EARLY INTERACTION: A DESCRIPTION OF CONVERSATIONAL TURNTAKING IN AN ATYPICAL CHILD AND A GROUP OF TYPICAL CHILDREN DURING BOOKREADING

by

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Abstract

This study explores similarities and differences in turntaking structures in the discourse of a group of typical children and one atypical child. Nineteen normally developing pre-school children and one atypical child were videotaped reading books with their parents. Each of the nineteen parent/child dyads were videotaped at the child's pre-school, and the atypical child (Ben) was videotaped at school both with a trained educator and with his mother. Analyses of the resulting videotapes yielded categorical data on types and structures of turntaking.

The utterances of the typical children appeared most often in the category of response. This finding also applied to Ben when he was interacting with his teacher, although when Ben was interacting with his mother the majority of his utterances appeared in the category of imitation. Parents of the typical children used primarily responses, mands and turnabouts. The greatest difference between Ben's mother and the other parents is found in the categories of response and mand which were lower in the case of Ben's mother. It appears that conversational turntaking in a language delayed child is different from the pattern of conversational turntaking in a group of typical children. If indeed the

difficulty lies with interaction, or turntaking skills, this may have significant implications for approaches to remediation used with children who are identified as autistic or severely learning disabled.

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CHAPTER ONE: INTRODUCTION

1.1 EARLY PARENT CHILD INTERACTION AND THE DEVELOPMENT OF CONVERSATIONAL TURNTAKING

> "In the ordinary course of life, we take turntaking for granted. The rules governing smooth exchange of turns are not apparent until they are violated; then they suddenly assume great importance. One is aware when one is interrupted, and one is aware of a partner's failures to respond. With babies, as we shall see, there are no 'rules' in the same sense; but adults devote themselves energetically to getting the baby to behave as a good turntaker should." (Kaye, 1982, p.84)

Since about 1970, many authors have proposed that communicative and social interaction somehow lays the groundwork for the acquisition of language (Bruner,1983; Kaye and Charney, 1982). This approach emphasizes the role of communicative and social interactions between parent and child. Fraser and Roberts (1975) adopt the position that children must develop social role taking skills from the adult or parent in order to communicate. In Bruner's words, the only way language can be learned is by using it communicatively (1983, p.119). So when we say that a child is acquiring language, we must account for another aspect of what is being acquired - that is, its function or communicative intent or how to get things done with words (Bruner,1983, p.18). Snow (1977) also states that language acquisition is the result of a process of interaction between mother and child which begins early in infancy, to which the child makes as important a contribution as the mother, and which is crucial to

cognitive and emotional development as well as to language acquisition,(p.31).

Mothers' speech with their children occurs in conversations, and the need to communicate with one's conversational partner affects the structure of one's utterances,(Snow,1977 p.32). Children learn to talk by conversing with adults. The quality of the conversation which is carried on may be a crucial variable affecting language acquisition, (Snow,1977, p.39),

Kaye and Charney (1982) suggest that the early social interactions of mother and infant are particularly suited to prepare the way for those later interactions in which language is learned. They suggest this social interactive structure developed in infancy enables the child to interact with adults in ways that optimize learning. According to Sachs (1977), the characteristics we find in adults' speech to infants have adaptive significance for the development of the infants' communication with its social world, (p.51). Some principal features of social interaction and cognition in infancy - joint reference to objects, turn taking, mutual imitation, the signalling of intention all provide a 'discourse-like'

structure without which the rules of conversation could not be learned (Bruner, 1983; Kaye and Charney, p.211).

1.2 Characteristics of an Atypical Language Learner

If communicative and social interaction is important for normally developing children, it is reasonable to assume that it would be at least as important in the language acquisition of atypical children. According to Thelander and Leary (1978), there is little mention in the literature of how the speech of parents to their autistic children might facilitate the acquisition of conversation. It can be inferred however, that turntaking is not well-developed between parents and autistic infants, since all aspects of language use by the autistic child are deviant, as is behavior at the pre-speech level. The autistic child does not exhibit eye to eye gaze, does not anticipate being picked up, has a deviant cry and uses vocalizations atypically (Thelander and Leary,1978,p.4). The absence or deviance of these pre-speech behaviors would lead one to expect an absence or low level of turntaking between parents and autistic infants. And it does seem that with young autistic children , there is little evidence of language use in conversational contexts (Rutter,1978). Baltaxe and Simmons (1977) found no evidence of dialogue and no

alternation between roles of speaker and listener in soliloquies by the autistic child (p.378). Although autistic children can learn language structure or syntax, appropriate conversational use is not forthcoming. The literature on the development of communication, including conversation in normal children, thus has implications for understanding the nature of, and possibly the treatment of, these problems in children who are labelled autistic or autistic-like.

In order to understand the functioning of the atypical child usually diagnosed as autistic or autistic-like it is helpful to broaden our perspective. The overlap of autism with other developmental disorders such as mental retardation (Rutter,1970), perceptual motor dysfunction (Ornitz & Ritvo, 1976), and communication disorders (Bartak & Rutter, 1975) is well accepted, but little has been written about the relationship of autism to learning disabilities (LD), (Shea & Mesibov, 1985). Many authors agree that the diagnostic categories 'LD' and 'autism' each represent continua of dysfunctions ranging from mild to severe. Shea & Mesibov (1985) propose that these continua have a significant amount of overlap in the area of severely learning disabled and higher functioning autistic individuals. Thus, while some individuals show clear patterns of

either autism or LD, Shea and Mesibov's argument is that other individuals share characteristics of both classifications. (The atypical child selected for this study falls into this category; see p. 27) There appears to be overlap on the dimensions of intelligence level, unevenness of developmental rate, language difficulties, deviant social and interpersonal skills, and cognitive disorganization (Shea & Mesibov, 1985, p.427). Ross (1976) offered an explanation for the common social characteristics of children with LD and autism, he suggested that both groups of children are delayed in the development of attentional skills. For both LD and autistic children, the structure provided by behavioral limits, social and conversational routines, and predictable consequences to behaviors and events are extremely important.

1.3 Theoretical Significance and Purpose of the Study

Turntaking skills, and social interaction in general play a role in the development of normal language. The purpose of this study is to describe the conversational turntaking abilities of a child classified as language disordered, and to compare this with the conversational turntaking abilities of a group of normally developing preschool children. This is the first step towards understanding the role that conversational turntaking

skills may play in the remediation of autistic or severely learning disabled children. In that autism is considered a typecase for non-interactive patterns of behavior, a comparison of one child identified as autistic-like (n of 1), with a more typical group of children, (n of 19) could reveal much about whether atypical children differ from typical children on this dimension of discourse experience.

The study addresses two primary research questions: What are the commonalities and differences in turntaking behavior of a group of typical preschool children and a single atypical child within a specific language routine? How does the structure of turntaking in an atypical child with his parent compare with that of a highly imitative typical child with his parent?

The method of the study will be first to analyze the structure of turntaking in parent-child discourse of typical children. The resulting data will then be used as a baseline for comparison with one atypical child to determine what strategies are common to typical children but absent from the interactions of an atypical child. Although only one atypical child is analyzed and his chronological age is significantly higher than that of the typical group, his delayed language is taken as a justification for

comparison with the younger group. That is, his level of functioning is comparable as indicated by standardized language tests. The similarity in language performance between this language delayed eight year old and the younger preschool children should allow a richer description of similarities and differences than would be possible if the child were profoundly autistic or at a much earlier phase of his development. During his preschool years, this child was almost completely non-verbal. According to a diary kept by his mother, Ben's utterances at a comparable chronological age (2 years 3 months) were limited to six words,"ni ni, bye, please, bird, teddy, and cookie."

In order to look at turntaking structures in a consistent way across subjects, a fairly constrained routine was required. Bookreading between parent and child is an example of one well-explored language routine which illustrates various aspects of turntaking within a social interactive structure (Ninio & Bruner, 1978; Snow,1983). It is proposed to analyze the children's language in the same bookreading contexts. While the typical language learners were observed only with one of their parents, the atypical child was observed with both his parent and a trained educator, a non-naive subject. This was incorporated to consider the

effect of a different conversational partner. The following review will consider typical and atypical children and explore the impact of early interactional experience on turntaking ability within a specific paradigm.

1.4 Definition of Terms

The following terms are used in the psycholinguistic literature on discourse analysis but may not be familiar to all readers.

Discourse Analysis: any analysis of connected text whether produced in oral or written contexts. Usually the text is divided into elements of interest that reflect the topic of investigation. In the present study the categories of interest are types of turns which speakers engage in ordinary conversation. These are described in more detail in the literature review (pp. 15 and 16) and the methods chapter. The following terms have specific meanings in the discourse analysis literature and are explained in the body of the thesis. They are listed here to alert the reader to their specialized meanings.

Formats: a repeated systematic interaction between parent and child that can be described as "rule-governed". Examples are peek-a- boo games or labelling episodes in bookreading (see Bruner, 1983).

Turns: a turn is an utterance by a given speaker in a conversation. Usually, turns alternate between speakers. The present study is concerned with different kinds of turns that speakers can take in conversation. These are described on pp. 16, 23, and 30 in the thesis. They include responses, imitations, mands, turnabouts, and unlinked utterances. The reader is referred to the following review and discussion for a fuller description of these terms.

CHAPTER TWO: REVIEW OF THE LITERATURE

2.1 Turntaking

According to Bruner (1975), children develop a notion of reciprocal action before they learn to speak. Bruner postulates that this action takes place within early interactive routines. The infant learns how to engage someone's attention, how to establish a common focus, and how to participate in the 'communication game' by engaging in turntaking activities (see also Beisler & Tsai, 1983, p.288). Since the mother-infant relationship is the child's first social relationship, it has been said to form the basis for other social interactions the child will have (Stern, 1985). This interactive relationship has also been said to act as a scaffold for language acquisition (Bruner, 1985). "There is a widely accepted view that the parent-child interaction system is the arena of early learning" (Vietze & Hopkins, 1980, p.7).

There is a growing body of literature on the characteristics of adult speech directed to normal children (Snow & Ferguson,1977; Moerk,1974; Snow,1972). These early studies focused primarily on various aspects of parents' language to children between two and ten years of age. It has been shown that mother's language to children is quite different from adult to

adult language. Snow (1972) and Brown and Bellugi (1964) found that mothers' speech to children is simplified and grammatical. Simplicity of language was reflected in reduced length of utterance and a low incidence of subordinate clauses to young children around age two years (Snow 1972). Other modifications in speech to young children include higher pitch, exaggerated prosody, and a remarkably high incidence of questions. Syntactic simplicity was not found in the speech of mothers to infants. Snow (1977) investigated the question of what characteristics were important in mothers' speech to normal infants. She found that mothers interact with their infants using a conversational model. This simply means that they are responding to the child as if he were a full partner in the exchange. Snow suggested that this device is an attempt to teach 'turn-taking' in conversation with infants. Mothers appear to recognize the importance of turntaking and insist that infants become conversational partners.

Moerk (1974) and Snow (1972) examined how parents attempt to facilitate language acquisition in normal children. It was found that mothers facilitate acquisition in their two year old children by reducing length of utterances directed to them and simplifying language structures. This was not true for mothers' speech directed to eight month old infants

where they appeared to be only concerned with the structure of turntaking. Mothers in talking to infants used normal conversational language. However, mothers always expected a response from the infant to their language. For example this response could take the form of joint attention. It seems that rather than teaching linguistic structures to infants, mothers were teaching infants to take turns, an important part of conversation.

One context in which parent-child discourse has been extensively studied is joint bookreading. According to Snow and Ninio (1984), mother's speech to children during bookreading is more complex than during free play with toys. They explained this as a likely consequence of the role of the book in setting a topic. Since the book constrained the topic, it was hypothesized that the mother was free to devote a higher percentage of her utterances to making comments, which are typically longer and more elaborate than topic-introducing utterances. Bruner (1983) and Ninio and Bruner (1978) show that bookreading is also a remarkably routinized activity. It is the routinization and predictability in recurrent episodes that allows for greater elaboration and complexity. Indeed, Snow's observations about the development that accompanied the predictability of book reading led her to conclude that bookreading may be, in fact, the ideal

routine for language learning (p.3). Ninio and Bruner (1978) suggest that the mother acts as the source of stability: she accepts the child's contributions as attempts to take his turns even if they amounted to no more than an excited scream, and if no child response was forthcoming, she supplied the child's turns for him. She kept the dialogue going, but also continually adjusted her demands on the child to his developing ability. The sensitivity of the mother to the child's apparent level of knowledge turns the joint bookreading interaction into a highly integrated system. These adjustments by the mother illustrate what has been called maternal fine-tuning in the teaching of the first lexicon (Bruner,1983).

Joint attention of mother-infant dyads to representational materials such as picture books constitutes a context that is especially appropriate for the acquisition of the first lexicon (e.g. Werner and Kaplan, 1963). Previous research in book-reading contexts has shown that mothers seem to structure this activity to facilitate vocabulary learning (Ninio and Bruner, 1978). By following what a mother and child said about a single picture across book reading sessions (Snow and Goldfield, 1980), and in different presentations of the same picture within one session (Ninio, 1983), it appears that what is said about a picture at any one time tends to be a development, addition to, or elaboration of what was said about it

last time it came around (Wheeler, 1983). Within joint bookreading, parents and children are provided with many opportunities to interact verbally (Hayden and Fagan, 1983). Joint bookreading allows us to examine the nature of parent-child interaction and what appears to be most beneficial to the child is a reading style which fosters verbal interaction between both child and adult. In the course of talking to a child about a picture in a book Snow and Goldfield (1980) suggest that the knowledgeable adult can provide structure and add informative content in such a way that a good, complete and conventional information structure emerges from the conversation. The skillful adult elicits from the child all the relevant information, but weaves that (typically incomplete or unstructured) content into a conversation whose sum total constitutes a good information structure. Children often possess knowledge but are unable to display it without the interactive support of a knowledgeable adult. Snow (1977,1978) has described how adults structure conversations so that children are effective conversational partners as well as good providers of information.

Important features of successful conversational interactions include a smooth dialogue with the relative absence of interruptions and of simultaneous starts (Kaye,1982, p.99). A good conversationalist keeps the

conversation moving smoothly in the transfer of turn taking, can be responsive and make demands within a single turn, and readily offers up new topics for conversation when required (Torrance & Olson, 1985, p.270). Kaye (1982) suggests that once the child begins to utter words, his turn taking is suddenly nearly perfect because what each participant is doing is either signalling to the other, which requires getting the other's attention first, or responding to signals, which requires attending to them until the whole message has been processed (p.99).

Sacks, Schegloff & Jefferson (1974) looked at some of the underpinnings of conversational analysis. One general principle which particularizes conversational interactions, that of recipient design, refers to a multitude of respects in which the talk by a participant in a conversation is constructed or designed in ways which display an orientation and sensitivity to the particular other(s) who are the co-participants. Turn size and turn order are also considered (p.727).

Schegloff's (1974) description of the organization of turn taking includes the following general points:

1. Speaker change recurs
2. overwhelmingly, one party talks at a time
3. occurences of more than one speaker are common, but brief
4. turn order is not fixed
5. turn size is not fixed
6. relative distribution of turns is not specified in advance
7. various turn- constructional units are employed, for example, turns can be one word long
8. repair mechanisms exist for dealing with turn taking errors, for example, if two parties find themselves talking at the same time, one will stop

Sacks, Schegloff & Jefferson1974, p.700)

Kaye (1982), Prizant and Rydell (1984), and Torrance and Olson (1985) have investigated specific categories of turns. Kaye (1982) listed the four following basic categories to which turns were assigned:

(M) mand, for example, 'What is that one?'
(R) response, for example, ' Kitty cat.'
(RM) response/mand - turnabouts for example, 'Well, I know there's a kitty in it; what's he in?' - an utterance that simultaneously links backwards and forward. (Kaye & Charney,1980)
(U) unlinked to the partner's turns, neither a response nor a mand, for example 'child turns page'.

(Kaye, 1982, p.100)

Torrance & Olson (1985) state that turnabouts incorporate aspects of comments and directives - turns that both respond to the listener and make demands on the listener. It can be argued that the turnabout is the most advanced of turntaking skills. They also see the relationship of questions and answers, commands and responses, and comments and acknowledgements as requiring turn taking ability. Discourse does not consist simply of a succession of turns - a string of grammatically

well-formed utterances. A sense of coherence is required (Coulthard, 1977, p.62). Increasing our understanding of turntaking may provide a clearer picture of the role of interaction in the acquisition of language.

2.2 Imitation, Echolalia and Turntaking

Both imitation and echolalia require a dyad or communicative pair; therefore they are uniquely interactive phenomena. It has become widely recognized that forms of imitation can be found imbedded in apparently spontaneous normal speech (Clark,1974; Moerk,1977). Bloom (1974) postulated that imitation was not simple mimicry but progressive, for example, children who develop normally imitate the grammatical phrases they are ready to produce spontaneously.

According to Ninio, (1983) words that are imitated during joint book reading are slightly less well-known by the child than others but they seem only to need a minimal amount of further rehearsal before reaching the same level of mastery. Imitation occurs literally on the threshold of semantic acquisition since, following imitation, the success rate in producing and comprehending the same word approaches the 70% level (p.450). Studies of elicited imitation have shown that children will

not repeat beyond their own grammatical competence (Menyuk ,1969; Menyuk & Looney, 1972).

Given that there are various degrees of complexity within echolalia, significant differences can be noted between the presentation of an echolalic child and that of a normally developing child. However if we view echolalia as a form of rehearsal many of these points would apply, but perhaps at a later stage. What makes echolalic behavior in autism truly distinct from repetition in the language of normal children is the fact that it often remains a significant part of the verbal behavior of autistic children for extended periods of time (Fay, 1969).

The behaviors exhibited by children categorized as autistic can be grouped into the following six broad categories:

1. Impairment of interpersonal relationships characterized by aloofness, decreased physical contact and lack of eye contact.
2. Deficits in social behavior seen as severe limitations in co-operative behavior, toy play, and self care skills such as dressing and toileting.
3. Stereotyped activities including self stimulatory behaviors, various kinds of repetitive movements and a pre-occupation with sameness.
4. Impairment of intellect manifested by concreteness of thought, school performance deficits and difficulties with judgement and abstract thinking.
5. Disturbances in speech and language seen in various forms such as mutism, echolalic speech, delayed development and a variety of

other idiosyncrasies in word usage, speech modulation and content.

6. Onset prior to the age of thirty months.

(Rutter, 1971, p.26)

Without exception, diagnostic schemes for autism include "abnormalities and delays in the acquisition of language" as a primary and necessary criterion for diagnosis. Schuler and Donnellan-Walsh (1976) consider five separate and distinct categories of echolalic behavior beginning with Delayed Non-Communicative Echolalia through to Mitigated Echolalia. Researchers operating from a pragmatics framework, that is, one that focuses on the communicative functions of language, have identified several communicative and interactive functions of echolalia. These researchers have suggested that only a small percentage of echolalic responses are truly nonfocused and nonfunctional (Fay,1969; Shapiro, 1977; Prizant & Duchan, 1981).

The term Mitigated Echolalia was introduced by Pick (1924) to describe the slight modifications he noted in the echolalia of some of his aphasic patients. He interpreted mitigation as an indication of the echoer's conflict between the compulsion to imitate and the breaking through of gradually returning functional speech. Stengel (1947) noted two characteristic modifications: 1) introducing the first person singular into the repeated utterance, and 2) appending an intelligent response to an

echoed question or order. As a childhood phenomenon, mitigated echolalia, together with the grammatical restructuring and semantic resolution that its two main variations imply, has received surprisingly little attention. Yet it may be observed among both typical and atypical children. For example, 'Do you want a cookie?' may result in 'Do I want a cookie' to indicate the affirmative, or 'Would you like to go outside?' followed by 'Would you like to go outside, Yes.' provides a scaffold for the child's response. (These examples are taken from discussion with the atypical child selected for this study) Clark (1974) has described an approach used persistently by some normally developing children to pad an utterance with portions of the previous adult utterance. This approach which she aptly termed 'plagiarism' is thought to be useful for keeping communication going in the absence of full competence.

A reference to echolalia which occurs quite frequently in the literature is the distinction between 'immediate' and 'delayed' echolalia. Immediate echolalia refers to repetitions that are produced either following immediately or a brief time after the production of a model utterance. Delayed echolalia refers to utterances repeated at a significantly later time. In an account of higher functioning autistic individuals, Kanner (1973) hypothesized that delayed echolalia represented an intermediate

stage in movement from immediate echolalia to more flexible and creative language. The general terms used are not descriptive of specific functions and the range of functional usage. It is imperative that attempts be made to study patterns of delayed echolalia in order to develop an understanding of the communicative patterns of echolalic autistic persons (Prizant, 1984). Schuler (1979) expressed the need to "study the function of the (echoing) behaviors observed within the context of their occurence" and stated that "no conclusions about the definition of and differentiation within echolalia or echoic-like behaviors can be drawn without systematic and detailed descriptions of these behaviors" (p.429).

Prizant (1984) reported that many echoic utterances produced by the subjects were used in a wide variety of contexts and with many referents and would thus meet this criterion for emerging symbolic activity. The emerging spontaneous language forms of the subjects provided independent support that they were capable of symbolic communication. It has yet to be determined whether children's use of delayed echolalia becomes increasingly generalized to a variety of situations and referents at about the same time emerging spontaneous forms appear. The co-occurrence of delayed echolalia and spontaneous speech would provide evidence of an emerging capacity to utilize symbols, whether they be single words or

memorized multiword units. To summarize, delayed echolalia probably represents a diversity of acts ranging from nonsymbolic, and nonpurposeful, to quasi-symbolic acts, to approximations of true symbolic activity. It thus may form the basis for higher levels of communicative or cognitive functioning.

The categories of immediate, delayed and mitigated echolalia are well researched in atypical language, and invite a comparison of the functions of imitation in typical children. Imitation appears to function as a form of rehearsal with typical children. Utterances are repeated until the child achieves requisite mastery. Prizant and Duchan (1981) suggest seven functional categories of immediate echolalia with autistic children which include turntaking and rehearsal (p.246). Prizant and Rydell (1984) describe turntaking utterances within delayed echolalia as turn-fillers in dyadic exchange, probably as an effort to fulfill a basic requirement of discourse (p.188). An interesting aspect of such delayed turntaking echoes as documented in their study and immediate turntaking echoes as described by Prizant and Duchan (1981) is that the child clearly waits for a turn in the verbal exchange before offering his or her echolalic contribution.

Turntaking ability of atypical children, specifically high functioning autistic children and severely learning disabled children bears some resemblance to very young typical children. (The child selected for this study is functioning three to four years behind his peers on similar tasks. See p.26 for a description of the characteristics.)

Prizant & Rydell (1984) list the following nine categories of utterance within episodes of Interactive Delayed Echolalia, or typical conversational language of developmentally delayed children diagnosed as autistic or autistic-like. These can be compared to some of the categories outlined by Kaye (1982).

1. Turn taking - utterances in this category served as turn-fillers in dyadic exchange, probably as an effort to fulfil a basic requirement of discourse.	unlinked
2. Verbal Completion	response/mand
3. Label	response
4. Providing Information	response
5. Calling (heh you)	mand
6. Affirmation (by repetition)	response (imitation)
7. Requests (object focused)	mand
8. Protest	response
9. Directive (action focused)	mand
(Prizant & Rydell, 1984, p.188)	(Kaye, 1982, p.100)

While the labels of the categories are different, the utterances within each category perform similar functions.

In Bruner's words, (1983) 'Linguistic conventions and standard forms do not leap full grown from the egg. They usually are slow transformations of initially primitive or natural procedures that become socialized in negotiation '(p.69). Perhaps for autistic-like children, echolalia is a very natural response to verbal stimulation and provides a basis for establishing turn-taking routines similar to those that underly ordinary oral discourse. Prizant and Duchan (1981) and Prizant and Rydell (1984) found that the echolalic patterns of young autistic children served specific cognitive and communicative functions.

CHAPTER THREE: RATIONALE OF THE STUDY

Patterns of interaction are important in early language development. Bruner (1983) suggest that language is learned by using it, and central to its use are what he calls 'formats', scriptlike interactions between parent and child - in short play, games, and particularly joint activities such as bookreading. Bruner postulates the existence of a Language Acquisition Support System, which frames the interaction between adult and child in such a way as to allow the child to master the basic but necessary steps in learning to talk.

In atypical children, these patterns of interaction may be less well developed than in typical children. This issue is important if we are to discover what might facilitate remediation in cases of atypical or delayed language development.

This study will compare turntaking in normally developing children with that of an atypical child in an attempt to discover dimensions of similarity and contrast. A fairly constrained, consistent routine could be expected to enable systematic comparison of patterns of turntaking in typical and atypical subjects, while minimizing random situational

variation. Episodes of parent-child bookreading, a well known, highly routinized language format, were selected.

The following specific research questions will be addressed. What are the commonalities and differences in the patterns of turntaking of a group of typical preschool children and a single atypical child, identified as severely learning disabled and autistic-like, within a specific language routine? How does the structure of turntaking in an atypical child with his parent compare with that of a highly imitative typical child with his parent?

CHAPTER FOUR: METHOD

4.1 Design

This observational study consisted of videotaping nineteen normally developing pre-school children and one atypical child engaged in a naturalistic task. Each of the nineteen parent-child dyads were videotaped at a university pre-school during episodes of parent-child bookreading. Taping was done in two separate sessions with no more than one month between sessions. One atypical child was videotaped at school both with a trained educator and with his mother to test the effects of a different partner. The atypical child had two sessions with his mother and two sessions with his teacher. No intervention occurred. Post-hoc analyses of videotaped naturalistic data yielded categorical data on types and structures of turntaking.

4.2 SUBJECTS

Nineteen children, aged two and one half to three years, 12 males and 7 females, (mean c.a. 2.7 at time of taping) who attended the toddler class at the Child Study Center, University of British Columbia, were selected for the typical sample in this study. The population of the Center is drawn relatively equally from families of university faculty, staff, students, and the local community.

The atypical child is a boy currently enrolled in a Severe Learning Disabilities Program at an elementary school in Richmond, British Columbia. This child was 8 years, 4 months old at the time of taping, and was selected because of his echolalic language patterns. While he is older than the typical sample to which he is being compared, his delayed language is taken as a justification for comparison with the younger group. During his pre-school years this child was almost completely non-verbal. Acording to a diary kept by his mother at 2 years 3 months he had a repertoire of six words, "ni ni, bye, please, bath, bird, teddy and cookie". At 3 years of age his single word utterances were unclear and when he was 4 and 5 years his utterances were unintelligible. Results on standardized tests, specifically the Test of Language Development-Primary, Bracken Concept Test, Language Processing Test and the Peabody, L. edition indicate that his range of language functioning is from 2.5 to 4 years of age and thus comparable to the level of the typical children in this study. This testing was undertaken from September through December 1986.) The frequency of Ben's utterances is very low. The length of the episode was longer; fifteen minute mean length of session for the atypical child compared to five minute mean length of session for the typical children. With twice the opportunity the atypical child produced significantly fewer utterances. This child is from

a middle SES background, comparable in this respect to the typical sample.

All subjects involved in the study were asked to read a book that was provided and also to bring a favorite book from home. The book selected for this study to be read by all subjects was a picture book with cut-out profile pages showing a frog in various jungle contexts with other animals, entitled "Jungle Jumble, Will the Fearless Frog Find His Way Home?" This picture book was used as the basis for the study as it appeared to offer the greatest opportunity for interaction in that no text was provided and participants had to turntake in order to construct the dialogue.

4.3 PROCEDURE

Nineteen parent-child dyads were taped at the Child Study Center and the atypical child (Ben)* was taped in his elementary school library. Thus, all subjects were taped in a familiar environment The participants were asked to read the book as they normally would at home.

No intervention or more explicit direction was given. Participation was

*not the child's real name

voluntary and no child refused to participate. Each adult wore a lapel microphone throughout the sessions. Utterances were then transcribed and classified according to the coding scheme listed below.

4.4 CODING AND ANALYSIS

Based on the research of the authors reviewed earlier (2.1), specifically Kaye (1982), Torrance and Olson (1985), Prizant and Rydell (1984), and Sacks, Schegloff and Jefferson (1974), the following coding scheme was developed. Each utterance or 'individual turn' was transcribed and coded by speaker (adult or child) and then coded according to one of the following five categories. (examples from the data set under analysis are provided):

1. response - backward linking for example,'he's jumping on the rock'.

2. imitation - paraphrase for example,
   (adult) 'Which animal story do you want? you pick.
   (adult) 'oh, Jungle Jumble'
   (child) 'Jungle Jumble',
   (child) 'Jungle Jumble'

3. mand - forward linking-question or request, for example, 'Do you know what color it is?'

4. turnabout - both backward and forward linking, for example 'remember, what are we going to be looking for?'

5. unlinked to the partner's turns or unintelligible, for example What's on the T.V.? (child comments on extraneous noise or event)

This procedure yielded frequencies within each coded category of turn types that could not be easily compared across subjects, since each subject had a different number of utterances, and therefore a different number of opportunities to interact. For this reason proportions were calculated by expressing the number of tokens with each coded category for each speaker as a proportion of the speaker's total utterances. This allowed for comparability across speakers.

Inter- rater Reliability

The Principal Investigator trained a linguistics student with some background in transcript coding on the method of coding adopted for this study. Two training sessions were conducted on a set of 229 utterances. A final coding on 250 utterances, done independently by the principal investigator and by the trained student, yielded an Inter-rater Reliability, (Pearson R) of .93 across all coded categories

CHAPTER FIVE: RESULTS AND DISCUSSION

5.1 Summary of Empirical Findings

Table 1 illustrates frequencies within each coded category for all typical dyads followed by the total number of utterances in the corpus. Table 2 illustrates mean proportions within each coded category for all typical dyads.

5.1.1 Patterns of Turntaking in Typical Parent-Child Dyads

Table 2 illustrates that in the typical dyads, response is overwhelmingly the largest category of turn for both parents and children. A response is backward linking in the discourse and generally follows a request or question. The large proportion of utterances in this category suggests highly connected discourse.

The category with the next highest frequency for both parents and children is mand. Mands elicit information and link forward in the discourse. The high frequency of this category in the parent's discourse suggests that the parents are scaffolding the interaction, or leading and directing the discourse. Although mands are also the next highest category for children, they are much less frequent in the children's talk than in the parent's talk. That is, the childrens' utterances do not link forward in the

Table 1. Frequencies within each coded category for all typical parent child dyads

	response	imitation	mand	turnabout	unlinked	total # of utterances in corpus	mean # of utterances in corpus
Typical Children	502	80	99	13	46	740	32
Parents	621	92	456	227	4	1400	78

Table 2. Mean proportions within each coded category for all typical parent child dyads

	response	imitation	mand	turnabout	unlinked	
Typical Children	67.8%	10.8%	13.4%	1.8%	6.2%	100%
Parents	44.4%	6.6%	32.6%	16.2%	.3%	100%

discourse to the same extent as the parents. Not surprisingly, this suggests that the children are not leading the discourse. The assymetry between parent and child in this category very clearly illustrates that the parent is structuring the situation for the child in terms of leading the child towards a particular set of interpretations. The parents highlight particular features in the text by the items they choose to emphasize.

Turnabouts, utterances that link both backward and forward, are the third largest category of turn in parent's discourse. A turnabout, which both builds on the previous utterance and extends it, illustrates another aspect of scaffolding in the discourse. The simultaneous backward and forward linking of turnabouts also contribute to the coherence and integration of the overall discourse, and its presence in the parent's language indicates a continual sensitivity and readjustment on the part of the parent to the child's developing ability. Its not surprising that the majority of these utterances appear in the parent discourse, and are the lowest frequency in the children's discourse.

The frequency of parent and child utterances in the category of imitation is similar. The majority of these utterances appear to be used

for clarification in order to arrive at closer and closer approximations of the desired utterance, for example,

parent - how many elephants do you see? (mand)
child - welephants (imitation)
parent - how many elephants do you see? (repeated mand)
child - four (response)
parent - four (imitation)

Parent imitation during bookreading is also used to affirm and reassure the child as to the appropriateness of his utterance.

Finally, the typical children have a much higher proportion of unlinked utterances than their parents which suggests immature discourse skills.

5.1.2 Patterns of Turntaking in an Atypical Parent-Child Dyad

Table 3 lists frequencies and Table 4 lists proportions within each coded category for Ben with both his parent and teacher. First, we see in Table 4 that when Ben is interacting with his mother, his greatest number of utterances appear in the category of imitation. This category of imitation includes exact repetition of surface structure, paraphrase or mitigation. Mitigation refers to the introduction of the first person singular into an imitated utterance, or the appending of an intelligent response to an echoed question or order. This finding suggests that Ben

Table 3. Frequencies within each coded category for Ben with parent and teacher

	response	imitation	mand	turnabout	unlinked	total# of utterances in corpus
Ben	5	6	0	0	0	11 *
Mom	48	3	8	10	0	69
Ben	39	6	0	0	1	46
Teacher	12	7	27	20	0	66

* see p. 28 for explanation of low utterance frequency

Table 4. Proportions within each coded category for Ben with Parent and Teacher

	response	imitation	mand	turnabout	unlinked
Ben	45.5%	54.5%	0%	0%	0%
Mother	69.6%	4.3%	11.6%	14.5%	0%
Ben	84.8%	13.0%	0%	0%	2.2%
Teacher	18.2%	10.6%	40.9%	30.3%	0%

was utilizing imitation about half of the time to fulfil his turntaking obligation in discourse with his mother.

The rest of Ben's turns when interacting with his mother are in the category of response. A response is backward linking and suggests connected discourse, so Ben does appear able to contribute some coherence to the interaction.

Ben did not produce any turns that could be categorized as mands or turnabouts with his parent. Also in order for him to respond, he often required two formatting utterances. Formatting is used here as defined by Bruner (1983), and refers to the conventions of bookreading which focus joint attention, for example 'Where's the X? Where did it go?' These results, and characteristics of Ben's mother's turns, are more fully discussed in 5.1.4, below.

5.1.3 Patterns of Turntaking of Ben with his Teacher

Table 4 also shows that when Ben is interacting with his teacher, response is overwhelming the largest category of turn. This is in marked contrast to his turns with his mother. A response is backward linking and suggests use of connected discourse. In this instance both participants

are freely sharing information and appear to have established a keen rapport.

The category with the next highest frequency is imitation, although it is much lower than the frequency of response. Ben seemed to incorporate imitative responses when he was familiar with the routine and material. Ben's imitative utterances are melodic and fine tuned to the interaction. Ben's teacher encouraged him to take his turn with the use of pause and intonation. These strategies allowed her to build on Ben's excitement for the bookreading interaction. These results, and characteristics of Ben's teacher's turns, are more fully discussed in 5.1.5, below.

5.1.4 Contrasts in Patterns of Turntaking between Typical and Atypical Dyads

Table 5 presents contrasts in patterns of turntaking between typical and atypical parent-child dyads. Table 5 included a global contrast comparing patterns of turntaking between Ben and the typical children and between Ben's mother and the typical parents. The patterns of turntaking between Ben with his mother and the typical children with their parents is significantly different ($p<.05$) $X^2(1)=21.26$ The patterns of turntaking between Ben's mother and the typical parents is significantly different

Table 5. Global contrasts between typical and atypical children's turntaking characteristics and parental turntaking characteristics (values expressed are mean proportions of speaker's total utterances)

	response	imitation	mand	turnabout	unlinked	X^2
Ben (w Mom)	45.5%	54.5%	0%	0%	0%	21.26*
Typical Children	67.8%	10.8%	13.4%	1.8%	6.2%	
Ben's Mother	69.6%	4.3%	11.6%	14.5%	0%	19.15*
Typical Parents	44.4%	6.6%	32.6%	16.2%	.3%	

*p < .05

($p<.05$) X^2 (1)=19.15 These two global contrasts suggest that the pattern of turntaking between typical and atypical children is different and also the pattern of turntaking between parents of typical and atypical children is different. The following discussion will address the difference in more detail by contrasting each of the categories of turn.

Ben, interacting with his mother, produced utterances that were coded as either response or imitation. In comparison the utterances of the typical children fell into each of the five categories. 45.5 % of Ben's utterances are coded as responses while 67.8 % of the typical children's utterances are coded as responses. Responses are defined as utterances which are backward linking in the discourse. For example, in response to the question, 'what color is that bird?' the child may respond with 'red' or in response to a request, 'you read it to Daddy' the child may respond with 'okay'. A chi square test comparing Ben's responses with the responses of the typical children indicated this difference was not significant. Therefore, typical children and one atypical child do not appear to differ in this category. This may indicate that this category of response does not require complex turntaking skills, or that this atypical child is not experiencing difficulty with this aspect of interaction.

54.5 % of Bens' utterances are coded as imitation compared to only 10.8 % of the typical children's utterances. With children, the category of imitation can allow for the rehearsal of linguistic forms awaiting mastery, and also as a means for the child to take his turn in conversation. A chi square test comparing the category of imitation by Ben and by the typical children indicated this difference was significant at ($p < .05$) $X^2(1)=17.26$ Ben is imitating more than the typical children which is consistent with his classification as echolalic. This finding encourages speculation as to the function of imitation. With this particular atypical child, his mother asks fewer questions and engages in fewer turnabouts. She is not leading the discourse, there is less scaffolding evident, perhaps as a result of reduced linguistic expectations. Ben manages to fulfil his turntaking obligation within the interaction by imitating a portion of the previous sentence or phrase. This issue will be discussed and examined in more detail in the discussion of the contrast between parents' talk (p. 43).

13.4 % of the typical children's utterances are mands, (requests or questions) and 1.8% of their utterances are turnabouts, or utterances that are both backward and forward linking in the discourse. For example, 'I wanna read that book again.' refers back to a previous reading and forward to a future reading of the same book. Such turnabouts structure an

utterance so that the onus is placed on the conversational partner and thus is a high level discourse skill. Ben's utterances do not appear in either of these two categories when he is interacting with his mother or with his teacher. This suggests that Ben may not be aware of how to structure an utterance in such a way as to elicit a response from his conversational partner.

6.2% of the typical children's utterances are unlinked. The utterances in this coding category are either unlinked to the text or unintelligible. When Ben is interacting with his mother none of his utterances are unlinked.

69.6% of Ben's mothers' utterances are coded as responses compared to 44.4 % of of the typical parent utterances. This finding can be attributed in part to the fact that reading of the text is included in the coding scheme under response and Ben's mother proceeds through much of the self-selected text without preamble. A chi square test comparing the category of response by Ben's Mom and the typical parents indicated that this difference was significant at ($p < .05$) X^2 (1)=9.21 Given that the majority of Ben's mothers' utterances fall in to this category, it may be that she is not comfortable questioning or extending Ben's language. This

is also suggested by her rapid speech.

4.3 % of Bens' mothers' utterances are imitation compared to 6.6 % of the typical parents' utterances. Both Ben's mother and the typical parents appear to use this strategy to seek clarification, to verify a response or to reiterate a point, for example:

parent question: 'What's the color?'
child response: 'purple'
parent imitation: 'purple'

A chi square test comparing the category of imitation by Ben's Mom and by typical parents indicated that this difference was not significant. Both groups appear to be using imitation in a similar manner while interacting with their children.

11.6 % of Ben's mother's utterances are mands. These are defined as questions or requests. 32.6 % of the typical parent utterances are mands. The typical parents made a number of requests and asked appreciably more questions throughout. For example: 'You read it to Daddy', You point out things', What's the color?, What's that one? A chi square test comparing the category of mands by Ben's Mom and by the typical parents indicated that this difference was significant at ($p < .05$) $X^2(1)=9.17$ This finding suggests that Ben's Mom places fewer linguistic demands upon him

compared to the typical parents. This may indicate reduced linguistic expectations.

14.5 % of Ben's mother's utterances are turnabouts compared to 16.2% of the typical parent utterances. Turnabouts are defined as utterances which are both backward and forward linking. For example a turnabout utterance such as 'funny looking guy, isn't it?' requires both conversational partners to have some knowledge of what has gone before and requires the listener to respond to the question contained within the utterance so that the conversation may proceed. A chi square test comparing this category of turnabout by Ben's Mom and by the typical parents indicated that this difference was not significant. This finding suggests that both groups have an understanding of conversational turntaking and may suggest that both groups rely on this strategy to develop their children's language competence.

None of Ben's mothers' utterances are unlinked or unintelligible and only .3 % of the typical parent utterances are coded as such.

5.1.5 Contrasts in Patterns of Turntaking between an Atypical Child with his Parent and the Same Child with his Teacher

Table 6 explores the turntaking patterns of Ben interacting first with his mother and then with his teacher. Table 6 shows that a global chi square comparing Ben with his mother and Ben with his teacher is significant ($p < .05$) $X^2(2)=9.28$ Therefore Ben's pattern of turntaking is different depending on his conversational partner. Ben talks more with his teacher than he does with his mother as demonstrated by overall number of utterances.

Ben's level of imitation is greater with his mother. 54.5% of his utterances are imitation as compared with 13.0% with his teacher. A chi square test comparing the occurence of Ben's imitations in discourse with his mother and that with his teacher indicated that this difference was significant ($p < .05$) $X^2(1)=17.09$ Imitation may be used here as a turn-filler in dyadic exchange.

84.8% of Ben's utterances are coded as responses with his teacher as compared to 45.5% of his utterances appearing in this category when he is interacting with his mother. A chi square test comparing Ben's responses with his teacher and his responses with his mother indicated that this difference was significant ($p < .05$) $X^2(1)=16.46$

Table 6. Global contrasts of Ben's turntaking with two conversational partners, and contrasts between mother's and teacher's turntaking characteristics. (Values are proportions of total utterances.)

	response	imitation	mand	turnabout	unlinked	X^2
Ben (w Mom)	45.5%	54.5%	0%	0%	0%	9.28*
Ben (w teacher)	84.8%	13.0%	0%	0%	2.2%	
Ben's Mother	69.6%	4.3%	11.6%	14.5%	0%	36.79*
Ben's Teacher	18.2%	10.6%	40.9%	30.3%	0%	

*$p < .05$

Ben's utterances do not appear in the categories of mand or turnabout with either partner. This reflects a relatively low level of turntaking skill.

2.2% of his utterances are unlinked when interacting with his teacher and none of his utterances are unlinked when he is interacting with his mother.

The second part of Table 6 compares the utterances of Ben's mother with that of his teacher. A global chi square comparing the two adults was significant ($p<.05$) $X^2(1)=36.79$ indicating that their turntaking style is different. Ben's mother engages in significantly more responses than Ben's teacher. 69.6% of the mother's utterances and 18.2% of the teacher's utterances are responses. A chi square test comparing Ben's mothers' responses and Ben's teachers' responses indicated that his difference was significant at ($p< .05$) $X^2(1)=19.66$ The difference in the response category may well be a function of the pace of delivery by the mother during the book reading sessions. She tends to read the text very quickly leaving little opportunity for interaction. However this is only one aspect of her overall style.

4.3% of the mother's utterances and 10.6% of the teacher's utterances are coded as imitation. A chi square test comparing Ben's mothers' imitation and Ben's teachers' imitation indicated that this difference was not significant.

Ben's mother asks fewer questions than Ben's teacher 11.6% of her utterances are mands compared to 40.9% of the teachers utterances which are mands. A chi square test comparing Ben's mothers' mands with Ben's teachers' mands indicated that this difference was significant ($p < .05$) $X^2(1)=12.15$

Ben's mother also engages in fewer turnabout utterances, 14.5% compared to 30.3% of the teacher's utterances which were coded as turnabouts. A chi square test comparing Ben's mothers' turnabouts with Ben's teachers' turnabouts indicated that this difference was significant ($p < .05$) $X^2(1)=8.4$ Given that the skilled educator's proportion of turnabout utterances is greater, this may indicate a greater awareness of the importance of turntaking behaviors and efforts towards teaching this skill.

Neither Ben's mother nor his teacher engage in utterances that are

unlinked or unintelligible.

5.1.6 Contrasts between a highly imitative typical child and his father and an atypical echolalic child and his mother

A second question asked in this study was how the pattern of turntaking, and particularly imitation, of one highly imitative child compared with that of Ben. Table 7 compares the turntaking behaviors of one highly imitative father/son dyad, Maynard* and his Dad, selected from the 19 typical preschool children, with the turntaking behaviors of Ben, and his mother.

Imitation has been identified as a strategy in the language acquisition of typical children (Bloom,1974). This typical father/son dyad was selected for comparison with Ben since their frequency of imitative utterances was greater than that of the other participants (n of 19). The utterances of this father/son dyad are examined in order to speculate about the function of imitation in typical and atypical interaction. Is it a social gesture, a cognitive tool, a rehearsal strategy or as yet a relative unknown? Are these options mutually exclusive or are they all found in the repertoire of particular children at various developmental levels?

*not the child's real name

Table 7. Global contrasts of turntaking categories of 1 highly imitative typical child and 1 atypical child

	response	imitation	mand	turnabout	unlinked	
						X^2=2.68
Ben	45.5%	54.5%	0%	0%	0%	100%
Maynard	51.9%	34.2%	7.6%	0%	6.3%	100%
						X^2=7.98
Ben's Mother	69.6%	4.3%	11.6%	14.5%	0%	100%
Maynard's Dad	47.5%	4.0%	29.3%	19.2%	0%	100%

Imitation within a structured interaction could serve at least three purposes The first would allow for social obligations in conversation to be met. The second would allow for rehearsal of unfamiliar words or phrases. The third could be as a vehicle for experimenting or playing with certain aspects of language, perhaps for auditory stimulation. Shapiro and Lucy (1978) suggest that echoing or imitation functions as a strategy for social facilitation (p.374) and state that it can be best understood as a 'speech act', stressing the pragmatic aspects of early language learning (p.377).

34.2% of the utterances of the typical child are coded as imitation. These responses are melodic and fine tuned to the interaction. This father and son dyad appear to enjoy and share the material with relative ease. There is an intonational lilt to their mutual imitations. The father in this dyad slowed his pace of delivery to encourage his son to respond to each utterance. 54.5% of Ben's utterances are coded as imitation. A chi square test comparing Ben's imitation with Maynard's imitation indicated that this difference was not significant. This suggests that Ben's use of imitation is not different in frequency from Maynard's. This might support the notion that Ben is language delayed as opposed to being language disordered, since both children appear to be using imitation in almost

equal measure. This suggests that imitation per se, and even a high level of imitation does not in itself reflect atypicality.

4.0% of Maynard's Dads' utterances are coded as imitation and 4.3% of Ben's mothers' utterances are coded as imitation. A chi square test comparing Maynard's Dads' imitations with Ben's Mothers' imitations indicated that this difference was not significant. This finding suggests that imitation is used with a similar frequency by both Ben's Mother and Maynard's Dad.

Keenan (1977) asks what is going on when a child repeats the utterance of a copresent speaker. Is there any way in which repetition is developmentally progressive with respect to language? (p.133) We can say that in repeating, the child is learning to communicate. He is learning not to construct sentences at random, but to construct them to meet specific communicative needs. He is learning to query, comment, confirm, match a claim and counterclaim, answer a question, respond to a demand, and so on. In short, he is learning the human uses of language. According to Keenan (1977) when adults repeat and expand the utterances of children, they often do so as a kind of 'communication check'. The caretaker presents his or her interpretation of the child's utterance to the child for verification.

Hence, what communication checks do is to precisely turn an utterance into shared knowledge (p.135).

The frequency of Ben's imitation is not significantly different from Maynard's imitation and nor is the frequency of Ben's mothers' imitation significantly different from Maynard's Dads' imitation. This suggests that both parents allow imitation to serve similar functions and that both children respond in a similar manner.

5.2 Summary

This observational study examined the commonalities and differences in turntaking behavior of a group of typical preschool children and a single atypical child within a specific language routine. The following is a summary of the salient features of interaction within typical and atypical adult/child bookreading dyads. Response was the highest frequency turn for the typical children. There is no significant difference when comparing Ben and the typical children on the category of response. In contrast, Ben is imitating more than the typical children. The majority of his utterances appear in the category of imitation when he is interacting with his mother, and in the category of response when he is interacting with his teacher. Ben did not engage in mand or turnabout

utterances with his mother or teacher. Mand was the second highest category of turn for the typical children. Turnabout is the lowest frequency category of turn for the typical children. This finding, coupled with the fact that Ben does not engage in any turnabouts, suggests that the ability to structure an utterance so that the onus is placed upon a conversational partner is a high level discourse skill. For both the typical and atypical dyads only a very small percentage of their utterances are unlinked or unintelligible.

A second question asked how the imitative turns of one highly imitative child compared with that of the atypical child. Both parent and child imitation in this study was employed to verify, reiterate, and to rehearse. This finding is consistent with Ninio's claim that words which are initiated during joint book reading are slightly less well- known by the child than others but they seem only to need a minimal amount of further rehearsal before reaching the same level of mastery. Ben readily shared information when he was provided with structured formatting utterances, for example, 'What is X? What is X doing?' He appeared to be processing this information at a similar rate but he often rehearsed both the question and his answer quietly before taking his turn.

CHAPTER SIX: CONCLUSIONS AND EDUCATIONAL IMPLICATIONS

6.1 Conclusions and Implications

The patterns of turntaking in typical parent-child interaction during bookreading can be described as the orchestration of opportunities by the parent for socialization of the child. It appears effortless when done well, and according to Snow (1977) may be the ideal routine for learning language. Bookreading is one medium for this and in terms of a hierarchy, appropriate turntaking skill takes priority over appropriate language forms.

For both the parents and children, response is the largest category of turn. This suggests that both partners are responding to the other in the discourse. in this aspect of the discourse. They are sharing interactive "response -ability" for achieving a balance in the conversation.

Mand is the second largest category of turn for both parents and children. However the parents are producing a greater number of mands. The third largest category of turn for the parents is turnabout which is simultaneously backward and forward linking in the discourse. The high usuage of mand and turnabout by the parent delineates nicely the role of

the teacher (adult) and the learner (child) in the discourse. The third largest category of turn for the children is imitation and is fairly similar in frequency to the number of mands used by the children. Use of mands and imitation by the child delineates nicely the role of the child as learner in the discourse. The parent is leading or scaffolding the discourse by use of mand, turnabout and response, and the child is imitating, responding, and questioning to fulfil his turntaking obligations. The parent possesses information and creates opportunities for the joint construction of meaning. Utterances are transformed into shared knowledge as the child learns the human uses of language (Keenan. 1977).

As indicated in the turntaking literature cited earlier (2.1) Snow (1977) investigated the question of what characteristics were important in mother's speech to normal infants. She found that mother's interact with their infants using a conversational model. Snow explains that this device is an attempt to teach turntaking in conversation with infants. Mothers appear to recognize and insist that infants become conversational partners.

The atypical child in this study is different from the typical sample. He differs in his higher use of imitation and the fact that he produces no

mands. His mother is different from the typical parents in the lack of turnabouts and mands. This suggests that the role of adult as teacher and child as learner is not clearly present in this atypical dyad.

However the atypical child in this study engages in different patterns of turntaking depending on his conversational partner. When he is interacting with his mother his largest category of turn is imitation, and the second is response. When he is interacting with his teacher, Ben uses more responses than imitation. Ben responds much more frequently when interacting with his teacher (46 utterances compared to 11 utterances) and demonstrates a clear sense of turntaking behavior (see Appendix A). It appears that Ben's early non-verbal behavior followed by his echolalic language patterns has not limited his linguistic potential. Ben's level of turntaking may be hinged upon the appropriate structuring of the interaction. In light of the fact that he is able to produce a greater number of utterances with his teacher, improved turntaking skill may enable him to illustrate his language abilities more readily. It appears that tremendous gains can be made in the turntaking skill of an atypical child by simply engaging with a skilled professional attuned to structuring the interaction. Ross (1976) suggested that both autistic and severely learning disabled children are delayed in the development of attentional

skills and thus require routines and predictable outcomes to acquire new skills. Equally important for these children is "reciprocal contingent interaction with persons whom they have established a mutual and enduring emotional attachment" (Bronfenbrenner,1974, p.25). The results of the present study support Snow (1977), that bookreading with a skilled partner may be the ideal routine for learning language and it may also allow for the development of turntaking skill in autistic and learning disabled children.

Thus it may be that the social-interactive development of language disordered or language delayed children is as important as their language abilities. If indeed the difficulty lies with interaction, or turntaking skills, this may have significant implications for approaches in remediation of children who are identified as autistic and severely learning disabled.

According to Beisler and Tsai (1983), autistic people are often impaired in their ability to perceive rules of social dialogue. Beisler and Tsai view this problem as their inability to take turns as part of a social exchange. Although the findings of this study support the importance of turntaking skill the results must be interpreted with caution as a result of

limited sample size. Given the extent and importance of such findings, surprisingly few programs have been developed to remediate these deficiencies (Mesibov, 1983).

According to Bruner (1983) language acquisition begins when mother and infant create a predictable format of interaction that can serve as a microcosm for communicating and for constituting a shared reality. However a child could not acquire language without possessing a unique and predisposing set of language learning capacities. The format initially under the control of the adult provides a Language Acquisition Support System. It frames or structures the input of language and interaction to the child's capacities or Language Acquisition Device in a manner to make the system function. In a word it is the interaction between Language Acquisition Devices and Language Acquisition Support Systems that make it possible for the infant to enter the linguistic community - and, at the same time, the culture to which the language gives access. Turntaking is central to this Language Acquisition Support System and thus has a potentially significant role to play in typical and atypical language development

6.2 Implications for Remediation

Finally, we turn to a consideration of the implications of turntaking in remediation of autistic and severely learning disabled children. The teaching of questioning skills (mands) appropriate to the child's language ability could well be a significant part of successful language remediation programs. This study has identified this category of turn as being the intermediate step leading to productive turnabouts which in turn leads to more complex discourse skills. Since the goal of any language intervention effort is to enhance children 's ability to use language as an effective means of communication in their everyday lives, recent research on pragmatics, particularly on children's development of pragmatic ability, has led teachers, clinicians, and researchers to embrace the ideal of teaching meaningful language in conversational contexts.

Conversation requires some turntaking ability which in turn impacts on a child's social development. It is widely accepted that social skills deficits are among the most pervasive and characteristic of the difficulties confronting individuals with autism (Rutter, 1978). As well, some individuals who are developmentally delayed do not make age appropriate gains in the area of social skill. Given the importance of social exchanges in our society, and the difficulties that the autistic and

severely learning disabled have in this regard, a major priority must be given to social skills training. Many of these skills need to be directly taught or modelled within a structured interaction. Turntaking as a social skill also has a tremendous impact on early language acquisition.

At first autism and learning disabilities may appear to have few characteristics in common. The group of children included in the category of learning disabilities is much more heterogeneous than those labeled autistic. However, Shea and Mesibov (1985) suggest that there are closer links between these two conditions than has been previously described in the literature. Many authors agree that learning disabilities and autism each represent continua ranging from mild to severe and both include aspects of language dysfunction. Shea and Mesibov propose that these conditions have a significant amount of overlap in the area of severe learning disabilities and higher level autism. Thus, while some individuals show clear patterns of autism or learning disabilities, other individuals show characteristics of both groups. The atypical child selected for this study fits into this classification. Shea and Mesibov (1985) believe that there is a subgroup of children who, with characteristics of both conditions, do not fit neatly into either group. If future research substantiates this hypothesis, identification of children in this subgroup

might be useful clinically and for research purposes. Professionals familiar with the relationship of autism and learning disabilities might be better able to recognize and understand those children whose characteristics overlap both disabilities, resulting in more appropriate services to these youngsters. Thinking of autism as a severe, pervasive learning disability puts the focus on the cognitive deficits and educational needs of the children with autism. Thinking of severe learning disabilities as continuous with autism reminds us that learning disabilities is potentially an extremely serious developmental handicap, with consequences for academic achievement, social and emotional development, and economic self sufficiency (p.433).

6.3 Turntaking and Intervention Strategies

When developing a program to facilitate useful language in the autistic population, it is helpful to examine how normal children develop their communication skills. According to Bruner (1975), normal children develop a notion of reciprocal action before they learn to speak. Bruner postulates that this action takes place through early interactive routines.

The normal infant learns how to engage someone's attention, how to

establish a common focus, and how to participate in the 'communication game' by engaging in turntaking activities. The child learns to expect that his initiations will be answered, verbally or nonverbally. A pragmatic perspective would thus focus on facilitating effective interactions to teach these early skills. After these basics are mastered, efforts can be directed toward expanding syntax skills, but always in the context of conversational rules. Programs that require the child to sit and attend or to maintain eye to eye contact for a required number of seconds are time-consuming and do not address the goal of communication as an interaction.

Normal infants learn to understand the predictable outcome of their actions, whether they are verbal or nonverbal. If an autistic child is to make a connection between action and consequences, the reinforcement that is used in the communication program needs to be immediately relevant. If we want to teach an autistic child what to say, and how the word or phrase can be used, it would seem that the most relevant consequence would be fulfilling the intent of whatever it is the child has communicated (Beisler and Tsai,1983, p.288). Fay and Schuler (1980) have suggested that for children who are noncommunicative, the teaching of requests seems to be in line with what is known about normal

development. Schuler also suggests that this spontaneous use may be more easily promoted when the communication provides an unambiguous payoff.

In view of the literature on autism and normal development, as well as their own clinical experience with typical and autistic children, Beisler and Tsai, (1983) believe that part of the communication deficit in autistic children is that they have not learned to take turns in social exchanges of communication, to anticipate events, or to establish a common focus, or that their efforts would pay off in regulating their environment. There is a need for developing an efficient way to help autistic children learn the function of language before placing an emphasis on the form of language (p.288).

The goal of intervention in the sphere of mother-infant interaction might be to provide the mother with conditional strategies for fostering the child's optimal development. The term 'conditional' as it is used here means that the selection of interactional strategy would be based on the mother's increased attention to and understanding of the childs' unique characteristics. The mother must first become attuned to certain prerequisites for interaction. The prerequisites are individual difference

factors such as gender, temperament, and developmental level. In addition, the mother must also be aware that infants also have different interactional styles and that she must discover her own child's style of interacting with her. It is expected that the styles of interaction most conducive to the enhancement of the childs' motivation to explore and learn from his or her environment are those that allow for an extensive variety of behavior on the part of both dyad members. Styles having maximal flexibility are expected to optimize the child's developmental potential.

Nelson (1977) provided the first demonstration that adults' verbal intervention with children who are learning language can lead the children to acquire particular syntactic forms that they lacked before intervention. It may be that adults could intervene successfully in the acquisition of turntaking strategies. The techniques used in encouraging change in adult language to normal children have included modelling and expansion. Examples of mothers modelling appropriate social comments for their children to rehearse are quite common. For example, when a child is given a cookie and does not reply, most mothers immediately model,'Thank-you'.

One approach to language intervention for young language delayed

children consists of a series of communication games which provide a means of teaching pragmatically appropriate and effective uses of language in conversational contexts while simultaneously teaching the production and comprehension of specific linguistic forms (Conant et al,1984, p.302). These communication games range in difficulty from simple games suitable for children who produce only a few words to challenging games for children who produce multiword utterances. The games use a variety of formats reminiscent of referential communication tasks, and teach a variety of linguistic content. While the level of difficulty, the format, the materials, and the content may differ, the basic structure of the game-playing process is the same in all games. In every game the participants share two roles: those of speaker and listener. They must take turns and transmit information verbally. The game materials themselves, rather than adult evaluations, are the basis of feedback.

While playing the games, the teacher serves as a model, a facilitator, an interpreter, and a clarifier. The teacher converses with the children, extends and expands the children's utterances, rephrases his own statements and those of the children, enforces the rules of the game, and otherwise performs most or all of the functions that adults usually perform when talking with children.

In providing a pragmatic alternative, the communication games intervention addresses the weaknesses of both incidental teaching procedures and conventional language lessons. Unlike methods that require children to talk without obvious communicative purpose, the game context creates a genuine need to convey information in a conversational setting (Conant, 1984, p.31).

Thelander and Leary (1978) look at a procedure of environmental parent modelling, expansion and child rehearsal in order to examine the effect on the ability of the autistic child to respond to parent statements and questions in an appropriate way. The following method was employed with eight boys ranging in age from 6.8 to 12 years. Each time that a parent spoke to a child, the child was expected to take his turn in the conversation by responding verbally. An environmental language procedure was implemented to teach turn taking in conversation. It involved parent modelling and the child's rehearsal and was implemented with all eight boys. The syntactic level of the language which the parent modelled or expanded for the child was dependent on the child's ability to use language.

The following is an example of the environmental procedures as used by the parents when a child did not take his turn in the conversation:

Adult: "Daddy's washing the car."
Child: (no response)
Adult Model: "washing car"
Child Rehearsal: "washing car"
Adult: "That's right. Daddy's washing the car"
Child: "Washing car."
Adult: "Yes, the car was dirty."

Environmental parent language procedures made significant changes in child turn-taking in response to both parent's statements and questions. The social framework used in the development of this procedure, allows for the evaluation of language as communication and interaction, rather than the development of isolated linguistic structures. This social view of language begins to examine the elements of language usage that are missing in the language of the autistic child. As Sabsay (1975) stated: "An individual's communicative effectiveness does not depend solely on his linguistic competence, (phonology, syntax, vocabulary). It depends also on his communicative competence - his knowledge of how to use the language he has."

Echolalia "is worth repeating" when seen as a normal phase of language development. As Philips and Dyer (1977) contend, if the clinician "treats" or modifies (shapes out) the echolalic responses, the abnormality rather than the normal is what is being reinforced. 'The developmental imitation tends to be phased out rather than transformed through.' One intervention

technique utilized by Phillips and Dyer (1977) involves two clinicians working with one child. One clinician would be the "interlocutor" (he/she would ask the question or make the statement). The second clinician would function as the "prompter" (he/she would answer the interlocutor which in turn would be echoed by the child). Phillips and Dyer depart from those therapies concerned with treating echolalia as a language disorder itself, something to be extinguished and be replaced with appropriate linguistic structures. In this situation the clinicians make use of the echolalia and supplant it with verbal comprehension and syntax. Phillips and Dyer suggested this can be done by allowing the echo responses to serve their natural place in language development. It is normal for children to model adult utterances. At two years of age not only is the child's echolalia accepted, but it is encouraged:

Mother: "Look, that's a baby."
Child: "That's a baby."
Mother: "That's right and that's a baby's nose."

When the child is older (three years or more) this echoing behavior which was normal at two becomes deviant:

Mother: "Where are you going?"
Child: "Are you going."

Phillips and Dyer see this as the child imitating correctly but seemingly breaking down at the level of processing conceptual and syntactical

transformations. What follows is an example of their prompting technique:

Clinician I:
"What are you doing?" - Inhibiting Question.
Clinician II:
"I'm scribbling." - Intervention Cue
Child:
"I'm scribbling." - PROFITABLE ECHOLALIA

Bloch, Gersten and Kornblum (1980) suggest that it is through the interaction of both maturation and experience that language develops in the normal child; for the autistic child this is much less likely without an intervention program. Their report compares the effectiveness of two different intervention programs in increasing the prelinguistic and linguistic skills of preschool autistic children. Both programs were conducted at Pre-Schooler's Workshop, a licensed day treatment center with a therapeutic nursery/kindergarten in Garden City, New York. This facility operated on the premise that the child's acquisition of essential learning and language depended primarily on and related to the quality of the child's interpersonal relationships. The basic philosophy of the language development program was to incorporate the child's preferred interests and activities within the program rather than to adhere to any predetermined sequence of developmental stages. The goal of the language program was to improve each child's level of functioning in the following seven areas; eye contact, auditory comprehension, nonverbal imitation,

vocal play, vocal imitation, expressive speech, and communicative speech.

Eye Contact and Relatedness: This was considered an important prelinguistic skill because autistic children are known to be isolated and withdrawn, and to be taught, they must at least acknowledge and attend to adults. Moreover, for them to learn imitation, expressive speech and communication of affect from adult models, children must observe facial features, particularly eyes and mouth.

Auditory Comprehension: Autistic children have difficulty in processing linguistic input. The program attempted to stimulate and encourage attending and auditory discrimination, which are vital to comprehension.

Nonverbal Imitation: Autistic children have been found to have deficits in performing nonverbal imitative tasks. Nonverbal imitation was included as a prelinguistic skill on the assumption that learning to imitate play activities that are pleasurable would facilitate the imitation of sounds and words. It was also believed that such interaction between child and adult would serve as a context for communication and would help establish the adult as a reinforcing model.

Vocal Play: The spontaneous production of speech sounds was regarded as important, for if children begin to utter sounds during pleasurable activities, the use of their voices will aquire positive associations for them.

Vocal Imitation: The clinician begins with sounds or words in the child's existing repertoire as the most natural basis for demonstrating imitation, and gradually adds words in which the child has demonstrated interest. While vocal imitation is not always a prerequisite to language development in the normal child, it seems to be a necessary step with autistic children.

Expressive Speech: It is considered critical that children learn the power of words and therefore expressive language is given the highest priority. Any spontaneous or responsive labeling by the child is acknowledged immediately.

Communicative Speech: It is in the area of communication that even the autistic child with expressive speech continues to have problems. Interpersonal communication is a complex language skill, and evidence of any spontaneous communication from the child, directed

toward another person for the satisfaction of a need or desire, is critical to acknowledge and reinforce.

This language intervention program was not confined to speech remediation sessions, but extended to the classroom and the home. This is important as one of the greatest challenges encountered by persons working with the autistic is the generalization of learning from one situation to another (Dunlap, Koegel, & Burke, 1981). Teachers and parents were mindful of basic guidelines in speaking to children: to use short, concrete phrases, slow rate of speech, strong inflection, intonation cues, repetition and pauses, to allow time for the child to decode, integrate, and respond to verbal messages. Any verbalizations by the child were praised and rewarded, and expanded by the adult to provide a model for future utterances. One of the recommendations from the Bloch, Gersten, & Kornblum report (1980) would be to try to identify and begin remediation of autistic children at even younger ages. The language program described required two years before gains in communicative speech became apparent. In the normal child, the ages from one to three years are crucial ones for the development of language and social skills, and the autistic child might also be most receptive to a therapeutic educational environment at this time.

Mesibov (1983) suggests that the social and interpersonal skills of high functioning autistic children and severe Learning Disabled children generally improve during adolescence and adulthood, although with certain qualifications and exception (p.39). It seems that although certain adolescents showed an interest, friendliness and involvement with other people, they lacked the skills in interpersonal relationships needed to proceed from acquaintance to friendship. In these children the failure to make friends was a source of distress and unhappiness, showing that at least in them, the lack of friends was the result of a lack of social skill, not of social interest. (Mesibov,1983,p.40)

Communication problems are especially significant in social relationships because so many of these are dependent upon the ability to communicate, either verbally or non-verbally, with another person (Mesibov, 1986, p.270). There is a need for developing an efficient way to help the autistic child learn the function of language before placing an emphasis on the form of language. Any interventions models should be consistent with the following three assumptions; 1) that the autistic child needs to establish a reciprocal turntaking relationship with a significant other, 2) verbal language can develop within child-oriented joint activity routines where conversation is defined as an exchange of some message

either with or without words, and 3) goals and techniques emphasizing natural conversational exchanges and a reinforcement system consisting of responding to a child's intent of his communication are sufficient to teach new skills and to maintain skills that are already in evidence.

In order to understand the role that parents might play in the development of their children's language deficits, assessment of the child's early language environment is critical. Similarly, attention to the language environments of children with very limited verbal abilities is important, because a child's level of linguistic sophistication affects a language environment (Wolchik,1983,p.170). Although Wolchik's (1983) study demonstrated few differences between the language patterns of parents of preschool-aged autistic and normally developing children who were matched for language age, it may be that parents need to provide special language environments. Harris et al. (1981) examined the effects of a parent training program that focused on helping parents teach prelanguage and language skills, to become more responsive to their children's language, and to encourage language use. Although the children of these parents made significant gains in prelanguage and language skills, it is impossible to identify the contribution of changes in parental language patterns since the training package consisted of many aspects

(Wolchik, 1983, p.178). Given that parent training results in more durable improvement in both autistic and learning disabled children than does clinical treatment, future research that identifies the most effective means of helping parents to facilitate their children's language growth would be extremely valuable.

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APPENDICES

APPENDIX A

Consecutive utterances of Ben engaged in bookreading with his teacher.

Teacher-T
Child-C

C animal story
C animal story
T animal story
T which animal story do you want? you pick
T oh, Jungle Jumble
C Jungle Jumble
C Jungle Jumble
T remember, (who) what are we going to be looking for?
C the mother
T the mother, is it a mother frog?
C mhmm
T shall we find out?
C mhmm
T Ready, Jungle Jumble, Will the Fearless Frog Find His Way Home?
C home
T where is he?
T can you find him?
C mhmm (points)
T what's he sitting on?
C a log
T oh, who's this?
C I know
T what's that one called?
C a crocodile
T a crocodile

APPENDIX B

Consecutive utterances of Maynard and his father engaged in bookreading.

Father-F
Child-C

C what's that?
F I think it might be aaah I don't know
F funny looking guy isn't it?
C uhm
F maybe its a maybe its a hyena
C maybe its a hyena
F what are these guys here?
F in the water
F what are they?
C fish!
F right
F what's the color?
F what's that one?
C red
F and that one?
C lellow
F and that one?
C orange
F and that one?
C red
F purple
C purple
F right okay
C where where where's big one called?
F well this big one is uhm is just called a orange fish