them start the game and play, and make up the rules and that kind of thing. And I don't think...she doesn't...because those three girls are really good at trading off rules...Tara will say, "Okay, let's skip to 20." And then Anne might say, "Okay, but then let's trade ropes," or whatever. They're usually pretty good at sharing each other's ideas, which some of the younger kids...like Walt and that won't listen to Carol. She gets a little bit frustrated because they're not listening to her rule right now. Where with the other girls it just kind of flows.

Another factor that was mentioned by teachers and aides as attracting one child to another was control...some children wanted to be around others who would lead the way. In her interview, Mrs. Meyer described Jack's relationship with Kevin in that way:

> TL: Kevin's a leader. Kevin will take him and play a game, so Jack doesn't have to do anything. He just follows. So he'll pick kids who already know what they want to do and he'll go and do it. He'll play with Chris, he'll play with anybody else who has an idea.

4.0 Discussion

The first section of this paper presented a selective review of the literature regarding integration and children with severe intellectual impairments, the relationships and interactions between individuals who are intellectually impaired and those who are not, and a brief review of the research regarding the interactions and relationships of 'normal' children. Based on this review, it was decided to review the observational statement put forward by Guralnick (1984). He contended that the style of interactions of children who are not intellectually impaired is more "adultlike" or "older sibling" than "peerlike" when they are interacting with children who have severe to moderate intellectual impairments. In this section, the data presented in the previous chapter is examined in the light of four sets of research questions related to the above observation.

As indicated in the second chapter, this thesis uses the ethnographic "case study" method. A researcher using this approach shows how the general principles derived from a given theory manifest themselves in a particular set of circumstances (Mitchell, 1984). This chapter explores whether Guralnick's theory fits Gary's experience and Peter's experience in their respective schools.

Data that supports Guralnick's view will be presented along with any data that contradicts his characterization of the interactions between children with intellectual impairments and those who are not impaired. One of the advantages of the qualitative approach is that it does not force one to see only one side of a situation. On the contrary, this method insists that one considers individuals and their social context, or world, at the same time.

4.1 How are students with severe intellectual impairments characterized by their peers who are not intellectually impaired and by their teachers and aides?

The children who are not intellectually impaired describe a number of activities that Gary and Peter share with their peers. However, they make clear distinctions between the other children and the two boys who are severely intellectually impaired. These children largely characterize Gary and Peter by their need for help: help to do their work, help to eat, and help to complete other tasks. Gary is only described as being able to understand commands and not, for example, greetings. He is also portrayed as never working, but only playing. Peter is described as "a handicap" who will learn to colour as he gets older.

Gary's teacher and aide characterize him differently than his peers do. Ms. Erikson, the teacher, sees him as "an extremely easy-going, even-tempered boy" while Ms. Hall, the aide, views him as being affected by his day-to-day moods. They describe him as physically affectionate and say that he enjoys recognition, physical activities, playing with another child's shoes, and seeing young children in the school. They also refer to him being managed and controlled by others in the school, including children, and say that he accepts this. Ms. Hall says that Gary seems to understand some things that are said to him. Ms. Erikson, however, characterizes his ability to communicate as being like that of a baby. She knows when something is wrong but often cannot tell what it is.

Peter's teacher and aide believe that he understands the kindergarten class and how it works, and that he fits in well. He is limited in his ability to communicate to one or two words, but he is able to let others know what he wants through other means. Mrs. Boychuk sees him as wanting to avoid work, but thinks he is "a very loveable little person."

These characterizations of Peter and Gary by their peers, teachers, and aides share some important elements and differ in others. Some of this data supports Guralnick's description of the styles of interaction between children who are not intellectually impaired and those who are. Gary and Peter are both characterized by their need for help by both

staff and their peers. Their ability to understand others and to communicate is also seen as severely impaired. The teachers and aides do not only see Gary and Peter through their need for help, however. They also describe the boys' likes, dislikes and personality traits. In this sense they are like the other children.

4.2 What is the level of participation in play of students with severe intellectual impairments?

4.2.1 Contrast between children with severe intellectual impairments and those without intellectual impairments in integrated settings:

4.2.1.1 Quantitative data:

As noted in the previous chapter, quantitative data on the level of participation in play was taken for Gary and Peter in their integrated classrooms, for randomly selected peers in these classrooms, and for Peter in the segregated resource room where he spends his afternoons. Table 8, Table 9, Figure 1, and Figure 2 present the data from these observations:

	Group %	Parallel %	Alone %	Staff %	Intervals
Peter...int class	0.87%	11.30%	58.26%	29.56%	115
NH peers	34.82%	37.50%	24.55%	3.12%	224
Peter...seg class	0	4.83%	38.62%	56.55%	290

Table 8: Peter's school...four days' data

	Group %	Parallel %	Alone %	Staff %	Intervals
Gary...int class	10.51%	1.69%	83.05%	4.75%	295
NH peers	40.00%	23.33%	29.05%	7.62%	210

Table 9: Gary's school...four days' data

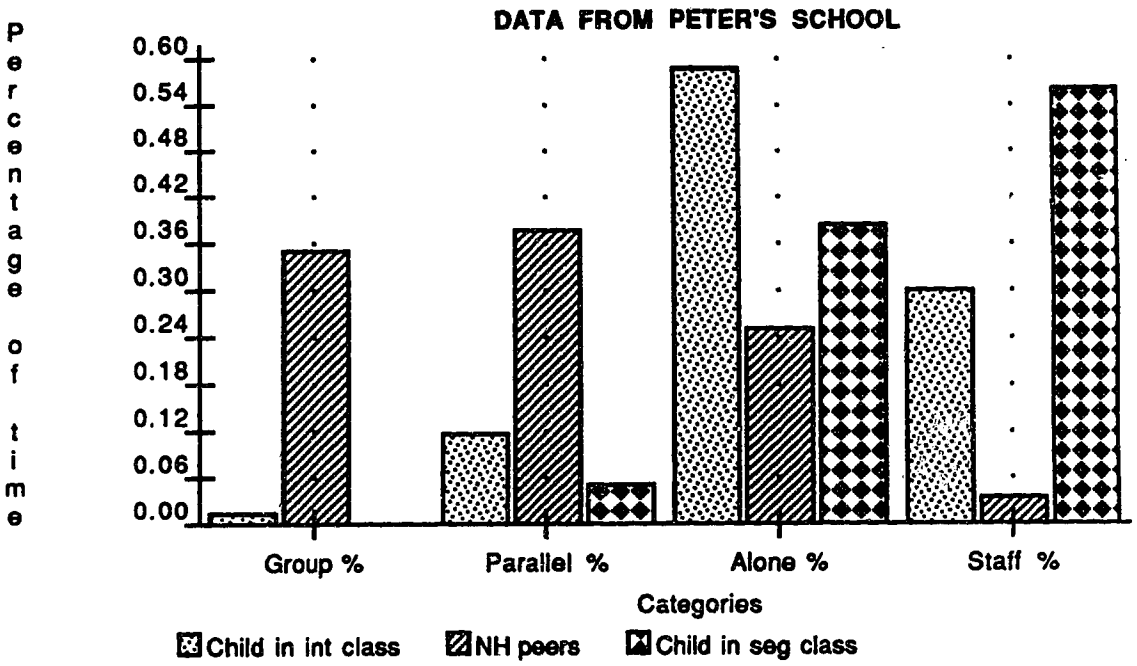


Figure 1: Peter's school...graph of quantitative data

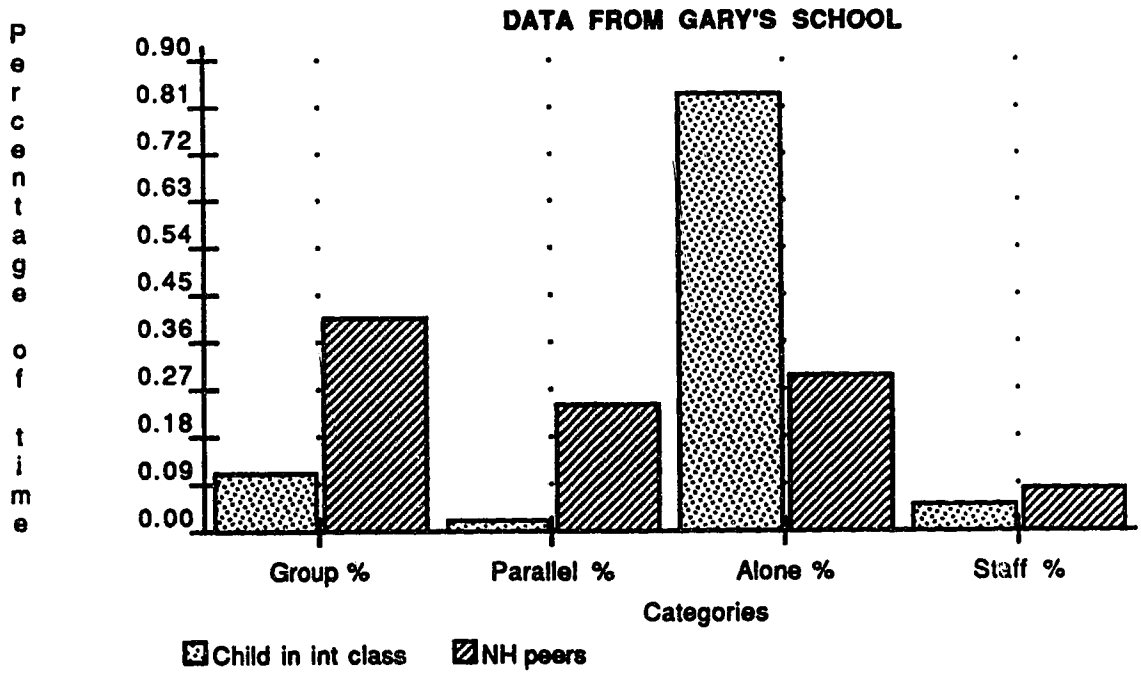


Figure 2: Gary's school...graph of quantitative data

The other children in Peter's kindergarten participate in group play more than one third of the time (34.82%) during centre time. Peter hardly takes part in this type of play (0.87%). There is less of a difference when parallel play is considered. Peter's level of participation is 11.30%, compared to 37.50% for his peers. He spends more than twice as much time alone as his peers (58.26% vs. 24.55%) and interacts with staff almost 10 times more than his classmates (29.56% vs. 3.12%).

The children who were observed in Gary's grade one class during recess and afternoon free time take part in group play 40.00% of the time, compared to 10.51% for Gary during his free time at lunch. A greater difference is observed for parallel play. Gary spends only 1.69% of his time playing alongside others, while his peers spend 23.33%. Gary is alone almost three times more than the other children (83.05% vs. 29.05%). However, he interacts with staff less than the other children do (4.75% vs. 7.62%).

The amount of time that Gary and Peter spend engaged in parallel and group play is virtually identical (12.20% vs. 12.17%). Gary spends virtually all of this time interacting with the peer tutors assigned to him at lunch. Peter has no peer tutors assigned to him and most of this time refers to his playing alongside his peers during centre time. The other children in Gary's class and Peter's kindergarten spend the great majority of their time engaged in group or parallel play, however (63.33% and 72.32%).

Peter spends much more time interacting with staff than do his peers or Gary. The data regarding Gary was taken during lunchtime, when only one or two staff supervise the children on the playground. He is often in the classroom without any staff present, or being attended to by a peer tutor outside. Gary spends much more time alone than Peter. Their peers spend only about one quarter of their time alone, and a fraction of their time with staff.

As noted above, the other children in Gary's class and Peter's kindergarten spend the great majority of their time interacting with or beside each other. This is consistent with results reported by other researchers, who stated that younger pre-school children tend to

play alone or in parallel groups, while older children engaged in more organized play. In addition, the size of play groups increases with age (Parten, 1932; 1933). Corsaro (1985) indicated in his extensive qualitative study of pre-school children that they "...rarely engaged in solitary play; children who found themselves alone consistently attempted to gain entry into one of the ongoing peer episodes" (p. 122).

However, Peter spends most of his time alone while Gary is alone almost all of the time. Other researchers have indicated (Bakeman & Gottman, 1986) that younger children tend to play alone more. They engage in more interactive play as they grow older and develop. In this sense the observed behaviour of the two boys with severe intellectual impairments is like that of children who have not yet reached pre-school age. They do not have the social and communicative skills to initiate interactions with their peers. However, like other children with severe intellectual impairments (Chadsey-Rusch, 1990; Hill & Whiteley, 1985), they interact more frequently with staff when they have an opportunity.

4.2.1.2 Qualitative data:

Gary participates along with his peers in a variety of activities. A number of these are passive activities, where Gary simply has to be present in order to participate. These include morning circle, watching a video, and listening to the teacher read a story. Other activities are characterized by Gary being with a peer, but playing with the toys on his own. For example, other children hand him blocks, LEGO, or toys from his box and he manipulates or plays with these. This type of activity occurs most often with a peer tutor or when another child has been asked to interact with Gary, although some children initiate these interactions on their own. Activities where Gary and a peer play or interact together are the most rare. An example of this type of play is Gary trying to catch Martin's shoes while Martin moves them around.

Peter also takes part in passive activities with the other children in the kindergarten. These include listening to music, listening to stories, and morning circle. Peter plays on his own but alongside peers when he paints, draws, goes to the library or gym, cleans up, plays in the car centre, and goes outside at recess and lunch. He plays or interacts together with other children more often than Gary, however. For example, he plays games of chase or rough-houses with peers and plays with the beans and containers with Jade. Some of these interactions are initiated by staff and some by other children. Peter rarely (once) initiates an interaction with another child.

Gary does not participate with the other children in academic activities, arts and crafts, music, most activities in the kindergarten room or gym, and interacts little with his peers at recess or lunchtime. Peter also does not participate with his peers in the kindergarten in academic activities, some arts and crafts, in the play house, at the music centre, with puppets, with LEGO, or when they run and climb at recess and lunchtime.

When the other children are asked what games they prefer to play with a friend, they most often mention games that require co-operation. In Gary's class, these include board games, tag, hide and go seek, drama, skipping, soccer, and dolls. Peter's peers refer to the car centre, policeman, playing in the house, and playing at the water table. The staff from both classrooms indicate that imagination is an important element in these children's play. The children and staff less often mention games that do not necessarily require co-operation, such as LEGO, blocks, colouring, the computer, Play-Doh, and playing in the sand-box.

These responses are reinforced by observations in both classrooms. Gary's peers are often seen talking together, singing together, playing a variety of games together outside at recess and lunchtime, and playing co-operatively during afternoon free time. The same is true of Peter's peers. The best example of this is the imaginary and co-operative play of Chris and Keltie, who negotiate a fantasy together.

These qualitative results suggest that the level of social participation reported for Gary and Peter in the quantitative data may overstate the extent to which they play with and like their peers. In fact, Guralnick (1984) notes the same trend in research findings:

> Those investigations emphasizing more interactive measures (i.e. mutual or co-operative play) have suggested greater separation than those using more passive measures (i.e., parallel play — see Guralnick, 1981). It is quite possible that rather extensive social separation occurs during the more elaborate, and perhaps more important, forms of social play (p. 146).

The quantitative and qualitative data largely support Guralnick's description of the interactions and relationships between children with intellectual impairments and those without these impairments. Both Gary and Peter participate less in group and parallel play and spend much more time alone than their peers. The qualitative data also show that even when they do participate with their peers their participation tends to be parallel or passive as opposed to co-operative group play. Their peers say that they prefer co-operative group play, as exemplified by Chris and Keltie, and this was augmented by observations made in the classrooms.

4.3 What kinds of interactions do students who are intellectually impaired experience with their peers who are not intellectually impaired and how are these characterized by these peers, teachers, and aides? How do these interactions compare to those that the students who are not intellectually impaired experience?

4.3.1 Qualitative data:

When Gary's peers discuss their interactions with him they most often refer to helping him, looking after him, or getting him to do what they want. This is true even when the investigator uses the word "play" when asking them about their interactions with

Gary. However, all of the children also mentioned playing with Gary. Chad describes playing beside Gary and says that it is a good way for him to get some extra play time.

Gary's teacher and aide refer most of the time to the other children helping or looking after him. They believe these children enjoy it for the most part. Ms. Erikson views the interactions as being essentially one-way; it is play for Gary but not for the other children. Ms. Hall and Ms. Erikson assert that he enjoys it when his peers talk directly to him and are physical with him. They also mention that he is physically affectionate with children who make him feel comfortable.

Observations in the classroom tend to confirm the responses of staff and Gary's peers in interviews. Gary's formally assigned peer tutors, children who are asked informally to do things with him by his teacher or aide, and children who approach him of their own accord have a number of different styles of interacting with him. While the styles vary, his peers almost always approach him to help him do something or to prevent him from doing something.

When helping Gary or preventing him from doing something, most children do not talk to him except to use his name and give him directions. Some children do occasionally talk to him in other ways. They greet him, show him things, or smile at him. A few children show him affection by looking at him closely, smiling, touching him, or stroking his hair. Gary, in turn, is affectionate with some of the children who spend time with him.

In Peter's kindergarten, one child characterizes Peter as helping another child when the two of them are painting the same piece of paper. Jack says Peter engages in imaginary play with him and plays together with him in the car centre.

Peter's teacher and aide refer to a number of different styles of peer interaction. They state that most children do not approach Peter unless he has something they want; some children include him in their play if he is present; Jade is "mothery;" Jack tends to be physical; and Anita is bossy. For his part, Peter tends to avoid interacting with the other children in the class although he will now join them in the car centre.

The observed behaviour of Peter's peers varies more than that of Gary's peers. They do help Peter with different tasks without talking to him except to mention his name and give him directions. As noted in the previous chapter Peter did not always like receiving help from his peers. They also help him while talking to him using more than just commands and his name. However, they interact with him in many other ways: they greet him, smile at him, show him things, play games with him in the class and outside at recess, and show him affection.

As seen in section 4.2.1.2, both Gary's and Peter's peers say they prefer games that are co-operative in nature; they are most often observed engaged in this kind of play. Their co-operative approach is underlined when they attempt to draw another child to play. Children in both Gary's class and Peter's kindergarten describe their method of initiating play as participating in the other child's game, or at least playing it first. This contrasts sharply with the approach Gary's peers say they would use to get him to do something. They would simply tell him to do it.

Most of the qualitative data presented here supports Guralnick's description regarding the interactions between children who are intellectually impaired and their peers who are not. Once again, Gary's peers most often characterize their interactions with him as "helping" ones. This is echoed by teachers and aides, who also describe "helping" interactions. The observed behaviour of Gary's peers almost always reinforces this conclusion, while Peter's peers behave in this way somewhat less often. It could be that age is a factor here, or that the structure of the kindergarten room as opposed to the grade one class leads to this outcome. This directive and helping orientation towards Gary and Peter stands in contrast to the co-operative approach the other children use with their friends.

Some of the data, however, does not support the description of the other children as "controlling and dominating." Peers also describe playing with Gary and Peter and this type of interaction was observed in their classrooms. In addition to play, greetings,

exchanges of affection, and other forms of communication were observed, although infrequently.

4.3.2 Types of language used:

Gary's and Peter's peers talk to them differently than they talk to their friends. This is demonstrated by looking at the use of commands, repetitions, and first name. The following table (see Table 10) outlines these differences in language usage:

	Gary	Gary's peers	Peter	Peter's peers
commands	70.65%	20.00%	38.71%	15.25%
use of name	21.93%	3.03%	19.44%	3.17%
repetitions	41.79%	13.33%	16.31%	16.95%

Table 10: Use of commands, first name, and repetitions in the speech of other children when directed to peers who are not intellectually impaired, Gary, and Peter

As can be seen from this table, there are substantial differences between the language that children direct to peers besides Gary. More than two of every three phrases directed to Gary is a command. This is more than three and a half times the rate observed between his peers. Gary's name is used seven times more often and his peers repeat themselves three times more often with him than with each other.

Peter's peers make some of the same adjustments when they are addressing him. However, they use almost half the rate of commands and do not repeat themselves any more often with Peter than they do with other children. Unlike Gary, who spends a good deal of time with assigned peer tutors, Peter has no peer tutors. The language that Peter's peers use with him is more like the language they use with each other. This appears to be the result of these children not being assigned to him as peer tutors.. In addition, he tends to avoid interacting with other children, leaving an area if they enter it. As a result, much

less language was recorded between Peter and the other children (31 phrases) than between Gary and his peers (201 phrases).

The adjustments that other children make for Gary and Peter match those that mothers and older children tend to make for very young children. Both of these groups increased the rate at which they used commands, use the name of the child they were talking to more often, and repeat themselves more often (Gleason & Weintraub, 1978).

The quantitative data support Guralnick's description. The other children tend to talk to Gary and Peter in the same way that mothers and older children talk to much younger children and infants. Even where the rates of the different types of language usage for Gary and Peter do not match, the direction of the data is the same in all but one instance. The field-notes also give some indication of how the other children address Gary and Peter and the data reinforce this conclusion.

These results match those reported by Guralnick and Paul-Brown (1977, 1980). They found that children who were not intellectually impaired provided information less frequently, made fewer requests for information, used more directive interactions and repeated themselves more often when they addressed children who were mildly intellectually impaired. When the adjustments these children made were examined closely, they appeared to be appropriate. The children seemed "...to be effectively pursuing their communicative goals in relation to task demands and social and situational constraints, while using a wide range of strategies to maintain contact and to facilitate communication" (Guralnick, 1984, p. 144).

It is likely that the other children are also using a style of language that they believe works with Gary and Peter: the more frequent use of first name to attract and maintain attention, and a higher rate of commands and repetitions as a means of simplifying language.

Not all the results fit Guralnick's characterization of the style of interactions between children who are intellectually impaired and those who are not impaired. Peter's

peers use almost half the rate of commands that Gary's peers do and repeat themselves no more often with him than they do with other children. Again, this may be because no students are assigned to him as peer tutors. It may also reflect the kindergarten as a play environment, where fewer commands are used, or it may be that younger children tell each other what to do less often.

4.4 How do the students who are not intellectually impaired, teachers, and aides characterize the relationships experienced by students who are intellectually impaired? How do these compare to the characterizations of the relationships experienced between students who are not intellectually impaired?

Gary's peers define their relationships with him in terms of the help they give him. His teacher and aide also state that his relationships with his peers are mainly helping ones, but they describe two different kinds of helping relationships. One is business-like and directive while the other is more relaxed and empathetic. The teacher and aide believe that Gary responds more affectionately to the children who approach him in the latter fashion.

Peter's peers see him as having friends. Jade in particular is seen as his friend because she gives him her snack from time to time. The teacher says that different children have different kinds of relationships with him. Most of the boys are directive, Jack accepts Peter as another child, Jade mothers him, and some of the older girls treat him like a big doll.

Gary's and Peter's peers say they make friends with children they enjoy, with children who give them things, and with those who want to play with them. The staff say that children who are not intellectually impaired are usually drawn to each other because of similar personality characteristics and styles of play. However they believe some children make friends with those who are leaders. This type of child they characterize as wanting to be controlled and led.

Most of the data presented here tend to support Guralnick's description of the interactions between children who are intellectually impaired and those who are not. Gary's peers, Gary's teacher and aide, and Peter's teacher and aide define the relationships between these boys and their peers as helping ones. The other children look after Gary and Peter; many of these relationships are dominating and controlling. Not all of the data, however, support this characterization. Peter's peers do see him as having friends, and his teacher states that at least one other child in his classroom views him as just another child. Gary's teacher also describes a boy in her class who viewed Gary as his best friend.

More importantly, the interview responses of staff and some children, and the behaviour observed and recorded in the field-notes, supports Ms. Erikson's description of two different kinds of helping relationships: one directive and business-like and the other relaxed and empathetic. Clearly not all the relationships are dominating and controlling.

4.5 Secondary Analysis:

As sections 4.1 to 4.4 show, the great majority of the qualitative and quantitative data support Guralnick's characterization of the style of interactions between children who are intellectually impaired and peers who are not impaired. Most of the other children do tend to characterize and interact with Gary and Peter as if these boys were much younger children. They often state that their role is to help or look after these boys and their behaviour, as recorded in the field-notes, reflects this. This helping orientation on the part of the other children often leads to their dominating and controlling Gary and Peter. The teachers and aides also tend to describe the interactions and relationships between the other children and the two boys in the same way; the children who are not intellectually impaired take a helping stance and often dominate and control them.

As described in detail above, there are some interactions and relationships that do not fit this mould; there are situations in which the balance of power is more equal. The

affection shown by other children towards Gary and Peter and vice-versa, the games that they play together, and the way in which some interactions and relationships are described by both children and staff provide support for this assertion.

In a number of these situations, the interaction begins with the other children following the boys' lead. As it continues, Gary or Peter take turns with the other child, sometimes leading, sometimes following. Turn-taking of this type is a central aspect of co-operative play.

> Social play, characterized by 'alternating, contingent behaviors and nonliteralness of those behaviors,' and games, defined as 'extended and structured forms of co-operative interaction...' characterized by the mutual involvement of two partners and the repeated enactment of game roles in a turn-alternation pattern are examples of co-operative play...(Eckerman & Stein, 1982, p. 48).

Therefore, Gary and Peter truly do play with their peers. These episodes may occur very infrequently but they do occur. This result is not an artifact of a particular measure, nor is it helped along by the intervention of a staff person. The few times that play of this type did occur it happened spontaneously. Two examples of this are Gary playing with Martin's shoes while Martin moved them and Peter playing a game of chase with Jim. These situations were not contrived in any way and no adult was involved; the play just happened.

The unpredictable nature of this type of play is underlined by the reaction in Peter's kindergarten when he played with Jim towards the end of the school year. The teacher was surprised by this play, the aide was surprised, the researcher was surprised, and it appeared that even Jim was surprised, although receptive. All adults in the room viewed this as completely unexpected, a bolt from the blue.

Guralnick's original observational statement must be corrected. Children with intellectual impairments do experience *some* of the same interactions and relationships as

their peers and the balance of power is not always tilted in favour of the child who is not impaired.

Even where children who are not intellectually impaired assume a helping orientation, it does not necessarily follow that they dominate and control Gary and Peter. When they help Gary and Peter, the other children are like the "benefactors" portrayed by Edgerton (1967) or like those high school students engaged in the helping or working relationships described by Murray (1987). As both authors have noted, a helping orientation does not mean that the interactions are not desired by people with intellectual impairments. This type of assistance is also essential if individuals like Gary and Peter are to continue in integrated, community environments. In that sense, a helping orientation could not be more functional.

Ms. Erikson also pointed out that children have different styles of interacting with Gary while helping him. Those who are more relaxed follow *his* lead and allow him to set the pace. Gary appears to respond best to this approach for he is more physically affectionate with these children.

A comparison of Peter's experiences in the segregated resource room, as opposed to the kindergarten at his school, underlines the extent to which it is vital that both he and Gary continue to attend integrated classrooms in regular schools. In this way, they can continue to experience at least some of the range of interactions experienced by their peers.

Peter was never observed in group interactions in the segregated resource room where he spends his afternoons. This is not surprising since the other children in the room cannot use language or signs and were also never observed initiating an interaction with another child. The level of Peter's participation in parallel play is about 2.5 times higher in the kindergarten than in the resource room (11.30% vs. 4.83%). There are always many children working together or alone on different activities in the kindergarten, while the other children in the resource room work with staff or are unoccupied. Most of the times

Peter engaged in a similar activity alongside other children he was listening to a story read by a staff person.

Peter interacted with staff almost twice as much in the resource room as in the kindergarten (56.55% vs. 29.56%) even though the ratio of staff to children with intellectual impairments was about the same in each place (about one staff member to two children). He also spent correspondingly less time alone in the resource room than in the kindergarten (38.62% vs. 58.26%).

The aspect of Peter's behaviour that stands out as different in the resource room is the extent to which he approaches other staff as opposed to children. When Peter is alone in the kindergarten he tends to watch other children as they play or interact (12 of 17 instances). In the resource room Peter often watches and approaches staff. Examination of the ten separate blocks of field-notes from the resource room indicates that Peter approached staff on 14 occasions. He was never observed approaching other children and looked at them on only two occasions.

Peter does not learn to interact or play with other children in the resource room. On the contrary, Peter learns to compete with other children here for the attention of the staff as they are capable of communicating with him.

In order to experience the full benefits of integration, children with severe intellectual impairments need to enter the mainstream of children's culture - not simply the educational system. It is only through increasing their participation in peer culture that they will begin to learn about their social world, acquire interactive skills, establish relationships, and control of their own social order to the extent of their ability.

Gary and Peter do not usually experience the same range and quality of interactions and relationships as their peers. Their experience of a social life gives them only the briefest sampling, a glimpse of what the other children live every day.

Overall, Gary and Peter appear to play very little with their peers. When they do participate in an activity, they are most often either passive or simply playing beside their

peers rather than interacting with them. This contrasts sharply with the behaviour of the other children who tend to play together frequently in a mutual or co-operative way. These children tend to play together in a way that allows others to enter their play. For example, another child could easily have begun talking to Anita while she was talking on the car phone, or could have joined in Aster's play with the puppet. Obviously, the ability to talk is central to engaging in group play. Lacking this skill, Gary's and Peter's isolation is increased.

The two boys also rarely engage in parallel play. A number of researchers (Bakeman & Gottman, 1986; Corsaro, 1985) have written that children seem to use this type of play as an intermediate step, a way of entering into group play with other children. Thus Gary and Peter also seem to be missing an important play skill: the ability to approach another child and play beside him or her. Gary was never observed doing this; Peter seemed to be trying to engage other children by following or watching them. It appeared to the researcher that Peter was trying to enter into their play, but the other children did not respond to him. They did not seem to understand his approach: other children talked to them, played with same kind of toys, touched them, stood close to them, etc. In short, Peter just did not seem to be talking their language, the language of children's play.

The other children are clear about the kind of play they prefer and about their approach to drawing another child into an activity: they take part in the other child's game. Gary did not demonstrate this skill, and Peter only developed it towards the end of the school year when he approached and played with Jim. Gary and Peter clearly need to learn more about the language of play before they can begin interacting and developing relationships with their peers who are not intellectually impaired. The extent to which they remain outsiders seems dependent on their developing fluency in this language.

Right now, these two boys are alone most of the time, even when they are with the other children. Their day-to-day experience in school is characterized by this isolation and

by other children's attempts to reach them through helping them. Occasionally other children will interact with Gary or Peter in a way that does reach them; the boys will respond to this in turn, and the interaction will continue. Far less frequently Gary or Peter will approach another child, and this will lead to co-operative play. These occurrences are truly breakthroughs for they give one a sense of what could be.

Taylor and Bogdan (1989) have discussed accepting relationships between people with intellectual impairments and those who are not impaired:

> An accepting relationship is defined here as a relationship between a person with a deviant attribute, in this case mental retardation, and a nondisabled person, which is long-standing and characterized by closeness and affection and in which the deviant attribute, or disability, does not have a stigmatizing, or morally discrediting, character in the eyes of the nondisabled person. Accepting relationships are not based on a denial of the disability or difference, but rather on the absence of impugning the disabled person's moral character because of the disability (p. 27).

Taylor and Bogdan have completed qualitative research in this area. Their results indicate that individuals without intellectual impairments tend to base their relationships with those who are impaired on one of four orientations: family, religious commitment, humanitarian concern, and feelings of friendship. Some of the closest friendships they observed grew out of helping relationships, particularly staff-client relationships. These authors point out that their "...data strongly indicate that a significant number of ordinary community members are willing to accept people with severe disabilities if given the opportunity" (p. 33).

The same appears to be true of the other children in Gary's grade one class and Peter's kindergarten. A number of them, when given a chance, accept Gary and Peter as they are and interact with them not as individuals with severe intellectual impairments but as individuals. The results of this study, coupled with a review of the research in this area, lead one to speculate on the different levels of integration that occur in community settings.

In the first level or stage the person with intellectual impairment is simply physically present in a setting with peers who are not impaired. This is the most common form of integration and, as noted previously, has a minimal impact on the social behaviour of people with intellectual impairments.

Almost all the interactions and relationships between the two boys and their peers are characteristic of the second level. At this stage the individual with intellectual impairments is physically present with peers who are not impaired and engages in interactions with them. These interactions are characterized by a helping orientation where domination and control is most often observed. The individual who is not intellectually impaired leads and manages the encounter.

The third level also reflects a helping orientation. However, the people who offer the help tend to follow the lead of the individuals who are intellectually impaired. Turn-taking is observed in the these interactions.

In the fourth stage the individual who is intellectually impaired initiates the interaction and the other person responds to it. Turn-taking and a mutual, or co-operative, approach is observed. The two individuals share control of the encounter.

The qualitative and quantitative data from this study, and from other studies, appear to provide some support for the hypothesis that there are four different levels of integration. Nonetheless, the proposal remains highly speculative and should be tested in further research. Further case studies should be completed to add support to this hypothesis, as this is an accepted method of building theory in ethnography:

> If, having developed a theory in the analysis of one set of data, hypotheses from that theory are confirmed in the study of further cases, especially if those have been selected to rule out competing hypotheses, then our confidence in the truth of the theory is legimately increased. (Hammersley, 1987, p. 314.)

More research is also needed on methods that would encourage the higher levels of integration. It appears difficult to encourage interactions between children with intellectual

impairments and their peers. Children who are not intellectually impaired almost always dominate and control interactions when they are asked to spend time with children who are intellectually impaired. Teachers and aides need to know how to prompt interactions without having these activities lead only to domination and control.

Teachers, parents, and others involved with children who have severe intellectual impairments should focus more on the importance of teaching social skills. They should try to change the way that children who are not intellectually impaired currently seem to interact with these children. They appear to be mimic the adult caregivers. There is much more to the language that children use with each other than the commands, use of first name, and repetitions that make up most of the speech currently directed towards Gary and Peter. There is the exuberant language of childhood, of fun, of play.

Adults cannot teach this language; they can only set the stage where it can be learned. Perhaps this is the strongest argument yet for mainstreaming. If children with severe intellectual impairments are to learn the language of their peers they must live beside them and learn to interact in the same way their peers do. Adults are unable to teach a young person how to be a child, only other children are capable of doing this. Perhaps peers should be relieved of some of the responsibilities of being tutors and should be allowed to teach children with intellectual impairments how to be like other kids.

Bibliography:

Anastasiow, N. J. (1984). Handicapped preschool children: Peer contacts, relationships, or friendships? In T. Field, J. Roopnarine, & M. Segal, (Eds.), Friendships in normal and handicapped children. (pp. 209-217). Norwood, NJ: Ablex.

Bak, J. J., & Siperstein, G. N. (1987). Similarity as a factor effecting change in children's attitudes toward mentally retarded peers. American Journal of Mental Deficiency, 91, 524-531.

Bakeman, R., & Gottman J. M. (1986). Observing interaction: An introduction to sequential analysis . New York, NY: Cambridge University Press.

Blumer, H. (1969). Symbolic interactionism: Perspective and method . Englewood Cliffs, NJ: Prentice-Hall.

Bogdan, R., & Biklen, S. K. (1982). Qualitative research for education . Boston, MA: Allyn and Bacon.

Borg, W. R., & Gall, M. D. (1971). Educational research: An introduction (2nd ed.). New York, NY: David McKay.

Brady, M. P., McEvoy, M. A., Gunter, P., Shores, R. E., & Fox, J. J. (1984). Considerations for socially integrated school environments for severely handicapped students. Education and Training of the Mentally Retarded, 19, 246-253.

Breen, C., Haring, T., Pitts-Conway, V., & Gaylord-Ross, R. (1985). The training and generalization of social interaction during breaktime at two job sites in the natural environment. The Journal of the Association for Persons with Severe Handicaps., 10, 41-50.

Brinker, R. P. (1983). The rate and quality of social behavior of severely handicapped students in integrated and nonintegrated settings. (ERIC Document Reproduction Service No. ED 232 337). Princeton, NJ: Educational Testing Service, Education Policy Research Institute.

Brinker, R. P. (1985). Interactions between severely mentally retarded students and other students in integrated and segregated public school settings. American Journal of Mental Deficiency, 89, 587-594.

Brinker, R. P., & Thorpe, M. E. (1986). Features of integrated educational ecologies that predict social behavior among severely mentally retarded and nonretarded students. American Journal of Mental Deficiency, 91, 150-159.

Broen, P. A. (1972). The verbal environment of the language-learning child. American Speech and Hearing Association Monograph, 17.

Chadsey-Rusch, J. (1990). Social interactions of secondary-aged students with severe handicaps: Implications for facilitating the transition from school to work. The Journal of the Association for Persons with Severe Handicaps, 15, 69-78.

Cole, D. A., Meyer, L. H., Vandercook, T., & McQuarter, R. J. (1986). Interactions between peers with and without severe handicaps: Dynamics of teacher intervention. American Journal of Mental Deficiency, 91, 160-169.

Corsaro, W. A. (1985). Friendship and peer culture in the early years. Norwood, NJ: Ablex.

Corsaro, W. A. (1986). Routines in peer culture. In J. Cook-Gumperz, W. A.Corsaro, & J. Streek, (Eds.), Children's worlds and children's language (pp. 231-252). New York, NY: Mouton de Gruyter.

Deatrick, J. A., & Faux, S. A. (1989). Conducting qualitative studies with children and adolescents. In J. M. Morse (Ed.), Qualitative nursing research: A contemporary dialogue (pp. 185-203). Rockville, MD: Aspen.

Dexter, L. A. (1962). On the politics and sociology of stupidity in our society. Social Problems, 9, 221-228.

Dexter, L. A. (1964). The tyranny of schooling . New York, NY: Basic Books.

Eckerman, C. O., & Stein, M. R. (1982). The toddler's emerging interactive skills. In K. H. Rubin & Ross, H. S. (Eds.), Peer relationships and social skills in childhood (pp. 41-71). New York, NY: Springer-Verlag.

Edgerton, R. B. (1967). The cloak of competence: Stigma in the lives of the mentally retarded. Los Angeles: University of California Press.

Field, T. (1984). Play behaviors of handicapped children who have friends. In T. Field, J. Roopnarine, & M. Segal, (Eds.), Friendships in normal and handicapped children (pp. 153-162). Norwood, NJ: Ablex.

Forest, M. (1986). Education integration. Entourage, 1, 19-23.

Gelman, R., & Shatz, M. (1977). Appropriate speech adjustments: The operation of conversational restraints on talk to two-year-olds. In M. Lewis & L. A.Rosemblum, (Eds.), Interaction, conversation, and the development of language. New York, NY: John Wiley & Sons.

Gleason, J. B., & Weintraub, S. (1978). Input language and the acquisition of communicative competence. In K. Nelson (Ed.), Children's language. New York: Gardner Press.

Goetz, J. P., & LeCompte, M. D. (1984). Ethnography and qualitative design in educational research. San Diego, CA: Academic Press.

Guralnick, M. J., & Paul-Brown, D. (1977). The nature of verbal interactions among handicapped and nonhandicapped preschool children. Child Development, 48, 254-260.

Guralnick, M. J., & Paul-Brown, D. (1980). Functional and discourse analyses of nonhandicapped preschool children's speech to handicapped children. American Journal of Mental Deficiency, 84, 444-454.

Guralnick, M. J. (1981). The efficacy of integrating handicapped children in early education settings: Research implications. Topics in Early Childhood Special Education, 1, 57-71.

Guralnick, M. J. (1984). The peer interactions of young developmentally delayed children in specialized and integrated settings. In T. Field, J. Roopnarine, & M. Segal (Eds.), Friendships in normal and handicapped children (pp. 139-152). Norwood, NJ: Ablex.

Guralnick, M. J., & Groom, J. M. (1988). Peer interactions in mainstreamed and specialized classrooms: A comparative analysis. Exceptional Children, 54, 415-425.

Hammersley, M. (1987). Some notes on the terms 'validity' and 'reliability'. British Journal of Educational Research, 13 , 73-81.

Hammersley, M. (1987). Ethnography for survival: A reply to Woods. British Educational Research Journal, 13, 309-317.

Hill, C. A., & Whiteley, J. H. (1985). Social interactions and on-task behaviour of severely multihandicapped and nonhandicapped children in mainstreamed classrooms. Canadian Journal for Exceptional Children, 1, 136-140.

Jenkins, J. R., Odom, S. L., & Speltz, M. L. (1989). Effects of social integration on preschool children with handicaps. Exceptional Children, 55, 420-428.

Johnson, D. W., & Johnson, R. T. (1980). Integrating handicapped students into the mainstream. Exceptional Children, 47, 90-98.

Kishi, G. S. (1988). Long-term effects of different amounts of social contact between peers with and without severe disabilities: Outcomes of school integration efforts in Hawaii. Doctoral dissertation, Dissertation Abstracts International, 50, 412A, University of Hawaii,

Lather, P. (1986). Issues of validity in openly ideological research. Interchange, 17, 63-84.

McHale, A. M., & Simeonsson, R. J. (1980). Effects of interaction on nonhandicapped children's attitudes toward autistic children. American Journal of Mental Deficiency, 85, 18-24.

Mitchell, J. C. (1984). Case studies. In R. F. Ellen (Ed.), Ethnographic research: A guide to general conduct. (pp. 237-241). London: Academic Press, Harcourt Brace Jovanovitch.

Moorish, R. (1983). The integration of trainable mentally retarded children into the normal school system: A preliminary investigation. International Journal of Rehabilitation Research, 6, 191-193.

Murray, M. C. (1987). Integration in high school: An ethnographic study of social relations between nondisabled students and students with severe disabilities. Doctoral dissertation, Dissertation Abstracts International, 48, 2311A., University of California at Berkeley and San Fransisco State University.,

Parten, M. (1932). Social participation among preschool children. Journal of Abnormal Sociology and Psychology, 27, 243-269.

Parten, M. (1933). Social play among preschool children. Journal of Abnormal and Social Psychology, 28, 136-147.

Peterson, N., & Haralick, G. (1977). Integration of handicapped and nonhandicapped preschoolers: An analysis of play behavior and social interaction. Education and Training of the Mentally Retarded, 12, 235-245.

Rubin, K. H. (1982). Social and social-cognitive developmental characteristics of young isolate, normal, and sociable children. In K. H. Rubin & H. S. Ross, (Eds.), Peer relationships and social skills in childhood. (pp. 353-374). New York, NY: Springer-Verlag.

Ruttiman, A., & Forest, M. (1986). With a little help from my friends: The integration facilitator at work. Entourage, 1, 24-33.

Sasso, G. M. (1985). Procedures for facilitating integration of autistic children in public school settings. Analysis and Intervention in Developmental Disabilities, 5, 233-246.

Sasso, G. M., Mitchell, V. M., & Struthers, E. M. (1986). Peer tutoring versus structured interaction activities: Effects on the frequency and topography of peer initiations. Behavioral Disorders, 11, 249-259.

Sasso, G. M., & Rude, H. A. (1987). Unprogrammed effects of training high-status peers to interact with severely handicapped children. Journal of Applied Behavior Analysis, 20, 35-44.

Schutz, R. P., Williams, W., Iverson, G. S., & Duncan, D. (1984). Social integration of severely handicapped students. In N. Certo, N. Haring, , & T. York, (Ed.), Public school integration of severely handicapped students: Rational issues and progressive alternatives. (pp. 15-42). Baltimore, MD: Paul H. Brookes.

Shatz, M., & Gelman, R. (1973). The development of communication skills: Modification in the speech of young children as a function of listener (Monographs of the Society for Research in Child Development, 38, No. 5, Serial No. 152.).

Sherman, L. W., & Burgess, D. E. (1984). Behavioral attributes and social distance of developmentally handicapped and normal children. (ERIC Document Reproduction Service No. ED 247 698). Paper presented at the 17th Annual Gatlinburg Conference on Research in Mental Retardation and Developmental Disabilities, Gatlinburg, TN.

Siperstein, G. N., & Bak, J. J. (1985). Effects of social behavior on children's attitudes toward their mildly and moderately mentally retarded peers. American Journal of Mental Deficiency, 90, 319-327.

Smith, P. K., & Connolly, K. J. (1984). The ecology of preschool behaviour . Cambridge, GB: Cambridge University Press.

Spradley, J. P. (1979). The ethnographic interview . New York, NY: Holt, Rinehart and Winston.

Spradley, J. P. (1980). Participant observation . New York, NY: Holt, Rinehart and Winston.

Stainback, W. C., & Stainback, S. B. (1981). A review of research on interaction between severely handicapped and nonhandicapped students. The Journal of the Association for Persons with Severe Handicaps, 6(3), 23-29.

Stainback, W. C., & Stainback, S. B. (1982). Nonhandicapped students' perceptions of severely handicapped students. The Journal of the Association for Persons with Severe Handicaps, 6(3), 23-29.

Strain, P. S. (1983a). Identification of social skill curriculum targets for severely handicapped children in mainstream preschools. Applied Research in Mental Retardation, 4, 369-382.

Strain, P. S. (1983b). Generalization of autistic children's social behavior change: Effects of developmentally integrated and segregated settings. Analysis and Intervention in Developmental Disabilities, 3, 23-34.

Strain, P. S. (1984). Social interactions of handicapped preschoolers in developmentally integrated and segregated settings: A study of effects. In T. Field, J. Roopnarine, & M. Segal, (Eds.), Friendships in normal and handicapped children (pp. 187-207). Norwood, NJ: Ablex.

Taylor, A. R., & Asher, S. R. (1984). Children's goals and social competence: Individual differences in a game-playing context. In T. Field, J. Roopnarine, & M. Segal, (Eds.), Friendships in normal and handicapped children (pp. 53-79). Norwood, NJ: Ablex.

Taylor, S. J., & Bogdan, R. (1989). On accepting relationships between people with mental retardation and non-disabled people: Towards an understanding of acceptance. Disability, Handicap & Society, 4, 21-36.

Voeltz, L. M. (1982). Effects of structured interactions with severely handicapped peers on children's attitudes. American Journal of Mental Deficiency, 86, 380-390.

Woods, P. (1986). Inside schools: Ethnography in educational research. London: Routledge and Kegan Paul.

Zetlin, A. G., & Murtagh, M. (1988). Friendship patterns of mildly learning handicapped and nonhandicapped high school students. American Journal of Mental Deficiency, 92, 447-454.

Appendix A: Interview schedules used with teachers, aides, and children

Interview Schedule...children who are not handicapped and play with children who are handicapped.

1. **Purpose:**

-explain why I have been in the classroom, to observe children as they play together and to observe Gary and how he plays and gets along with other children in the class

-explain that I am trying to learn about these things and that I am hoping that you will be able to help me understand more about when kids play together.

-this is not a test of any kind and there are no right or wrong answers. I will just be asking you questions about what you like to do when you play, who you like to play with, things like that. If you don't know the answer to a question, just tell me and that will be fine.

-I will also be asking some questions about Gary and how he fits into the class

-also, I am not going to tell anyone else about the things you tell me today. I'd like to know about playing together and about what you think about Gary, but I'm not going to tell Ms. Erikson, Ms. Hall, Mr Brinton, the kids in the class or anyone else what you said. It's private.

Do you have any questions?

2. **Ethnographic explanations:**

(a) recording explanations:

Explain use of tape recorder and note pad and let children get it ready and test it out.

Do you have any questions?

(b) question explanations:

Offer any particular information relevant to the question about to be asked...give the informant more information about the question to prepare him/her to answer it. Each section begins with the indication "new questions" and this means that an explanation of the type of questions to follow is required.

3. Ethnographic questions:

1. How long have you been in this school?

2. How old are you?

3. When is your birthday?

New Questions...

4. When you are at school, what sorts of things do you do when you play with someone?

5. Are any of those things your favourites?

6. Do you get to do it often?

7. Are there any other things that are favourites when you play with someone at school?

8. Describe what you do when you play _____ (favourite thing from either question #5 or #7) with someone. (Have child describe play in detail...ask many questions to elicit more information)

New Questions...

9. Who do you usually play with when you are at school?

10. What sorts of things do you do together?

11. What do you do when you play _____ (first thing mentioned) with _____ (usual playmate)?

12. Tell me about _____ (usual playmate). What do you like about _____? What is it that makes them a good person to play with? If a person had never met _____ before, how would you describe them?

13. If you wanted _____ (usual playmate) to do something while you were playing together, what would you do? (Use examples)

New Questions...

14. Tell me about G/P. Lets pretend that I've never met G/P before...tell me about him. How would you describe him? What kind of a kid is he?

15. What sorts of things does G/P usually do at school?

16. How is G/P the same as you? Are there things that you can do that he can do also? Tell me about these things.

17. How is G/P different from you? Are there things that you can do that he cannot do? Tell me about these things.

New Questions...

18. When you are at school, what sorts of things do you usually do with G/P?

19. Are there any things that you like to do when you are with G/P?

20. When do you do _____ (thing mentioned in question #21) with G/P?

21. Describe what you do when you do _____ with G/P. (Have child describe play in detail.)

22. What does G/P usually do while you are playing together?

23. What does G/P usually do when you ask him to play with you?

24. How do you get G/P to play with you? What works best?

25. How do you get G/P to do something while you're playing together? How do you get him to do things that you want him to do? How do you get him to stop doing things that you don't want him to do?

26. What does it mean to you when someone is handicapped? What is a handicap? What kind of a person are they? Are there different kinds of handicaps? (Only go on with extra questions if child answers first ones.)

WRAP IT UP...

Interview Schedule...teachers and aides.

1. Purpose:

-explain why I have been in the classroom, to observe children as they play together and to observe G/P and how he plays and gets along with the other children in the class.

-I am interested in the play that happens between kids who are not handicapped, and between G/P and kids who are not handicapped.

-all of your responses are strictly confidential and, if you don't want to answer a question or don't have a particular answer, just tell me and that will be fine.

Do you have any questions?

2. Ethnographic questions:

(a) project explanations:

I am interested in what kids do when they play together. I would like you to tell me what you see happening in your classroom.

Do you have any questions?

(b) recording explanations:

Explain use of tape recorder and note pad and discuss any questions of confidentiality...give them the tape if they want it.

Do you have any questions?

(c) native language explanations:

When you are talking to me about play or about Gary, just talk in the same way as you would to another teacher. It's important that I hear and understand the words that you would use in the school.

Do you have any questions?

(d) interview explanations:

Offer any particular information relevant to the interview being held that day.

(e) question explanations:

Offer any particular information relevant to the question about to be asked...give the informant more information about the question to prepare him/her to answer it.

---

3. **Ethnographic questions:**

1. How long have you been in this school?

2. How long have you been working with G/P?

New Questions:

3. When you see two kids who are not handicapped playing together, what sorts of things do they do?

4. Do any of these appear to be big favourites?

5. What do they do when they play _____ (favourite thing from question #4) together? Describe it in detail.

New Questions:

6. Who do Carol,Chad/Jade, Paul, Jack appear to like to play with while they are at school? Who are their usual playmates?

7. What sorts of things do they do together? (Both children and their usual playmates) Describe it in detail.

8. Tell me about _____ (usual playmates)? What do Carol,Chad/Jade, Paul, Jack like about each of their usual playmates? How would you describe each of the children mentioned as a playmate?

9. If Carol, Chad/Jade, Paul, Jack wanted their usual playmates to do something while they were playing together, what would they do? How would get the other child to do it?

New Questions:

10. Tell me about G/P. If you met a person who had never seen G/P before, what would you tell them? How would you describe him? What kind of a kid is he?

11. What sorts of things does G/P usually do at school?

12. How is G/P the same as the other children? Are there things that they can do that he can do also? Tell me about these things.

13. How is G/P different from the other children? Are there things that they can do that he cannot do? Tell me about these things.

New Questions...

14. When G/P is at school, what sorts of things do the other children in the class play with him?

15. When do they do _____ (thing mentioned in question #14)?

16. Describe what Carol, Chad/Jade, Paul, Jack usually do when they play with G/P? (Have the staff person describe a typical instance of play in detail)

17. What does G/P usually do when he is playing with Carol, Chad/Jade, Paul, Jack? Describe this in detail.

18. What does G/P usually do when you ask him to play with another child?

19. How do you get G/P to play with another child? What works best?

20. How do the Chad, Carol/Jade, Paul, Jack get G/P to play with them? What works best for them?

21. How do the Carol, Chad/Jade, Paul, Jack get G/P to do something while they are playing together? How do they get them to do things that they want them to do? How do they get them to stop doing things that they don't want them to do?

WRAP IT UP...

Appendix B: Permission forms submitted to parents, guardians

October 31/89.

Dear parent/guardian,

I will be completing a research project at _____ Elementary School over the next six months and would like to include your child in this study. The purpose of this project is to provide more information about the integration of students with severe handicaps in regular schools. I'm particularly interested in the kinds of relationships that are formed between children with handicaps and their classmates who are not handicapped. This study should provide information about **how** students with severe handicaps and those without handicaps interact while at school, the situations that lead to certain types of interaction and the social status of children with severe handicaps in schools. It is hoped that administrators, teachers and parents will be able to use this information to make the policy of mainstreaming achieve its stated goal of social integration.

In order to find out about this, I would like to spend 20-25 days at _____ directly observing your child in his/her classes, at recess and at lunchtime to gather information about his/her social life. I will be a passive observer as much as possible; observing the children as they work and play together and not intervening. I would also like to interview some of his/her classmates, teachers and teacher aides to get their perspectives. If possible, I would also like to interview you to find out what you think about his/her social life and relationships. All of the data should be gathered by May 1990 and the final report written by September 1990.

All of the information gathered in this study will be kept in the strictest confidence. The final report will not refer to _____ Elementary School, to your child, to his/her classmates or to any of his/her teachers by name. All original data will be stored in a locked file, accessible only to myself and my advisor, Dr. Dick Sobsey. You will get a copy of the report after it is completed.

It is entirely up to you whether your child participates in this project or not. Your consent can also be withdrawn at any time during the study.If you agree to have your

son/daughter participate in the research described above, please sign below and return one copy of this form to the address indicated. Keep the other copy for yourself.

If you have any questions about this study, either now or in future, do not hesitate to call me. Thank you very much for considering this request.

Michael Dreimanis
6-102 Education North
University of Alberta
Edmonton, AB.
T6G 2E1
(H) 424-3013 (W) 492-1142

I, _____, agree to allow my child, _____ to participate in the research project described above.

_____, Signature _____, Date

Note to parents of children in Peter's kindergarten:

Michael Dreimanis, a graduate student from the University of Alberta, is completing a research project in the kindergarten at _____ Elementary School over the next three months. The purpose of this project is to provide more information about the integration of students with severe handicaps in regular schools.

As a part of this study, he will be observing how the children in the room work and play together. He will also be asking them some questions related to who they choose to play with and why.

All of the information gathered in this study will be kept in the strictest confidence. The final report will not refer to _____ Elementary School, to any child, or to any teacher by name. All original data will be stored in a locked file, accessible only to Mr. Dreimanis and his advisor, Dr. Dick Sobsey.

It is entirely up to you whether your child participates in this project or not. Your consent can be withdrawn at any time during the study. If you do not want your child to participate, please contact the school and let them know. If you have any questions or concerns, either now or in future, do not hesitate to call Mr Dreimanis at (H) 424-3013 or (W) 492-1142.

Note to parents of children who attend Gary's school:

Michael Dreimanis, a graduate student from the University of Alberta, is completing a research project at _____ Elementary School over the next three months. The purpose of this project is to provide more information about the integration of students with severe handicaps in regular schools.

As a part of this study, he will be observing how children in the school work and play together. He will also be asking them some questions related to who they choose to play with and why.

All of the information gathered in this study will be kept in the strictest confidence. The final report will not refer to _____ Elementary School, to any child, or to any teacher by name. All original data will be stored in a locked file, accessible only to Mr. Dreimanis and his advisor, Dr. Dick Sobsey.

It is entirely up to you whether your child participates in this project or not. Your consent can be withdrawn at any time during the study. If you do not want your child to participate, please contact the school and let them know. If you have any questions or concerns, either now or in future, do not hesitate to call Mr Dreimanis at (H) 424-3013 or (W) 492-1142.

Appendix C: Data sheets used to collect quantitative data on the level of social participation:

Data Sheet: Gary's School

Dependent variable:

Type of play behaviour or interaction observed for child with severe handicaps in the regular classroom. Data categories are alone (A), parallel play (P), group play or interaction (G), interacting with staff (S), or observation missed (X). See separate sheet for explicit definitions.

Observations of the target child will take place every 15 seconds through the first 30 minutes of free time at lunch (12:15-12:45 P.M.).

Lunch:

Minute 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Second
															0
															15
															30
															45
Minute 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
															0
															15
															30
															45

Data Sheet: Peter's School

Dependent variable:

Type of play behaviour or interaction observed for Peter and his peers in the regular classroom. Data categories are alone (A), parallel play (P), group play or interaction (G), interacting with staff (S), or observation missed (X). See separate sheet for explicit definitions.

Observations will take place every 15 seconds, rotating through the four target children. The rotation is indicated on the left hand side of the table. Each child will be observed once per minute. Centre time and free time will be defined by the teacher at the start of each day to the researchers.

Centre time and free time:

Minute 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Second
A															0
C															15
M															30
Pete															45
Minute 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
A															0
C															15
M															30
Pete															45
Minute 31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	
A															0
C															15
M															30
Pete															45
Minute 46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	
A															0
C															15
M															30
Pete															45

Data Sheet: Peter's School

Dependent variable:

Type of play behaviour or interaction observed for Peter in the segregated classroom. Data categories are alone (A), parallel play (P), group play or interaction (G), interacting with staff (S), or observation missed (X). See separate sheet for explicit definitions.

Observations of the target child will take place every 15 seconds from 11:30 A.M. to 12:00 P.M. for four days.

Minute 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Second
															0
															15
															30
															45
Minute 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
															0
															15
															30
															45

Data Sheet: Gary's School

Dependent variable:

Type of play behaviour or interaction observed for children without intellectual impairments in the regular classroom. Data categories are alone (A), parallel play (P), group play or interaction (G), interacting with staff (S), or observation missed (X). See separate sheet for explicit definitions.

Observations will take place every 15 seconds, rotating through the four target children. The rotation is indicated on the left hand side of the table..Each child will be observed once per minute. Data will be taken during morning and afternoon recess, and during centre time as defined by the teacher at the start of the day.

Morning recess (10:30-10:45 A.M.):

Minute 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Second
C															0
W															15
W															30
C															45

Afternoon recess (2:20-2:35 P.M.):

Minute 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
C															0
W															15
W															30
C															45

Free time or centre time (3:10-3:30 P.M.):

Minute 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
C															0
W															15
W															30
C															45
Minute 16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
C															0
W															15
W															30
C															45

Appendix D: Parallel field-notes from Gary's school and Peter's school taken by researcher and research assistant on four days...10-4-90, 18-4-90, 24-4-90, 1-5-90:

Reliability check #1, researcher, Gary's school, 10-4-90:

9:48 Gary is in the grade one classroom while the other kids work on writing and draw pictures about something they like and why. They are talking to each other while they do this. Ms. Erikson helps them with this and spends time with Gary while he has the FP three bears and shapes toy in front of him. She asks Carol:
TL "Want to work with Gary on his thing?"
CL She nods.
TL "See if you can get him to put the bears in."
CL "Gary, Gary, put it here..."
CL "Gary, take this, put it in here." (She puts the bear in his hand and guides him hand-over-hand to place it in the correct slot.)
CL "Gary, push this. Gary, push this. Gary, Gary"
He stands and she pushes him pack into his seat. She then tries to push the seat forward.
CL "Boy, he's heavy" she says, looking around.
CL "Push this one. Good. Push this one...push this one."
She leaves the FP toy and goes and gets him a bucket of blocks to play with.
CL "Gary, Gary, Gary."
CL "Gary, put these together." She says this as she hands him blocks to put together.
CL "Gary, no, Gary." He is biting the container that the blocks are in.
Gary gets out of his chair and begins to walk towards the door. Carol follows him and tries to get him to return to the table. He sits on the floor as she pulls on his arms, trying to get him to stand up and move back to his chair. He lies down on the floor. Ms. Erikson approaches and says:
TL "Is he giving you guys a hard time?"
CL (Tara) "Get something like food and he'll get up."
CL (Walt) "What's happening?"
TL "Gary is being a little turkey. Carol is being very helpful and he's not cooperating." She helps Gary to stand up. A child asks why he will get up for her and not for them and Ms. Erikson says that she doesn't know, but it just might be that he is like other kids and will do things for teachers and not always for other children.
CL (Carol) "Gary, Gary, Gary..." She continues to try to get Gary to stand up.
CL "He's heavy."

Reliability check #1, research assistant, Gary's school, 10-4-90:

9:48 Gary is given blocks. **CL: "Gary, Gary, put this together, Gary sit."** Child turns him around and moves him closer to the table. Gary turns in chair. Child says to Gary: **CL "Gary, Gary."** Child claps hands. **CL "Come here, Gary turn around, Gary."** Gary rolls on to the floor. The child continues to tell Grald to stand up and tries to make him stand up by holding on to both of his hands and pulling him up. Gary does not try to stand up. The teacher tries to help and says: **TL "Sometimes they**

can be a pain and will do what the teacher wants." Gary stands up and rolls back down on the floor. The child keeps talking to Gary and asks him to stand up and he finally does get up off the floor. **TL "Take him to the kindergarten right now, maybe he will go."** The child takes Gary.

Reliability check #2, researcher, Gary's school, 10-4-90:

9:58 Gary moves down and across the hall to the kindergarten room. He sits at the computer near the door. The teacher stands behind his chair and one child stands on either side of him. The teacher explains to the non-handicapped children about helping Gary play with the computer, then leaves.

One child leaves the situation. The other child stands on Gary's right and plays with the computer. She does not speak to Gary or make eye contact with him. She looks at us and says after one of her responses: **CL "I got it wrong the first time."**

Gary gets up and leaves the computer area. He walks over to the area near the window where the shelves of blocks and toys are kept. He lies down on the floor, reaches over towards some blocks in a container and dumps these on the floor. The girl continues to play with the computer.

Another boy is sitting on the floor near Gary in this area. The teacher comes up and says: **TL "We need to find him some toys that are bigger. These are too small. He'll put them in his mouth. Can you find him some?"** These comments and the question are directed to the boy who is sitting next to Gary on the floor.

This boy opens the Fisher-Price play house in front of Gary as he lies on his side on the floor. He takes the toys out of this house and places them in front of Gary. He looks over at me twice as I watch the two of them from a distance of about 15 feet. Gary picks up one of the FP toy tractors and rolls over to his back on the floor. Gary holds the tractor in his hand near his eyes and plays with the wheels.

The boy picks up a horse from the play set and holds it in front of Gary's face and looks at him. Gary takes the horse and holds it, then casts it aside.

The boy gets a bucket of letter blocks down from the shelf and places them on the floor. He sits back down on the floor and takes some of them out and lines these up between Gary and himself. Another boy comes up and says:

CL (Boy 2) "Want to play?"

CL (Boy 1) "I'm helping Gary. I'm helping Gary play."

The second boy moves away and plays elsewhere.

The first boy remains seated on the floor next to Gary and shows him different toys. He hands him the horse again. A third boy comes up to Gary and takes the tractor from him: **CL (Boy 3) "You have this. I have this."** Gary is holding another toy in his hand. The first boy hands him blocks and Gary continues to lie on his back.

Reliability check #2, research assistant, Gary's school, 10-4-90:

9:58 Gary enters the kindergarten classroom and is seated at the computer. A little girl is also seated at the computer with Gary and is working at the computer. Gary gets up from the chair at the computer and walks to the shelves on the other side of the room. He touches the lego. He sits down and touches the yellow pail, barn and yellow pail again. Gary picks up a white toy, rolls on the floor and tips the yellow pail over and plays with the contents. The kindergarten teacher hands the toy house to Gary and another child and says:TL "Will you play with this house, play with this house." Gary lies on the floor, waves hands and rolls. The child beside him plays with the contents of the house. Gary

touches his shoe and turns his head so that he is facing the child. He picks up the tractor. Gary holds the and rolls on his back and puts the tractor in his mouth. The child continues to play with the house. Gary plays with the tractor. The child hands Gary the horse. Gary throws the horse aside and continues to hold the tractor. The child looks in the other boxes in the shelf. Gary faces the child and continues to place the tractor in his mouth. The child continues to play next to Gary.

Reliability check #3, researcher, Gary's school, 10-4-90

10:27 Anne and Gary are in class together at recess...Ms. Erikson asked Anne if she would like to stay with him during recess and, after hesistating, she said yes.

Gary is sitting on the floor and then lies down on floor holding a book. Anne stands beside Gary, watches and walks around him then walks away and puts a record on. Gary is touching the book and putting it in his mouth. Sharmaine and Linda come into the classroom.

Anne walks away from Gary and puts a record on. The three girls sit on the couch together and listen to the record, singing along to the monkey song. Gary continues to lie on his back by the bookshelves beneath the window and holds a book in his hand and chews on it.

Sharmaine and Linda move over to where Gary is lying on the floor and sit down on the floor next to him. The girls hold his hand and look at it and ask him to pick up a ball. Sharmaine says CL **"Gary, Gary."** Anne plays with the basketball hoop in the centre of the couch area. Sharmaine and Linda talk to each other about bedroom furniture. Gary is holding a book and begins to pull other books off the shelf. Sharmaine says: CL **"Gary no, look, no more books for you, Gary, Gary, Gary, Gary, Gary. Sit on your chair, here Gary..."** They get Gary to sit in his chair and give him his organ. He rocks and holds onto to the organ.

The two older girls, Sharmaine and Linda, continue to talk to each other. They put the toys away and then sit on the couch.they compare houses and talk to each other about their sisters. Anne listens to the record player. The school bell rings. Gary is sitting on the chair with his organ. The record player is turned off and Anne turns it on again. Linda says: CL **"Anne, when the bell rings we have to shut this off."** Sharmaine and Linda continue to talk. Sharmaine says: CL **"My house has cupboards, a cherry brown cupboard. Anne shut if off!"** Anne stops playing with the record player. Linda says CL **"Shut it off...we're supposed to...in the grade one and grade two..."** Anne does not talk to the other girls.

Gary throws the organ onto the floor and stands up. Sharmaine tells him: CL **"Not wandering off on me. Come, sit."**

Reliability check #3, research assistant, Gary's school, 10-4-90:

10:26 Anne, Sharmaine and Linda come into the classroom to have recess with Gary. Gary is sitting on the floor and then lies down on the floor holding a book. Anne stands beside Gary, watches and walks around Gary. She then walks away and puts a record on. Gary is lying on the floor alone, he is touching and putting the book in his mouth. The three girls sit on the couch, listen to the record and sing along to the monkey song. Sharmaine and the other girl walk up to Gary and sit beside him. Sharmaine says to Gary: CL **"No touching a toy."** The girls hold his hand and look at it and ask him to pick up a ball. **"....."** Girls talk to each other. Anne says: CL: **"....."** The girls talk about bedroom furniture. Gary is holding books and

grabbing for other books. One of the girls says: CL **"Gary no, look, no more books for you, Gary, Gary, Gary, Gary, Gary, sit on your chair, here Gary...and my sister...in the basement."** Gary sits on the chair with toy piano, he rocks. The girls continue to talk between themselves. Gary continues to play with the toy piano. The girls continue talking. The girls rearrange and put toys away, then sit on the couch and talk about sisters. The record player is turned off. A girl turns it on again. One of the girls says: CL **"Anne when the bell rings we have to shut this off."** The girls continue the conversation. One of the girls says: CL **"My house has cupboards, a cherry brown cupboard. Anne shut it off!"** Other girl says: CL **"Shut it off we're supposed to...in the grade one and grade two."** Gary throws toy piano on the floor and stands. One of the girls tells him: CL **"No, come sit."** Gary lies on the floor. The girls go back to the couch. The T.A. (aide) comes into the classroom and the girls stand and go.

Reliability check #4, researcher, Peter's school, 18-4-90:

9:28 Peter walks to the car and stands at the driver's door. Mrs. Boychuk approaches him and says TL **"You have to put this in your pocket ...driver's license."** He does not respond to this and opens the driver's door. Mrs. Boychuk directs him physically to the back as Ben is sitting in the driver's seat. He moves away from her towards where we are sitting by the cupboards. She gets in the back seat herself, sits down and waves at Peter, smiling. He jumps up a down and smiles broadly and waves back at her.

Mrs. Meyer smiles and calls out across the room that only children can ride in the car and that Mrs Boychuk will have to get out. Mrs. Boychuk smiles and asks if she has to and Mrs. Meyer says yes...she gets out of the car.

Peter approaches the driver's door again and opens and shuts it several times. Mrs. Boychuk says to him TL **"No. no, don't slam the door."** He takes the key from its place next to the wheel. He moves from the driver's door to the back door, then back to the driver's door.

He puts his license down on the hood of the car and opens the driver's door. He stands there and looks at Mrs. Boychuk. He then looks at Ben in the driver's seat and starts to climb in. He puts one foot in the car and then takes it out. Mrs. Meyer looks at the car and says: TL **"Will you let Peter drive for about five minutes?"** She addresses this to Ben. Ben gets out of the car and walks away to another centre. Robert is now sitting beside Peter and Mrs. Meyer says: TL **"Show Peter how to drive."** Robert says CL **"He doesn't want to drive."** Mrs. Boychuk responds: TL **"Yes he does."** Peter gets in and sits down in the driver's seat. He grasps the steering wheel and turns it back and forth. He is smiling broadly. He opens the door and turns the wheel some more.

Joe and another boy show up dressed as police (helmets on) and open the hood of the car. It drops on the heads of the passengers in the front seat with a crash. Rusty is rubbing his head. Peter is laughing. Joe says: CL **"Peter's laughing."** The two other boys in the front seat rub their heads and grimace.

Peter gets out of the driver's seat and Robert moves into it. He starts to drive the car. Rusty is sitting beside him. Peter has moved to the back seat. He gets out and moves to the side and opens the driver's door. He moves to the back door again. Mrs. Boychuk whispers to us with a smile as she walks by: TL **"The driver (Peter) is now learning new things. He's taken his belt off twice in the van the last couple of weeks."**

Peter moves back and forth opening the rear and driver's doors. He walks to the back of the car.

Reliability check #4. research assistant. Peter's school. 18-4-90:

9:27 Start. Peter opens the car door and then the teacher puts his license into his pocket. Peter says CL **"Ah"** and smiles. He opens and closes the car door. The teacher is about to get in the back of the car and says to Peter: TL **"You sit in the back with me okay...I'll get in the back seat, see you go."** The teacher gets in the back seat of the car while Peter watches. Peter smiles and waves at the teacher who is sitting in the back seat of the car. TL **"Go sit here."** Peter smiles and waves his hands and continues to open and close the car door. He begins to slam the door. TL **"..."** Peter has a key in his hand, drops it , picks it up and sticks it in the door and in the front of the car. Peter: CL **"Ah, ah."** Something about CL **"Don't have time."** A child says to Peter: CL **"Do you have some time Peter?"** CL **"He'll get his pretty soon."** Peter walks to the back of the car and sits in the back seat and then immediately walks to the front side door and begins to slam the front door. He stops for a moment and stares at the children (drivers) in the front seat. Peter opens the front door of the car and helps the boy turn the steering wheel. TL **"..."** Peter stops, stands and stares. He begins to climb part way into the front of the car. Teacher says to the boy in the driver's seat: TL **"Will you let Peter drive for five minutes."** The boy gets out and lets Peter drive. Peter climbs into the driver's seat. The teacher asks a child passenger: TL **"You show him how to start the motor."** Peter begins to climb out of the car. TL **"He does want to drive"** and she picks Peter up slightly and places him back into the driver's seat. The teacher puts the seat belt on him and closes the front door. A child says: CL **"Drives the car, holy smokes."** Peter tries to turn the steering wheel. He smiles while doing this. A child says: CL **"Give Peter a speeding ticket, he's speeding teacher."** One of the policemen gives him a ticket. Peter unbuckles the seat belt. A student: CL **"He doesn't want to drive anymore, can I drive now?"** Peter climbs out of the car and goes to the back seat. He waves and smiles and makes sounds. He then climbs out of the back seat and goes to the front of the car an begins to slam the door. He stares at the children in the car. Peter waves and jumps up and down. He goes to the back seat and slams the door. He goes back and forth to the front and back doors and opens and closes the doors. At the front door he opens and closes and jumps up an down. He walks to the back of the car and stands and stares.

Reliability check #5. researcher. Peter's school. 18-4-90:

9:40 Robert is sitting at the driver's wheel pretending to drive. Rusty is sitting beside him. Joe and another boy come up to the car with policeman's motorcycle helmets on.

CL **J-RK "Let me see your wallet."**
O-J "Put him in jail."
RK-J,O "No." (refuses to show wallet)
O-J "Put him in jail."
RK-O "Pretend you were right there."
O-RK "I have the keys."
RK-O "No you don't. There's an extra pair."
RK-Others "Pretend I was low on gas."
O-RZ "Rusty, this means go. Rusty, this means go. (He is at the passenger door leaning over while RZ looks at him.)

Joe and the other boy leave and move to the area where the blocks are and begin to play together there.

CL **RK-RZ "Help, I'm low on gas."**
RZ "We're out of gas. Help, we're out of gas."
RZ-J,O "Hey, policemen, over here, we're out of gas.
RK-J,O "Hey, policemen, we're speeding."
J-RK,RZ "Get you in a second." (He called this from the other side of the room.)

Robert gets out of the car and walks over to the blocks where the Joe and the other boy are playing. He says to Rusty **"You can drive for a second."**

Reliability check #5, research assistant, Peter's school, 18-4-90:

9:?? Peter, Rusty, Rusty (?), Ben

Rusty hands on the steering wheel. Policeman: **CL "He's in jail, he can't see you forgot to start the car."** Something about **CL "...drive I can't do it."** Ben **CL "I have the keys."** Rusty **CL "Start the car."** Ben blows the police whistle. Policeman **CL "Let him go, start moving before...start the gas..."** Rusty **CL "Ya, ya, ya."** Policeman **CL "The man go..."** Rusty **CL "You start go these are your keys, I...Policeman."** Rusty **CL "We're out of gas help, help hey police."** Rusty **CL "Hey police man we're out of gas ya let go, hey policeman we're speeding."** Rusty **CL "Key my spot I want the key."** Rusty **CL "No."** Rusty sits in the car, closes the car door puts on the seat belt on He puts the key in ignition and begins to drive the car. Ben **CL "I'm going to check the motor, try the gas."** Stop.

Reliability check #6, researcher, Gary's school, 24-4-90:

10:00 Gary enters the kindergarten room with Ms. Hall, who physically directs him to the computer. A girl, Cody, sees Gary and says **CL "Hi, Gary. Hi, get off of this.** (To other children at computer.) **Gary's coming on the computer."**

Gary is sitting at the computer with Scott on one side, a girl on the other side, and the teacher behind him. The girl and the teacher leave after one or two minutes and Scott remains with Gary working on a dot-to-dot program of selecting letters. Scott is working the computer, while Gary sits. He looks around the classroom and glances at the screen occasionally, particularly when the computer makes a noise. Scott does not talk to, look at, or touch Gary.

Scott says **CL "Teacher, come here. (Teacher is not nearby, does not hear him.) Cody, come here, come here."** Cody replies **"Okay, I'm coming"** Scott says: **"I got all of them right. I have all of them right."** Cody comes over and looks at the computer screen.

Gary pushes the chair back and gets up and leaves to the side of the class, by the cardboard stage by the window. Cody says: **"Gary, Gary."** She does not follow him. Gary lies on his back on the floor looking around the class and waving his arms and hands. Three boys are standing near him facing out the window and putting the books away and talking together. Gary looks at this group of boys. A fourth boy joins them at the window.

Gary gets up off the floor of the kindergarten room and moves over to the book holder next to where the boys are standing. One boy is acting as if he is in charge and pushes other boys away who are touching the books or are in that area. Gary is standing by the books and running his hands over them and this boy pushes him away. Gary moves away from this area and walks behind the cardboard stage where he handles plants

that the kindergarten children have planted in egg cartons.. He takes the plastic off one and touches the dirt.

He moves back to the area in front of the books and runs his hands over them again. There are no other children in this area now.

Reliability check #6, research assistant, Gary's school, 24-4-90:

10:01 Kindergarten classroom

Gary is taken to the kindergarten room and led to the computer. He is seated in front of the computer. Dick says: CL **"Teacher come here, Cody come here."** Gary stares and slouches in the chair. He begins to push back on the chair and slide away from the computer. Cody says: CL **"I have them all right."** Gary gets up from the chair and goes to the rug area. Cody says: CL **"Gary."** Gary lies down on the rug and begins to flap his hands, makes a noise, and rolls around on the rug. He continues to do this for several minutes. Gary then stands up and goes to the window ledge and the puzzle rack. He walks away from the puzzle rack to the puppet theatre. From there he touches the baskets on the ledge. He notices the egg cartons and touches them. He puts his finger into his mouth and walks to a chair and back to the puzzle rack.

Reliability check #7, researcher, Gary's school, 24-4-90:

10:30 Sharmaine and Linda enter the class to spend recess with Gary. He finishes his drink and puts his cup in the cubby with their help. Sharmaine moves him to the carpeted area and gives him his organ. She and Linda sit on the couch next to each other. The watch Ms. Erikson as she talks to the class, trying to get them to quiet down before leaving for recess.

Gary lies on his back on the floor and holds his organ in his hands and manipulates it. His feet are in the air, flexed at the knee. He rolls to his side and continues to play with the organ.

Sharmaine and Linda talk to each other (inaudible). Ms. Erikson and Martin have a "conference" in the room where Martin talks to her about things that are important to him. The two girls watch them talking.

Gary gets up and walks over to the tricycle. He gets down and begins to twirl the pedals around. Sharmaine says **"Gary"** and follows him and Linda follows her. Sharmaine takes his hands and says **"Gary, Gary, Gary, Gary"** and tries to pull him up. She gets him up briefly but he sits back down. He remains seated on the floor and goes limp in the arms and trunk when she pulls on his hands. She lets go and he returns to playing with the pedals. Sharmaine and Linda say **"Gary"** several times to try and get him up and apparently doing something different.

Ms. Erikson says **"Sharmaine, tell him what you want him to do."** Sharmaine says **"Pardon?"** Ms. Erikson repeats **"Tell him what you want him to do."** Sharmaine says **"Gary, Gary, stand up. Gary, Gary."** Ms. Erikson asks: **"Where do you want him to go?"** Gary is moving to the back of the tricycle. Sharmaine says: **"Gary, come on, Gary"** Ms. Erikson says **"Stand him at the back of it, let him walk onto it."** Sharmaine tries to do this briefly and Ms. Erikson gets up from where she is sitting with Gary and moves over to the girls and Gary. She helps him onto the tricycle. Sharmaine helps him get on as well.

Sharmaine and Linda stand one on either side of him as he pedals out the door and slowly down the hallway. They hold onto the handlebars from time to time to make sure that he does not bump into walls and pedals in a straight line. We (Mike, Bev, Norma)

stand and watch briefly as he pedals down the hallway, then move back into the classroom. He returns after two or three minutes, gets off the tricycle and lies down on the floor.

Reliability check #7, research assistant, Gary's school, 24-4-90:

10:30 Linda takes Gary to the rug area. Gary lies on the rug and begins to flap his hands. Gary is handed the toy piano. Girls are sitting on the couch. Gary strikes the toy piano keys so they make a clicking sound. the girls are whispering to each other. Gary places the toy piano into his mouth and strokes the keys again making a clicking noise. Linda gets up from the couch and says something softly to Gary. She continues walking and picks up a ball and goes back to the couch. The girls are talking softly: CL **"Are you going to be here for the...concert?"** The girls continue to talk quietly making it difficult to overhear what they are saying. Gary is still handling and stroking the toy piano and keys. The girls still whisper. Gary stands up and begins to walk from the rug area and the girls say: CL **"Gary."** The girls get up from the couch and follow him to his bike which is in the classroom. Gary has walked to his bike. He sits on the floor beside his bike where he plays with the pedal by twirling it around. The girls stand around him and watch him do this. The girls then say: CL **"Gary."** They hold onto both his hands and try to make him stand up. The girls say: CL **"Gary, Gary, Gary."** Sharmaine: CL **"...he does...turn the head, you like that..."** Linda: CL **"Gary, huh?"** Sharmaine and Linda continue to watch him. Gary continues to play with the pedal. Linda: CL **"Gary do you want to (a "t" word)?"** She claps hands and flicks fingers. She says: CL **"Gary, Gary, oh boy, Gary."** Claps hands. Sharmaine: CL **"Gary."** Teacher: TL **"Sharmaine tell him what you want him to do."** Sharmaine: CL **"Stand up, Gary stand up."** She tries to make him stand up by holding both of his hands and pulling him. Sharmaine: CL **"Gary."** Linda: CL **"Gary stand up."** The girls continue to try to get him to stand up holding his hands. Martin joins the group and tries to get him to stand. Gary won't stand up. Teacher: TL **"Where do you want him to go?"** Sharmaine: CL **"He wants to ride his bike."** Gary sinally stands up and they try to put him on his bike. The teacher helps place him on the bike. Teacher: TL **"Good job and good on, put some feet, take him in the hall and see waht he does, see if he'll go by himself."** Gary rides his bike into the hallway. The girls follow him down the hallway.

Reliability check #8, researcher, Gary's school, 24-4-90:

10:53 Gary is sitting on the couch in the grade 5/6 room with Charlie. Charlie is holding the Fisher-Price toy and is snapping his fingers at Gary and pointing to the toy.

Charlie pushes on a button to make the toy squeak, and Gary looks at him and then at the toy.

He has a toy bear in his hand and puts it in his mouth. Charlie again pushes on the button on the toy to make it squeak and points to show Gary where the proper place is to fit the toy bear.

Charlie puts the toy bears in the merry-go-round that is a part of the FP toy and spins them around. Gary turns and looks around the room. He then turns and faces Charlie. Charlie holds a toy bear for him to take. Gary runs his hand back and forth along the top of the couch. Charlie holds the bear in front of Gary's face and Gary takes it. Gary puts the bear down (drops it behind the couch?).

Charlie again holds the toy bear in front of Gary's face for him to take. Gary raises both hands up to his face and moves them back and forth rapidly, grimacing and vocalizing

in a high whining voice. Mary gets out of her seat at a nearby table and walks up to Gary. She stands in front of him and says **"Gary, stop it."** He stops for a moment and then repeats the same actions and vocalization. She stands in front of him and points at him and says firmly **"Gary, stop it!"** He stops for a moment and then repeats the same actions and vocalization. He then drops the toy bear over the back of the couch. Mary returns to her seat, without talking to Gary any further.

Charlie holds the toy bear for Gary, who leans back and looks at Charlie. Charlie holds the bear for Gary. Gary looks at Charlie and smiles. Charlie says **"No, no, no"** (not sure in response to what). Gary looks at Charlie and smiles again. Charlie gives Gary the bear and presses the squeak button to show him where to put it. Gary holds onto the bear and does not respond. Charlie says **"Come on"** to Gary and shows him where to put the toy bear. Gary watches Charlie. Charlie hands Gary a toy bear and shows him where to put it. Gary puts it in its proper place in the FP toy and Charlie says **"Good, good!"** to him.

Reliability check #8, research assistant, Gary's school, 24-4-90:

10:50 Charlie is sitting on the couch with Gary and the Fisher-Price toy. Gary is sitting slouched. Charlie hands Gary a bear. Gary doesn't take the bear so Charlie flicks his fingers several times to get Gary's attention. Flick, flick and then Gary takes the bear. Charlie touches the toy, points and it squeaks. Gary puts the bear into his mouth. Charlie hands Gary another bear. Gary handles it and then turns away. Gary begins to flap his hands and rubs both hands into his nose. He begins to whine. Gary looks at Charlie and takes a bear and puts it down. Charlie hands him another bear, he flicks his fingers and Charlie puts the toy piece in the toy. Gary touches it. Gary sits so that he is facing Charlie. He looks around the class. Charlie hands him another bear. Gary turns his face away and puts his feet on the couch. Charlie hands him another bear and places this bear right into his hand. Gary looks away. Charlie: CL **"Gary here, Gary."** Gary flaps his hands and puts fingers into his mouth. cory shows him another bear. Charlie: CL **"No."** Gary rubs both his hands into his nose and makes a whining noise. Charlie says to Gary: CL **"Gary, stop it, Gary, stop it."** Charlie tries to hand him another bear. A girl joins in and says: CL **"Gary."** Gary continues to whine. Charlie hands him another bear. Charlie gets real close to Gary's face and says something. Charlie: CL **"No, stop it."** Charlie hands him another bear and tries to make him hold on to it. Charlie flicks his fingers and hands Gary a bear. Gary has the bear in his hand. Gary looks at Charlie and seems to smile. Charlie: CL **"No."** Gary puts his fingers into his mouth and touches the toy. Charlie hands him another bear and tells him to put it in the Fisher-Price house. He flicks his fingers. Gary puts the piece in its place Charlie: CL **"Good, good."** Charlie hands him another bear. Gary places it in the house. Charlie: CL **"Good."** Gary does this with next piece and Charlie says: CL **"Good."**

Reliability check #9, researcher, Peter's school, 25-4-90:

9:40 Linda, Anita, Robin are in the car. Peter moves back and forth from the driver's side door to the passenger door behind the driver's side door. The aide says to him: **"Peter, you lost your cap."** He takes it, moves to the back of the car and puts it on. He walks around the car to Mrs. Boychuk and shows her the hat. He smiles at her. His hat falls off and he picks it up and puts it on the shelf.

He gestures with his arm at Mrs. Boychuk. She says: **"No, it's not time to do that. Go play with the kids. Go play with the kids."**

Peter moves to the passenger front door and stands there looking around while opening and shutting it. Anita is driving the car on her own and is talking to herself about the game she is playing in the car. Linda and Robin have gone to play elsewhere. Peter gets in the passenger door, and looks at Anita. She does not look at him or talk to him. He continues to open and shut the front passenger door. From his seat, he waves at Mrs. Boychuk and continues to open and shut the door.

Anita picks up the phone in the car while sitting behind the wheel and begins to talk loudly into it. **"This is a recording and I need my mum right now.** (Voice tone changes and becomes softer.) **"Oh, hi mum."** Peter continues to open and shut the front passenger door while looking around the room. Anita says into the phone **"Hi, mmmmmuummmm"** drawing out the final word. She does not look at or talk to Peter. Peter continues to open and shut the front passenger door while looking around the room.

He gets out of the car and looks at Anita. He gets back in. He watches Anita. She has stopped talking on the phone and gets out of the car. Peter waits a moment and then quickly slides over to the driver's seat. He turns the steering wheel back and forth rapidly and opens and shuts the driver's door.

Mrs. Boychuk says: **"You're a dangerous driver. Where's your driver's license? Where's your driver's license?"** Peter shows his driver's license to Mrs. Boychuk and then shows it to Mrs. Meyer. Mrs. Boychuk does not look at him and Mrs. Meyer looks at him but does not say anything. She walks by and waves at him in the driver's seat.

Peter waves at me. I wave back. He stands up, watches other children playing Dracula. He opens and shuts the driver's door.

Reliability check #9, research assistant, Peter's school, 25-4-90:

9:39 Teacher gives Peter a hat, he carries it and puts it on the table. Peter stands by the car and watches the children inside. Robin is dressed as the policeman. Robin: **CL "I have a police helmet, daddy, daddy, daddy, I'm a dad."** He opens the door to the car and gets out of the car and begins to hit the helmet with his hand. The teacher gives Peter the hat and puts it on his head and walks around and takes the hat off. The little girls in the car play with the telephone. Linda: **CL "Go fix the engine, I'll fix the engine."** Peter goes to the teacher and plays with the hat and then puts it on the shelf. He looks at the teacher, points and touches a book. The teacher says: **TL "It's not time to do that you go play with the kids."** Peter goes back to the car and opens and closes the car door. Linda is at the front of the car looking into the car engine. Peter stands by the car door and walks into the car and sits next to Anita. Anita continues to drive. Peter waves to the teacher then he slams the car door. Peter then walks to Anita. Anita picks up the telephone and pretends to be talking to someone. Peter continues to slam the door. Anita: **CL "Hello I need my...mom oh, his mom, here good, okay, bye mom."** She continues driving during this conversation and when she is finished she puts down the phone. Teacher: **TL "Where are you going?"** The teacher says this to Anita and Peter who are in the car. Teacher: **CL "She's going to look for dracula (to Robin)."** Peter is in the car and is waving. The teacher: **TL "You're a dangerous driver Peter, where is your driver's license?"** Peter: **CL "I did..."** He shows the teacher his driver's license. He waves to the teacher and she waves back. Peter waves and shows his license. Peter puts his license in his mouth and waves to the teacher. Teacher: **TL "Where are you going?"** Peter slams the door. of the car.

Reliability check #10, researcher, Gary's school, 1-5-90:

10:38 Two girls are playing hopscotch near the east doors of the school. No other children are standing between them and us. Girl 1 throws a rock onto the first square and says **"I'll have to back up for this one."** She moves back several paces and runs and jumps over the first square to the second square. She then hops on each of the squares in turn, using only one foot when the squares are placed one at a time and two feet when the squares are placed two side by side. She successfully hops to the end and off, then turns around and hops back, picking up her rock on the first square while standing on the second square and leaning her other hand on the ground.

Girl 2 takes her turn and completes the same actions, starting on square one.

Girl 1 takes her second turn, but this time walking up to square two and throwing her rock there, and hopping over this square on her way to the end. Girl 2 says to her when girl 1 is about to turn around and come back: **"You stepped on a line,"** meaning one of the yellow lines outlining the hopscotch board. Girl 1 gets to the end, turns around and looks at Kira, a new girl who stands at the start of the game talking quietly to girl 2.

Girl 1 takes her turn. She walks up to the square she is trying to throw her rock onto and kneels beside it before throwing.

Girl 2 takes her turn jumping to the end and back. She then says to Kira: **"Go, Kira."** Kira throws her rock onto square one, jumps to the end, comes back and picks up her rock on square one. She jumps off and looks at girl 2 and smiles as she does so.

Girl 1 takes her turn to square four.

Kira takes her turn to square two.

Girl 2 takes her turn.

Girl 1 says to girl 2 **"But that doesn't count!"** Girl 2 replies **"That's what...(inaudible)"** Girl 1 says: **"Yeah, but we don't do that!"**

Girl 1 says to girl 2: **"You stepped on a line."** Girl 2 replies (inaudible).

(GAP of some seconds in data-taking)

Girl 1 says to girl 2: **"You got three tries."** Girl 2 says: **"no."** Girl 1 replies: **"Yes, 'cause when the rock touches the line."**

A group of three boys walks by between the school and the hopscotch game. One of the boys, the one nearest the girls, makes a face at Kira and scratches his armpit and swings his arm, apparently pretending to be a monkey. She steps to one side.

The bell rings and the children run inside.

Reliability check #10, research assistant, Gary's school, 1-5-90:

10:38 Two girls are playing hopscotch on the cement pad nearby. The hopscotch is painted on the sidewalk. Child #1: CL **"I have to run at this."** She runs to the hopscotch and jumps through it. Child #2: CL **"I stepped on the line."** Child #2 goes through the hopscotch (hopping). The girls talk to each other a moment. I cannot hear what they have said. Child #2: CL **"You stepped on the line."** She says this to her playmate. Child #2 takes the pebble and throws it and goes through the hopscotch. While this is going on a third girl enters the scene and wants to join the game. Child #1 says to her: CL **"Yah, you're after me."** While each child goes through the hopscotch the other girls watch. Child #1 finishes and says to the third girl: CL **"Go Kira."** Child #3 goes through the hopscotch. Child #2: CL **"You have to go there."** Child #1: CL **"You stepped on the line."** Child #2: CL **"That's three times."** Child #3 finishes the hopscotch and runs to the garbage pail and returns to the game. Child #1 takes her turn. When she finishes, she says to child #2: CL **"Okay, your turn."** Child #2 goes through the hopscotch. Child #3 takes her turn. Child #1 takes her turn and as she does child #2 says: CL **"Watch you can't step on the line, watch."** Child #1: CL **"That doesn't count."** Child #2: CL **"That's how you play when you're big."**

Child #2 takes her turn and while she does child #1 says: CL **"You stepped on the line."** There is additional exchange however I could not hear it. Child #2: CL **"You've got three times, ah."** Child #1: CL **"No."** Child #2: CL **"Yah, you touched the line, Jeaze."** Child #3 takes her turn by picking up the pebble and throwing it. The bell rings and the children return to the school.

Reliability check #11, researcher, Gary's school, 1-5-90:

10:55 Mary and Charlie in the grade 5/6 room with Gary. Charlie and Charlietine lead him into the class from the hallway by coaxing him and snapping their fingers and saying **"Gary"** repeatedly.

Charlie leads him to the couch and sits him on one end of it, the end nearest the classroom door. He gives him the FP bear toy and places it on Gary's right. He takes one of the bears out and gives it to Gary.

He says: **"Put it in here. Hold it. Gary, come on."** Mary says: **"Gary"** and points at the FP toy, to show him where he should put the bear. Charlie says: **"Gary, come on, come on."** He puts the bear in Gary's hand. Gary tries to put the bear in the house and Charlie says: **"No, it doesn't go there. It goes in here."** He indicates the correct place with his hand. Mary says: **"Stop it. Right now. Stop it."**

Both Mary and Charlie are on their knees in front of Gary. Mary moves to sit to Gary's right and Charlie remains in front. Mary moves back to the front along with Charlie. They are both on their knees in front of him again.

Gary pushes the correct lever to release a bear and Charlie says: **"There!"** Mary says: **"Good!"** Gary looks at the bears and the FP toy. He rubs his nose. He puts his fingers in his mouth and Charlie pulls them out. **"No, no, no, no, no!"**

Charlie taps the bear on Gary's stomach and says **"Behind."** Mary looks at Bev writing notes about what she, Charlie and Gary are doing. Charlie says to Gary: **"No, no, no, put it there,"** referring to the toy bear that Gary is holding in his hand.

Gary raises his hands up to his face and begins to whine and vocalize. Mary says: **"No, no, stop it. Stop."** She gets up and points at Gary. **"Stop it."** Charlie says: **"Ahhh. Just about. Good, good, good, good."** Gary pushes the lever and the bear drops. He begins to whine and vocalize. Mary says: **"Stop it. Stop."**

Gary looks at Charlie and then looks at the FP toy. Mary stands behind Gary. Charlie puts the toy bear in Gary's hand. Gary does not take it. Charlie says to him: **"Push. Good. Push, push, push. Good, good, good. Come on. Good boy."**

Gary is sitting on the couch staring straight ahead. Mary gets the large foam ball and holds it in front of Gary. He stares straight ahead and ignores the ball completely.

She presents him with the ball again and he holds it. He then lets it go. She presses the ball lightly against his face. Gary does not respond and sits with his hand in his mouth.

She then holds it above his head and Gary reaches up with one hand. He presses it, holds it and then lets it go. Mary picks up the ball and bounces it on the floor. Charlie sits on the floor in front of him. Mary gives Gary the ball and he sits on the couch and mouthes it. She says **"No"** and takes it away. He moves his hands away.

The ball rolls under the desk and Charlie takes it. He and Mary are next to each other on their knees in front of Gary. Mary offers Gary the ball and he makes no move towards it. His arms are up in the air and Mary places and balances the ball on top of his head. When he moves his arms the ball falls.

Gary chews on his thumb. Mary puts the ball away. Charlie presents Gary with the FP toy again. Gary looks at the toy and at Charlie and Mary. He then stares ahead and places his right thumb and forefinger in his mouth, and chews on it.

Gary straighten his legs gradually and Mary looks at this and then smiles at Charlie and points at Gary's legs. She looks at Gary and says **"Gary, Gary, stop it."** Charlie says **"Gary, stop it"** at the same time she does. Mary straightens out his left leg and Charlie straightens out his right leg.

They both get up and walk past us and Charlie picks up a tennis ball. He brings it back to Gary, who remains seated in the same place on the couch, and gives it to him. Mary looks at Charlie anbd smiles and laughs while Gary holds the ball to his mouth. She puts her head down on the arm of the couch and laughs silently. Gary rubs the ball silently on his cheek.

Charlie says: **"Throw the ball, throw the ball, throw the ball, throw the ball, throw the ball, throw the ball. I'm not going to play footsie with you."** Gary has reached out with his right foot to touch Charlie, who is seated on the floor in front of him and slightly to his right. Mary says: **"Gary, knock it off, knock it off, knock it off. Quit kicking Charlie."**

Charlie puts the ball in Gary's hand and holds it there. He moves Gary's arm to make the motion of throwing, while continuing to hold the ball there. He moves Gary's arm back and then forward, opening Gary's hand to release the ball for him. He has it 'fly' through the air slowly and bounce off the carrel in front of Gary, and 'fly' back to Gary and bounce on his chest. After 'pretend' bouncing it off Gary, Charlietries to put the ball in Gary's hand again. Gary sits limply on the couch, looking straight ahead.

Mary then takes the ball and bounces it up and down as she stands to Gary's left. She says: **"Gary, Gary, Gary, Gary."**

Reliability check #11, research assistant, Gary's school, [illegible]:

10:52 Fisher-Price Bear Toy. Gary is with Mary and Charlie. Gary is sitting on the couch. He has his finger in his mouth. Charlie and Mary have the Fisher-Price toy beside Gary. Mary is standing and Charlie is in a half-kneeling position. Both children are trying to get Gary's attention and interest in the toy. Charlie hands Gary a toy bear and says: CL **"Gary, Gary, put it here."** He points to where he wants Gary to place the bear. Mary: CL **"Gary, Gary."** Charlie: CL **"Come on."** Mary: CL **"Here."** Gary is still holding the bear and has his fingers in his mouth. Charlie: CL **"No it doesn't go in there, here it goes in there."** Mary: CL **"Do it right now, stop it."** Both children stop for a moment while Charlie goes and get a kleenex. He returns and says: CL **"Here,"** and points to the toy. He tries to give Gary the bear to hold on to. Gary places the bear in the toy. Charlie: CL **"Good boy."** Charlie hands Gary another bear and points to where he wants Gary to place it. Gary places it and Charlie says: CL **"Here,"** points and says: CL **"Good boy, good."** Gary is given another bear and places it and again Charlie praises him by saying: CL **"Good boy, good."** Charlie tries to get Gary to place a bear and he points to where he wants Gary to place it. This is interrupted while Charlie says: CL **"No, no, no, no."** He takes Gary's fingers from his mouth. Charlie waves a bear in front of Gary's face. Gary wipes his mouth with his fingers and turns his face away. Charlie tries to gain his attention by flicking his fingers in Gary's face. Mary gives Gary a bear. Gary places the bear in the toy. Charlie says: CL **"Good, good, Gary."** Gary makes some noise and puts the bear to his face and has his fingers in his mouth. Charlie says: CL **"No, good, ah, just about."** This is in response to Gary almost placing the bear into the toy. Gary then begins to make some noise and puts the bear into his mouth. Mary says: CL **"Stop it."** Gary makes some noise. Mary: CL **"Stop it."** I'm not sure why she is saying this she is glaring sternly at Gary. Charlie points and touches the toy and tries to keep Gary on task. Gary continues to suck his fingers. Mary places the bear so that it touches the palm of Gary's hand and pulls it downward. Charlie has a bear and waves the bear in Gary's face. He say: CL **"Push,**

push, good." As Gary pushes the toy. Again Charlie says: CL **"Push, push, push, good, you did really good, good boy."** Gary then continues to sit and watch. Mary waves a bear in Gary's face. Charlie takes a bear and puts it in the toy and points. Mary leaves the couch area and goes for the Nerf ball. She shows it to Gary and bounces it in front of him. She also bounces it on Gary's body and touches his head. She hands Gary the ball. Charlie takes the ball for a moment and rolls it on Gary's body. Gary touches the ball and then wipes his face with hand. Mary continues to bounce the ball and puts it on Gary's lap. Gary touches the ball. Charlie touches Gary's foot and lifts it up and then down. Mary continues to bounce the ball on the floor and then hands Gary the ball. Mary tries to get him to hold the ball. Gary holds the ball and then sucks his fingers. Mary moves the Fisher-Price toy away from Gary and continues to roll the ball. Mary and Charlie watch their classmates for a moment. Charlie then throws the ball into the air and holds it up and tries to get Gary to reach for the ball. Gary touches the ball. Mary then puts the ball on Gary's head and rolls it on his face. Then she bounces the ball and it rolls away. Charlie moves the Fisher-Price toy near Gary. Gary pushes and plays with it. Charlie says to Gary: CL **"Are you tired?"** Mary says something I can't hear. Charlie: CL **"Come on."** Mary says: CL **"Look."** Gary sits and sucks his fingers and lifts his foot. Mary says: CL **"Stop that,"** as Gary continues to lift his foot and suck his fingers. Mary walks away and gets a baseball and hands it to Gary. Gary touches it with his hand. Mary and Charlie play with he ball for a minute. Charlie gets up and gets another ball. Mary looks around the room for something. Charlie bounces the ball and shows it to Gary. Gary holds on to the ball and puts it to his face and has the fingers of his other hand in his mouth. Charlie says to Gary: CL **"Come on throw the ball, come on throw the ball, come on throw the ball."** Mary says: CL **"Come on Gary."** Gary continues to do nothing. Charlie says: CL **"Come throw the ball."** Charlie then says: CL **"No, no,"** as Gary lifts his foot. Mary says something: CL **"..."** and gives Gary a stern look and points. Charlie says: CL **"Down, down."** He flicks his fingers in Gary's face. Then Charlie says: CL **"Throw the ball, throw the ball, throw the ball."** Mary and Charlie exchange a few words something about: CL **"I'm not going to go to play."** Again Charlie says about three times: CL **"Throw the ball, throw the ball, throw the ball."** Charlie then makes a throwing motion with his hands. Mary says: CL **"Let go,"** and laughs as this is done towards Charlie. Again Charlie asks Gary to throw the ball. Then he says: CL **"Geaze he's kicking."** Charlie takes the ball and pretends to throw it and places it back in Gary's hand. Mary then takes the ball away from Gary.