IN CONVERSATION WITH BARNEY: A CRITICAL DISCOURSE ANALYSIS OF INTERACTION BETWEEN A CHILD WITH AUTISM AND HIS CO-PARTICIPANTS

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Declaration of Originality

I, the undersigned, hereby declare that the work contained in this thesis is my own original work, unless otherwise referenced. Furthermore, it has not previously been submitted at any other university for the purposes of fulfilment of a degree.

Signed: _____

Date: _____

Abstract

My study arose in the context of an intervention programme aimed at the development of a child with autism's communication and social interaction skills. The approach I take is a social constructionist one in which language is considered to be constructive and constitutive of social and psychological reality. This orientation challenges the assumptions of a western psychiatric approach that emphasizes the impairment and deficits associated with autism.

The participants of the study are a 6-year-old boy diagnosed with Pervasive Developmental Disorder (Autistic Spectrum), and his mother, father, sister and a volunteer on the intervention programme. The discourse analytic method of conversation analysis is employed as a means of elucidating the collaborative mechanisms employed by both the child and his co-participants in making sense of one another. The specific aims of the study are to closely examine the communicative behaviour and interactive styles of the child and his co-participants, their implications for communicative success (*co-ordinated interaction)* or breakdown *(discordant interaction)*, and the implications for how the child is *positioned* within the discourse in relation to his co-participants.

My constructions of the data suggested that a playful, activity-based interactive style constituted by non-verbal turns, affection and short, simple utterances enhance mutual participation and the accomplishment of co-ordinated interaction. Barney's co-participants sometimes tend to dominate interaction and frequently employ a strategy of repetitive questioning, which functions to direct and constrain the interaction and results in the child's withdrawal and discordant interaction. This tendency to withdraw, however, seems to function as a means by which the child is able to actively resist positioning by others, and thus constitutes himself in a position of greater power. Furthermore, his use of the pronoun 'I' and collaborative negotiation of the words *yours* and *mine* suggest the active co-construction and positioning of himself as a separate person in relation to his co-participants. This research informs intervention efforts and encourages the co-participants to reflect on how interaction is co-constructed between themselves and the child.

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Chapter 1: Introduction

> "Being autistic does not mean being inhuman. But it does mean being alien. It means that what is normal for other people is not normal for me, and what is normal for me is not normal for other people. In some ways I am terribly ill-equipped to survive in this world, like an extraterrestrial stranded without an orientation manual.
>
> But my personhood is intact. My selfhood is undamaged. I find great value and meaning in my life, and I have no wish to be cured of being myself. If you would help me, don't try to change me to fit your world. Don't try to confine me to some tiny part of the world that you can change to fit me. Grant me the dignity of meeting me on my own terms – recognise that we are equally alien to each other, that my ways of being are not merely damaged versions of yours. Question your assumptions. Define your terms. Work with me to build more bridges between us."
>
> (Jim Sinclair, 1992, p. 302).

1.1 Context of the study

Autism in children is a highly studied phenomenon and there is a plethora of articles and books written on its aetiology and treatment. However, despite over 50 years of research it continues to elude our complete understanding.

Research has frequently focused on identifying and describing the nature of communicative impairment in autism, resulting in labels of deviance, aberrance or bizarreness (Prizant, 1983). There is an increasing body of literature, however, that approaches the idiosyncratic language of autism as meaningful and has explored how it functions for the child. Studies of delayed echolalia, for example, have demonstrated that children with autism employ these echoes to social ends (Tarplee & Barrow, 1999; Wootton, 1999). Furthermore, there has been increasing recognition of the need to consider the communication of the person with autism within the context of interaction so that he or she is no longer regarded as the sole source of difficulty (Wetherby, 1986). These shifts in research have important implications for intervention and support a move away from an emphasis on unilateral and directive teaching approaches towards language development through social interaction (Wetherby, Schuler & Prizant, 1997).

1.2 The author's involvement

My interest in this area arose from my involvement in co-ordinating an intervention programme for a child diagnosed with Pervasive Developmental Disorder (Autistic Spectrum), during my years as a training clinical psychologist in 2001 and 2002. The programme was implemented in 1999 and initially involved twice-weekly, one-to-one instructional sessions conducted by training psychologists. This was increased in 2000 to daily sessions, with the recruitment of volunteers from the class of third and fourth year psychology students. These volunteers were trained in techniques of basic behaviour modification and sessions were aimed at *teaching* the fundamental building blocks of speech and language. This intervention approach is discussed in more detail in Section 2.7. Sessions involved structured activities such as learning the alphabet, learning categories and names of objects, board games, and learning to read and write, in addition to activities aimed at the development of other areas such as fine-motor functioning and visuo-spatial skills. The volunteers received weekly group supervision during which they provided feedback on the highlights and struggles of their week's sessions. In 2002, we became aware that obtaining and sustaining the child's attention, a primary objective of the programme, was becoming increasingly difficult despite the use of reinforcement. The child began to greet the arrival of the volunteers with screams of distress, refusing to remain at his desk to work and doing everything possible to escape. If unable to physically escape, he actively avoided meeting the gaze of the volunteer. Although much of this was attributed to being characteristic of autism, it was felt that this behaviour was also an expression of boredom and frustration, and consequent non-compliance. With the input of a speech and language therapist, the programme was redesigned to approach language learning through play activities – pretend play as well as rule-based games. Two volunteers now took each session in the hope that the child would spontaneously and voluntarily join in with their games and social interaction. With these changes came an increase in the child's involvement in the sessions.

While observing the child in interaction with his caregivers and the volunteers, I began to notice how his verbal contributions frequently went unnoticed or could not be heard by his co-participant due to his soft spokenness. If heard, in the spirit of a behaviour modification approach, they were often discouraged with the admonishment, "No silly talk". I was thus motivated to examine more closely his communication in order to gain insight into how he might be meaningfully contributing to interaction with his caregiver/volunteer. From this

arose further aims of examining the interactive style of his co-participant and using it to inform further modifications to the intervention approach.

1.3 Paradigm of the study

"We must cease to think of a reality within which we live as homogenous – different people in different positions at different moments will live in different realities" (Shotter, 1993, p. 17). This research study is written from the approach of social constructionism. The basic assumptions of this paradigm are outlined below.

1.3.1 Language as action.

Social constructionism challenges the traditional view of language as a reflection of reality. It proposes that language is social action and that we aim to accomplish things with our words (Gergen, 1999). Thus, what we say has *performative* qualities in that it functions in specific ways to achieve intentions for us in our interactions with each other (Burr, 1995). "Language, in this sense, is not a mirror of reality, it is the doing of life itself" (Gergen, 1999, p. 35). This perspective challenges what we consider to be *true* about our reality and about ourselves (Burr, 1995).

1.3.2 Construction of meaning.

The idea that language reflects reality, i.e. what is already there, is consistent with the metaphor of language as a *picture*. The philosopher Wittgenstein (1953) replaces this with the idea of the *language game*. As the pieces in a game of chess obtain meaning within the context of the game, so do words obtain meaning through their use in the *language game*.

Language can only gain meaning through its function within a relationship (Burr, 1995; Gergen, 1999). Gergen explains, "In isolation I have no ability to mean anything; I gain my ability to mean something through the supplemental actions of others…. I need you in order to mean anything" (1999, p. 145-146). Meaning emerges from what Gergen terms "*co-ordinated action*" (own emphasis) (p. 160). This is achieved through development within the interaction of a verbal and non-verbal rhythm, accomplished by eye contact, speaking and listening and mutual understanding, and through which meaning is collaboratively generated

(Gergen, 1999). Similarly, Shotter (1993) uses the term "*joint action*" (original emphasis) (p. 38) to refer to the process through which meaning is accomplished. Shotter draws an analogy with a dance in which the patterns of exchange are likened to the harmonious movements of people as they dance together, "subtly responding to each other's rhythm and posture" (Burr, 1995, p.28) and synchronising their movements. As the dance is constructed *between* the dancers, so too is interaction a joint effort constructed *between* the participants, and is not produced through internal drives and intentions (Shotter, 1993).

One of the most important forms of co-ordinated action is termed *co-constitution*, in which each person's actions contain some fragment that reflects or resembles the actions of the other (Gergen, 1999). Another form is *co-ordinating discourse* in which the goal is to establish *mutuality* in the rhythm of language through the use of similar phrasings, cadence and intonation (Burr, 1995; Gergen, 1999). Examples would include responses that match or resonate with the speaker's facial expression, tone of voice, style of clothing etc. In contrast are responses that invalidate the action of the speaker, such as responding to warmth with coldness or to a calm voice with an excited one etc. (Gergen, 1999).

Understanding is not, therefore, achieved through access to the internal subjective world of the other. Rather it is achieved through the co-ordination of actions within a relationship (Burr, 1995). Similarly, the process of learning is a collaborative one in which knowledge and meaning is constructed through interactions between people (Wetherby et al., 1997).

In this sense, meaning is constructed rather than discovered. Meaning is constructed on a global level through complex social, cultural and historical processes and within a relational context as the joint production of the participants engaged in interaction (Wetherell, 2001). This study is concerned primarily with how meaning is constructed on an interpersonal level, however the broader cultural and historical context informs everyday interactions and provides the framework within which they must be considered (Forrester, 1999). This is discussed further in Section 1.3.4 below.

1.3.3 Construction of the person.

With regard to our notions of *self*, social constructionism questions the idea that people exist as separate individuals whose thoughts and emotions are internal, private experiences and

expressions of an inner self or *personality* (Burr, 1995). Harré (1983) proposes that the use of the personal pronouns 'I' and 'me' in our language misleads us to assume that we are autonomous individuals with a coherent and unified self. Social constructionism instead views the person as constructed through language (Burr, 1995) and a product of social encounters and relationships (Shotter, 1993). Consequently there are many versions of a person (Burr, 1995) and the concept of *identity* is used to convey the multiple and shifting possibilities of self (Potter & Wetherell, 1987).

1.3.4 Discourse.

Discourse can be defined as "a set of meanings, metaphors representations, images, stories and statements that in some way together produce a particular version of events" (Burr, 1995, p. 48). Meaning is constructed by discursive practices in an interpersonal context, but these meanings are also informed by the cultural and historical context in which they are embedded. In this sense a discourse can be thought of as a more global frame of reference within which utterances can be interpreted (Burr, 1995). Gee (1999) distinguishes between *little d discourse* and *big D Discourse* to allow for the contribution of non-language elements in the accomplishment of actions (p. 17). He defines *discourse* as language-in-use, which when integrated with "ways of acting, interacting feeling, believing, valuing, together with other people and with various sorts of characteristic objects, symbols, tools and technologies" becomes *Discourse* (Gee, 1999, p. 17). Thus, identities are constructed from the discourses provided by culture and which people draw upon in their interactions with each other. For each person there is a multitude of discourses constantly at work constructing and producing their identities (Burr, 1995).

1.3.5 Subject positions in discourse.

Discourses and the discursive practices entailed in them form the resources by which people are produced and constructed (Burr, 1995). Positioning refers to the constitution of people in particular ways through discursive practices, practices that are at the same time resources through which speakers and hearers can negotiate new positions (Wood & Kroger, 2000). *Discursive practices* are flexible and creative resources and strategies which people use to actively produce social and psychological realities (Wetherell, 2001; Davies & Harré, 1990). Thus, the concept of positioning delineates the ways in which people are both producers of

and produced by discourse (Wood & Kroger, 2000). Davies and Harré (1990) distinguish between *interactive* positioning in which what a person says positions the other and *reflexive* positioning in which a person positions him or herself. “An individual emerges through the processes of social interaction, not as a relatively fixed end-product but as one who is constituted and reconstituted through the various discursive practices in which they participate” (Davies & Harré, 1990, p. 263). Subject positionings are produced in the interaction in a dynamic and ongoing manner, encoding role relationships and *subject-other* positionings (Forrester, 2002).

1.3.6 Discourse and power.

The French philosopher, Michel Foucault (Hall, 2001), was concerned with how knowledge, in the form of prevailing discourses, was related to power. Foucault viewed power as an effect of discourse. In other words, to define or represent the world or a person in a particular way, according to a particular discourse, prescribe certain rights, roles and obligations for the person, which is an exercise in power. Foucault felt that if people are able to understand how they are constructed by discursive practices, they are able to question its legitimacy (Hall, 2001). Certain people, however, are better equipped to question and resist the constructions of others and how they are represented by discourse, and have access to the means to construct alternative identities for themselves. Those skilled in the use of discourse (Gergen, 1989) therefore hold greater power. A consequence of raising awareness of the connection between discourse and power was to give a voice to the disempowered, those who are constructed within marginalized discourses such as *mad* and *abnormal*, those who are not given a voice within the discourse through which they are constructed (Burr, 1995).

1.3.7 Relevance to the study.

This paradigm represents a way of looking at the language of the child with autism that requires that it is firstly considered within the context of interaction, secondly represents a shift away from the deficit-focused approach of the medical model, and thirdly allows consideration of how the child, who is disempowered by his lack of *voice*, is positioned by discourse. Since the research paradigm considers language and interaction to be central to the construction of meaning, self and reality, and the areas of language and social interaction are pivotal to autism, a social constructionist approach is considered to raise important issues.

Finally, since there is no *truth* to be discovered by this study and I use language to construct discourse and reality, this study is considered to be a co-construction of the data along with the participants in the study.

1.4 The use of 'I'

I write this thesis, not from the perspective of the *invisible researcher*, but from a *self-conscious* position in which my subjectivity is explicitly stated. Instead of being a neutral narrator, my voice is one of multiple possibilities. Jones (1992) writes that the academic tradition of objectivity has been to silence the personal voice, where the use of 'I' is felt not to accurately represent *truth* and *reality*. From a social constructionist perspective, when the researcher distances him or herself from his her work in an attempt to be neutral and objective, he or she takes up an authoritative stance, which becomes a mechanism of power and domination. "It is the God position", writes Jones (1992, p. 22). Within the social constructionist orientation, the researcher uses language to *construct* the objects of his or her study, which are constituted by available historical and cultural discourses. He or she is therefore encouraged to be reflexive and make visible his or her own socially constructed voices. Jones writes that the post-modernist shift in thinking has legitimised the author's explicit acknowledgment of themselves and their subjective presence in their work, to allow the author to claim responsibility for his or her findings.

1.5 The problem

This study will examine in detail the interaction between a 6-year-old child with autism and his co-participants. The aim is to elucidate the methods the child and his co-participants collaboratively employ in the construction of shared meaning. Features of the interactive styles of the child's co-participants will be described and considered in relation to the accomplishment of *co-ordinated interaction*, in which shared meaning is co-constructed, or *discordant* interaction, in which there is a breakdown in understanding and in the process of mutual meaning production. Finally, the implications of the disparate interactive capabilities of the child and his co-participants will be considered in relation to how the child is constituted through discursive practices within the interaction.

1.6 Outline of the study

In this chapter, I have attempted to introduce the reader to the context of the research and to provide a brief but comprehensive outline of the paradigm within which the topic is explored. In Chapter 2, I provide a general overview of the literature. Due to the extensive amount of literature available on this topic, I focus on only that literature I considered to be specifically related to the study. This includes communication in autism and how it may be functional, the interactive styles of co-participants, a brief overview of two main intervention approaches, and what I consider to be some valuable recommendations for intervention. I also introduce the reader to the analytical method used in the study and discuss how it serves the assumptions of social constructionism. In Chapter 3, I describe the specific aims of the study, the participants involved, an overview of assessment information on the child diagnosed with Pervasive Developmental Disorder (Autistic Spectrum), and a description of the analytical process. Chapter 4 comprises my construction and re-construction of the data as a singular reflexive process. Chapter 5 is a reflection on the data construction and re-construction, which I present in the form of implications for intervention. Finally, in Chapter 6, I draw together the main themes that emerge from the study in a reflexive process necessitated by the research paradigm, and identify the strengths and weaknesses of the study.

Chapter 2: Literature Review

2.1 Introduction

I shall begin by introducing autism as a clinical entity as defined in the DSM IV-TR and how it is positioned as primarily a *disorder* of communication and social interaction. I then introduce the reader to the idiosyncratic communication of autism, and the importance of considering this communication as meaningful and intentional within the context of interaction is emphasized with research studies in this area. This includes studies of the interactive style of the child with autism's co-participant. I introduce and describe the analytical method with an outline of its origins and relation to social constructionism. Following this, research studies that employ conversation analysis as their analytical method are described. I provide a brief overview of two primary intervention approaches along with some recommendations for intervention I consider valuable and pertinent to this study. Finally, I attempt to illustrate the need for the development of individualised intervention approaches with an example study.

2.2 What is autism?

The essential features of the *Autistic Disorder* as defined in the DSM-IV-TR (American Psychiatric Association, 2000) are the presence of "markedly abnormal or impaired development in social interaction and communication" (p. 70) and the presence of restricted, repetitive and stereotyped patterns of behaviour, interests and activities. Impairments in communication are manifested by delay or lack of development in spoken language, marked impairment in the ability to initiate or sustain interaction, stereotyped or idiosyncratic use of language, and delays or abnormal functioning in imaginative and symbolic play. The DSM IV-TR goes on to explain that the younger child may have no interest in establishing friendships and will fail to develop peer relationships. It describes a lack of spontaneous seeking to share enjoyment or interests and a lack of social and emotional reciprocity.

Autism is best thought of as a spectrum of syndromes termed *pervasive developmental disorder* (Aldred, Pollard, Phillips & Adams, 2001; Dempsey & Foreman, 2001;

Hewitt, 1998). This perspective takes into account the broad range and variety of individual differences (Hewitt, 1998). Although the term *autism* as described in DSM IV-TR usually refers to *autistic disorder*, it is used in this study to refer to the disorder in its various manifestations along the spectrum. The term *child with autism* is used throughout the study in preference to *autistic child*. This is intended to guard against stigmatisation through labelling. Moreover, in this study it is used in an attempt to construct the child as *more* than his or her autism. In this way, the child is not solely situated within the discourse of autism and is open to other possible constructions.

2.3 Communication in autism

Disturbances of speech, language and communication are a primary diagnostic feature of the autistic syndrome. Research has delineated some characteristic features of the communication of autism. These include extreme literalness and a lack of symbolic capacity, pronoun reversals indicating difficulty with speaker/role relationships (Baltaxe, 1977) and echolalia. Echolalia in autism is described under two forms. *Immediate echolalia* is the repetition of the immediately preceding utterance. *Delayed echolalia* is the reproduction of parts of speech or songs heard on a prior occasion (Tarplee & Barrow, 1999).

There has been considerable research into the nature of communicative impairment in autism and it has been demonstrated that individuals with autism have particular difficulty with the social use of language resulting in impairment in social interaction. This includes difficulty with initiating and maintaining discourse, responding to turn-taking cues, and accommodating to the reciprocal nature of the conversation. These impairments have been attributed to difficulty with the pragmatic use of language (Wetherby, 1986) and a lack of *theory of mind* (Frith, 1989; Happe, 1995; Loveland & Tunali, 1993). The latter is described as impairment in the capacity for *metarepresentation*, the ability to represent mental states and ascribe them to others. This is hypothesized to underlie the individuals with autism's difficulty understanding the intentions of the other (Tager-Flusberg, 1999). Frith (1989) states that individuals with autism have reduced awareness of their own thoughts in relation to the thoughts of others.

In the past, the child with autism was stereotyped as non-communicative and non-interactive (Wetherby, 1986) and his/her utterances frequently described as irrelevant, nonsensical and

not meaningfully related to the context in which they were expressed (Kanner, 1946). In particular echolalia has been viewed as inauthentic, meaningless and unintentional behaviour and clinical recommendations were that it should be eradicated or replaced (Lovaas, 1977). This is consistent with a medical approach in which unusual behaviours are viewed as diagnostic symptoms that need to be *cured*. This perspective limits the possibility of seeing them as forms of organised and meaningful behaviour (Hewitt, 1998).

It was first noted by Kanner (1946) that the seemingly irrelevant utterances of the child with autism are often personal metaphors grounded in concrete and specific experiences. It is this private, original frame of reference coupled with the failure to use conventional and socially acceptable meanings that make these metaphors incomprehensible and inaccessible to the listener. There has since been a move towards studying the communication of autism in naturally occurring interactions in an attempt to elucidate how they function for the child (Wetherby, 1986).

As early as 1969, Fay suggested that echolalia "has its basis in verbal comprehension difficulties coupled with an urge to sustain rather than reject social contact" (p 45). Shapiro and Lucy (1978) considered the intentions behind the production of echoic utterances by children with autism within a speech acts theoretical framework (Searle, 1969). This theory identifies the *speech act* as the basic unit of communication and assumes that the intention of the speaker can be distinguished from the meaning of the utterance and the effects on the listener. Shapiro and Lucy concluded that echolalia functioned for the child with autism to facilitate social interaction as well as social closure in situations in which he/she was unable to formulate an acceptable response.

Research has subsequently demonstrated that what were previously considered to be meaningless and inauthentic copies of speech, songs, or television commercials and programmes, are utterances systematically employed by the child with autism to interactional ends (Tarplee & Barrow, 1999). Prizant and Duchan's (1981) and Prizant & Rydell's (1984) studies examined the immediate echolalia and immediate and delayed echolalia respectively of children with autism in natural interactions. Their aims were to determine how they functioned for the child with autism. Both studies found significant differences in the production of certain echoes. They found that many echoes were produced with no change in behaviour or any move to perform an activity (if an activity was requested of the child), while

others were produced with a corresponding activity, which they felt was evidence of comprehension of the previous utterance. Furthermore, some echoes appeared to be interactive in that they were directed to the co-participant with eye contact or a gaze check subsequent to the utterance, and others appeared to be non-interactive, as suggested by lack of directedness of the utterance (low volume, whispering) and lack of eye contact.

Both studies identified functional categories of echolalia, which were separated into interactive and non-interactive. In an attempt to be concise, the categories identified by the two studies have been integrated. The interactive category comprised the following:

- Turn taking (used as turn fillers, probably in an effort to fulfil the requirements of interaction).
- Labelling objects or actions, often accompanied by a demonstrative gesture.
- Yes-answer (used to indicate affirmation of previous utterance).
- Request or directive (used to request objects or actions of others and found to usually consist of mitigated echolalia).
- Verbal completion of the previous utterance.
- Providing information.
- Calling (attention-getting device).
- Protest (accompanied by physical attempts to stop the action and produced with a highly emotive tone).

The non-interactive category consisted of utterances that were:

- Non-focused (produced with no apparent intent and often in states of high arousal).
- Rehearsal (used as a processing aid with some evidence of comprehension).
- Self-regulatory or self-directive (used to regulate actions and produced in synchrony with motor movements).
- Situation association (triggered by a particular contextual stimulus).
- Non-interactive labelling of objects.

(Prizant & Duchan, 1981; Prizant & Rydell, 1984).

Prizant and Rydell linked the categories of self-regulation and rehearsal to the *egocentric speech* described by Vygotsky. Vygotsky considered egocentric speech to be a transitional form between external and internal speech, which functioned to regulate the child's actions and to enable him to accomplish a given task in an organised way (Vygotsky & Luria, 1994).

Vygotsky considered words to be "*psychological tools* or *instruments*" (own emphasis) (in Shotter, 1993, p. 35) that instruct us in how to manage or organise our actions, and the ways in which the child is instructed by others are gradually internalised to become verbal instructions for him or herself (Vygotsky, 1978, in Shotter, 1993).

Prizant and Rydell (1984) concluded that delayed echolalia "encompasses utterances which may serve a variety of functions and which may be produced interactively or non-interactively, with or without evidence of comprehension and with varying degrees of relevance to the situational or linguistic context" (p. 186). The studies of Prizant and Duchan (1981) and Prizant and Rydell (1984) are important in demonstrating that individuals with autism *do* things with their delayed echoes and frequently these are interactive in function. They cannot, therefore, be thought of as a pathological phenomenon (Tarplee & Barrow, 1999).

Prizant (1983) hypothesized that due to impairment in language functioning, persons with autism need to *borrow* utterances from others in order to express their needs and intentions. There are suggestions that the primary role of memory involved in delayed echolalia is a resource that the individual with autism relies on in managing ordinary interaction even into adulthood. Williams (1996), an adult with autism who has written many books and articles on her experiences, describes how she draws on what she terms *triggered serial memories* of events in order to deal with circumstances in which she has difficulty in either comprehending or knowing what to do or say.

Other features of communication in autism have been explored with regard to their functional and strategic role in interaction. Hurtig, Ensrud and Tomblin (1982) analysed the stereotypic question production of verbal children with autism and suggested that, rather than serving as a request for information, the communicative function of question production was used as a device/strategy to initiate or maintain social interaction. Similarly, non-verbal means of communication are recognised as comprising a significant proportion of communicative strategies of the child with autism (Prizant, Schuler, Wetherby & Rydell, 1997).

Delayed echoing in children with autism is considered to play an important role in the development of the child with autism's language and communication skills (Prizant et al., 1997). Prizant (1983) proposed that children with autism use a gestalt style of language

acquisition involving the imitation of whole *chunks* of speech or "*formulaic utterances"* (own emphasis) (p. 301). Prizant reviewed research on gestalt forms in the language acquisition of typically developing children, which identifies gestalt processing as an important, but not essential, part of language and social interaction development. It is considered to provide the child with a foundation for developing more complex communicative skills, which is accomplished by repeating utterances that are beyond the child's processing capacity. Prizant describes the development of the child with autism's language as following a predictable progression. Early speech is predominantly echoic, is rigidly and exactly reproduced and serves a limited range of communicative functions. With growth and development, utterances are less rigidly produced and there is an emergence of *mitigated* echolalia and a gradual increase in spontaneous speech (Prizant, 1983).

Prizant and Rydell (1984) consider the emergence of communicative intent expressed through delayed echolalia. They propose that much of a child's early delayed echolalia is not produced with communicative intent and is either triggered by association with the situation or produced to fulfil their turn requirements in social interaction. When a child begins to observe that his/her utterances have specific effects on the behaviours of the recipient and it elicits regular responses, he or she begins to use these utterances more frequently with specific aims. When the child is aware of the relationship between his or her utterance and the desired effect, the child's behaviour is considered to possess communicative intent.

Shulman, Bukai and Tidhar (2001) consider communicative intent to contain aspects of mutuality and conventionality, which are necessary for successful communication to take place. The authors define conventionality as "the degree to which the meaning of signals is shared or understood by the social community" (p. 121). They describe the emergence of communicative intent in children with autism as notably slower than in other language-impaired children, who appear to express a wide range of intent in the early stages of development. The early communicative behaviour of the child with autism appears to serve primarily "non-social and quasi-social functions" such as attempting to obtain objects or directing the behaviour of others (p. 121). Compared to typically developing children, their communication attempted to regulate their adult co-participant's behaviour to achieve environmental ends, but was rarely used to attract and direct the adult's attention to themselves or objects (Wetherby, 1986).

Previous research in this area emphasizes the importance of considering the potential communicative intent underlying idiosyncratic behaviours (Prizant et al., 1997; Wetherby, 1986). Local & Wootton (1995) found that the child's immediate echolalia was in most cases, treated by the child's co-participant as an appropriate turn in the sequential organisation of interaction. However, they found that in the main the adult's reactions to the child's echoes were to ignore them and not to assign them a function within the interaction.

A characteristic feature of autism is an insistence on sameness (DSM IV-TR, 2000). This is manifested in discourse as the need for predictability, which is achieved by maintaining an established routine or external framework of discourse. Violation of the rules of these routines may result in confusion and anxiety (Prizant, 1983). However, Prizant et al. (1997) suggest that the rigid adherence to specific routines in interaction is also detrimental to the development of creative and flexible communicative skills.

2.4 Communicative behaviour of the co-participant

In this study, I refer to the conversational partner of the child with autism as his or her co-participant. This term is used to construct the idea that interaction involves active and collaborative participation. There has been recognition of the need to consider not only the communicative behaviour of the child with autism, but also the communicative behaviour of his or her co-participant (Wetherby et al., 1997). Duchan (1983) observed that adults change their behaviour when interacting with children with autism. Aldred et al. (2001) suggest that the absence of initiations characteristic of communication in autism seems to induce the adult co-participant into adopting a more intrusive style of interaction.

Hubbel (1977) examined the interactive style of the adult in interaction with a child with delayed language development from within the perspective of *pragmatics*. "Pragmatics consists of communication that defines relationships" (Hubbel, 1977, p. 217). Hubbel proposes that messages are conveyed on both a semantic and a relationship level, and that relationship messages are delivered through verbal and non-verbal attempts to influence one another's behaviour. Hubbel identified a common relationship message in interaction with children to be, "Do what I want". This forms part of an interactive style that makes use of questions and directives which function to constrain the interaction and impose the adult's expectations and ideas onto his or her child. He found that this style seemed to have an

adverse effect on spontaneous speech, whereas non-constraining activities that follow the child's lead served to facilitate it. Hubbel advocated a strategy of facilitation in which the adult imposes less structure and minimal focus on direct elicitation of talking and instead follows the child's lead. In this way, the adult is able to monitor the child's responses more carefully and attune to their interests and behaviour.

Duchan (1983) studied the interactive style of the adult communicative partner with the child with autism. She takes from the literature descriptions of two separate and distinct styles used by adults in interaction with children in general, one that is nurturing and one that teaches. Using a nurturing style, the adult responds to what the child is saying and doing, which is termed "semantic contingency" (p. 53). The adult also accepts whatever the child says as legitimate and important and in this way engenders confidence and the ability to risk being incorrect. In contrast, a teaching style lacks semantic contingency, substituting instead activities initiated and evaluated by the adult. These styles represent extremes on a continuum.

Duchan sought to determine the primary interactive style used by adults in interaction with a child with autism, how that style is carried out in the interaction and its implications for the child in interaction. She concluded that the interactions were predominantly directed by the adult and relied exclusively on a teaching style. She found that while this served to organise the interaction, it also functioned to control it. Duchan acknowledges that the child with autism does not offer sufficient behaviour as potential material for his/her co-participant to respond to. However, she proposes that a factor that might discourage use of a more nurturing style is the requirement that the adult legitimise behaviours considered within our culture to be abnormal. This is supported by suggestions from Wetherby et al. (1997) that co-participants of persons with autism need to examine their discomfort when common behavioural expectations and conventions of social interaction are violated. They suggest that efforts by the co-participant to impose structure might be a reflection of their anxiety and discomfort, which motivates them to attempt to establish control on their own terms. This results in the unequal distribution of power. To address this, Wetherby et al. (1997) recommend that individuals with autism be provided with a sense of control and a structure that serves *their* needs, rather than the needs of the more competent partners. Communicative partners must be willing to examine their own motivations, language use and communicative style, and make the necessary adaptations (Wetherby et al., 1997). Duchan (1983) concludes

that we need to let the child inform us about how to be with them, which can be achieved by analysing in detail how people interact with them. She believes that we will then come to the realisation “that interaction breakdowns are as much the fault of the adults as they are of the child” (p. 60).

Shapiro, Frosch & Arnold (1987) found that adults make adjustments to their interactive style to encourage verbal contributions from the child with autism and achieve this through the use of a more directive and questioning style of interaction. They found that this often resulted in a process of *asynchrony* - a breakdown in the system of shared meanings. This was found to further hinder accomplishment of joint attention and verbal responsiveness. Their study involved encouraging the mother of the child with autism to be less focused on “the pursuit of task-oriented maximal performance” (p. 486) and to be more attuned to her child’s needs. By doing this they found that accomplishment of joint attention and synchronised interaction increased.

An interesting observation made by Geller (1998), emerging from her investigation into communicative breakdowns and repairs in children with autism, was that the co-participants of children with autism often assume that the children are unable to engage in discourse. Consequently they frequently take on the role of both participants in the interaction. Again, this results in adult control of the interaction, and reduces the opportunities for the child to learn how to be a more active participant in the interaction.

Finally, and approaching this area from a slightly different slant, Radford and Tarplee (2000), in a case study of a 10-year-old child with pragmatic difficulties, considered the ways in which the child’s conversational behaviour is potentially influenced by his language-learning environment. They suggested that the frequent use of questions by the child in their study, to which he knew the answer, in addition to the frequent repetition of the co-participant’s utterances, were copies of the interactive styles he was exposed to in interactions with his teachers and therapists. They suggest that while this sequential design of interaction is appropriate in the instructional environment of the classroom, it is not an ideal model of talk for the child. They conclude that children with conversational difficulties are particularly susceptible to influences from their conversational environment and are therefore more likely to adopt the conversational behaviours that adults use with them.

2.5 An interactive perspective

Consideration of the context of social interaction represents a shift in perspective away from locating the problems in communication (and solutions) within the child with autism (Hewitt, 1998), who is thus perceived as defective and deficient (Levine, 1997), towards considering the communicative behaviour of the child with autism within the context of interaction (Hewitt, 1998). The perspective held in this study is that difficulties in communication and social interaction are a product of the interaction constructed *between* participants.

Social interaction requires active collaboration in the co-construction of meaning, which is achieved in the context of a relationship. Research has shown that even highly familiar partners such as spouses actively collaborate to construct coherence in their interaction (Jucker & Smith, 1996). This corresponds with a social constructionist approach, that views meaning as collaboratively constructed between participants in interaction rather than the product of their internal make-up. This is described in more detail in Chapter 1. Damico, Oelschlaeger and Simmons-Mackies (1999) cite a number of studies that have emphasized the importance of collaboration within interaction between persons with aphasia and their non-aphasic co-participants, through which the persons with aphasia seek to overcome their impairments and disabilities.

Conversation itself involves “co-ordinated, multi-faceted and interwoven aspects of verbal and non-verbal behaviour” entailing knowledge of the conventions of social interaction (Prizant et al., 1997, p. 594). Conversational participants must monitor one another’s discourse in order to locate the point of completion of a speaker’s action (the “transition relevance place” (Have, 1999, p.111)), thereby allowing the split-second timing of turn taking to be accomplished smoothly. Along with monitoring the communicative behaviour of each other, participants must continually adjust to the shifting contributions to the conversation. They must also monitor and process multiple levels of social information in order to recognise and successfully repair breakdowns in communication (Prizant et al., 1997). The orderly nature of conversation is therefore based on close monitoring, timing and subtle synchronisation (Hewitt, 1998) and persons unable to achieve this, such as those with autism, are therefore excluded from full participation in interaction, experience communicative breakdowns that are difficult to resolve, and are dependent on their co-participants for

managing and maintaining the conversation (Hewitt, 1998; Prizant et al., 1997). This resonates with the words of Temple Grandin, an adult woman with autism: “Something was going on between the other kids, something swift, subtle, constantly changing – an exchange of meanings, a negotiation, a swiftness of understanding so remarkable that sometimes I wondered if they were all telepathic” (Sacks, 1995, p. 259).

Communicative breakdown and repair is an area identified as difficult for persons with autism and in their experience of participating in interaction, they are “frequently on the receiving and giving end of many communicative breakdowns” (Baltaxe, 1977, p. 82). Baltaxe noted that when faced with communicative breakdowns, adolescents with autism had fewer available alternatives to their original utterance. Geller (1998), in a study of the communicative breakdowns and verbal repair strategies of children with autism, found that the children did respond to adult initiated repair, indicating awareness of the repair initiator’s difficulty and a willingness to facilitate his or her understanding. However, Geller found that the child with autism was unable to effectively mobilise his or her linguistic resources at the point of communicative breakdown in order to meet his or her co-participant’s need for specific information.

2.6 Discourse Analysis

Discourse analysis is a means by which we can examine how language functions for the child with autism and how meaning is collaboratively constructed between co-participants in the context of interaction. Discourse analysis is best thought of as a variety of analytic approaches, rather than a single method or technique, as its nature is essentially interpretive and intuitive (Burr, 1995). Its object of analysis is language as social action and the “focus is on discourse itself: how it is constructed, its functions and the consequences which arise from different discursive organisations” (Potter & Wetherell, 1987, p. 178). The emphasis is not structure as the arrangements of elements, but structure in the sense of active construction. A major assumption is that phenomena are constituted in a continuous and ongoing ways through the discourse (Wood & Kroger, 2000). In attending to the objectives described above, discourse analysis serves the assumptions of social constructionism. This description of discourse analysis is consistent with one *version* of discourse analysis, termed *Discursive Psychology* (Willig, 2001). Discursive Psychology has been criticized for being interested in

discourse and discourse only, and therefore fails to take into consideration what the words mean within the wider social context (Willig, 2001).

A second major version of discourse analysis, *Foucauldian Discourse Analysis* draws on the work of Foucault (Willig, 2001) and post-structuralist writers who explored how language constitutes our social and psychological realities. It is concerned with the discursive resources that are made available to people through discourse in the more global sense of the word, what kinds of phenomena are constructed through discourse and what kinds of "ways-of-seeing" and "ways-of-being" they make available to people (Willig, 2001, p. 91). Discourses therefore offer *subject positions*, which when taken up, have implications for subjectivity and experience. Since discourses make available *ways of seeing* and *ways of being*, they involve the construction of power relations. From a Foucauldian perspective, *all* forms of knowledge are constructed through discourse and discursive practices. This discourse analytic perspective therefore necessitates that the researcher is reflexively aware of how their own knowledge is constructed from certain prevailing discourses (Willig, 2001).

2.6.1 Conversation analysis.

"…it is important to study the actual, empirical nature of our ordinary, everyday, non-professional, non-textual, conversational ways and means of making sense together; for we are *talked into* our supposed *realities* by its means" (original emphasis) (Shotter, 1993, p. 26).

Conversation analysis is a form of discourse analysis (Pomerantz & Fehr, 1997), which aims to illuminate how meanings in discourse are constituted through the structures, procedures and practices of talk (Psathas, 1995). These include turn taking, the sequential organisation of talk, and the initiation and implementation of the process of repair. Conversation analysis also attends to the discursive construction of identities and selves, but with greater attention to how this is accomplished through the details of interaction and less involvement with cultural discourses (Wood & Kroger, 2000). Conversation analysis facilitates insight into the collaborative sense-making process between people by aiming to identify the methods and procedures the participants employ to make sense of the interaction and to be understood by each other (Dobbinson, Perkins & Boucher, 1998; Pomerantz & Fehr, 1997). Thus meaning and understanding are negotiated and mutually determined by both participants, and the success or failure of discourse is a joint responsibility (Perkins, Whitworth & Lesser, 1998).

Conversation analysis was originally developed in the 1960's by Harvey Sacks, in association with Emmanuel Schegloff and Gail Jefferson. Its development was predominantly influenced by the perspectives of sociologist, Erving Goffman and ethnomethodologist, Harold Garfinkel (Heritage, 2001), but was also influenced by many other disciplines, including linguistics, anthropology and psychiatry. Goffman's achievement was to establish that social interaction is a form of social organisation in its own right, which he termed the *interaction order* (Heritage, 2001). Garfinkel's *ethnomethodology* was a powerful influence in conversation analysis' emergence. Ethnomethodology can be defined as the study of *ethnic* (the participant's own) methods or procedures for producing and interpreting everyday social action (Forrester, 1999). Garfinkel argued that all human action and human institutions, including Goffman's interaction order, are based on the assumption that people use shared methods of practical reasoning to build a shared sense of their common circumstances and to act on that sense (Heritage, 2001). Garfinkel (Heritage, 2001) argued that these shared methods form resources that are necessary for co-ordinated and meaningful actions.

The scientific approach of the west regards social life as a *natural phenomenon* composed of orderly and coherent processes whose laws await our discovery (Shotter, 1993). Wittgenstein (1980, in Shotter, 1993) writes of the *hurly burly* and *bustle* of everyday life, in which there is no single, pre-existing and complete order in our social lives and no fixed rules to interaction that we passively adhere to (Shotter, 1993). Conversation analysis aims to elucidate the order and pattern in social action as constructed through *discursive practices*, which are employed collaboratively by persons interacting to organise their conduct (Wetherell, 2001). Conversation analysis studies social action in the most ordinary, naturally occurring situations. Its fundamental position is that social actions are meaningful for those who produce them and that they have a natural organisation on an individual action-by-action, case-by-case level (Heritage, 2001) that can be discovered and analysed by close examination (Psathas, 1995). It focuses on both verbal and paralinguistic features of talk (i.e. sound quality, pauses, gaps, restarts etc.) and a number of researchers have expanded its scope to include the non-verbal features of communicative behaviour, such as gaze, hand and arm gestures, posture etc. (Pomerantz & Fehr, 1997). The latter is consistent with Gee's (1999) *big D Discourse*.

Conversation analysis is consistent with the Discursive Psychological approach described above. In this study, however, I adopt the position of Wetherell (1998), who proposes an *eclectic approach.* Wetherell rejects the division of discourse analysis into two distinct approaches, and instead proposes a synthesis of the two in order to produce a construction of the data that considers *both* the discursive constructions as well as the wider cultural and historical frameworks within which they are produced.

2.6.2 Research studies employing a conversation analytic approach.

Conversation analysis has been used to investigate the more *disorderly* talk of various subgroups within the general psychiatric population including autism, aphasia, head injury and dementia (Beeke, Wilkinson & Maxim, 2001; Damico et al., 1999; Perkins et al., 1998). With regard to autism, it enables the identification and analysis of the more subtle competencies that might otherwise have been lost to a method of analysis that views the person as intrinsically deficient (Gardner, 1997) and with the emphasis on collaboration within interaction, the communication used by those with autism is no longer regarded as simply impaired (Dobbinson et al., 1998).

Dobbinson et al. (1998) employed conversation analysis in an attempt to illuminate the structural mechanisms underlying interaction between the researcher and an adult with autism. The analysis highlights differences in conversational style between the two participants and the authors suggest that difficulties in the interaction are due to different ways of structuring conversation. In typical interaction, implicit importance is given to linear construction in talk, and conversational interaction thus progresses forward. In the interaction between the adult with autism and her co-participant, the authors identified a theme of circularity in which the person with autism returns to earlier topics and focuses on what has already taken place as a means of structuring her current talk. They also describe a theme of repetitiveness that is employed by the person with autism in topic maintenance. The researcher was noted to adopt a facilitating style, making extensive use of questions. They felt that this strategy enabled the conversation to proceed, however it simultaneously contributed to the atypical pattern that emerged from the discourse.

Tarplee and Barrow (1999) used conversation analysis to examine delayed echoing in the interaction between a 3-year-old child with autism and his mother. Instances of delayed

echolalia were considered within their sequential context in order to examine their social functions and how they were received and responded to by the child's mother. Tarplee and Barrow concluded that for the child, delayed echolalia seemed to serve as a means of engaging his mother in reciprocal interaction. They hypothesized that its routine and predictable nature was something the child was able to use as an interactional device in the absence of more creative and flexible interactional skills. Furthermore, delayed echolalia was also found to be an interactional resource drawn upon by the child's mother. Tarplee and Barrow concluded that the sequences of echolalia between the child and his mother create an intersubjective place halfway between the child's non-interactive world and the mother's interactive world where they are able to meet.

Local and Wootton (1995) and Wootton (1999) employed conversation analysis in two studies of the echolalia of an 11-year-old boy. Local and Wootton examined the interactional and phonetic aspects of immediate echolalia and reported that the boy demonstrated the ability to monitor his co-participant's prior turn for material to indicate what is expected of him in his next turn. Thus, the boy's delayed echolalia seemed to arise from or be connected to the previous utterance, suggesting he was oriented to what was happening interactionally. Furthermore, the child's echo-turns were designed in order to avoid or minimise overlap, thereby taking into consideration the sequence structure in which he and his co-participant were participating.

Wootton (1999) used the methodology of conversation analysis to illuminate the means by which the same boy negotiated and co-ordinated his involvement in the two separate domains of echoing (specifically delayed echolalia) and communicative talk. In contrast to the study by Tarplee and Barrow (1999), Wootton found that for this boy, delayed echolalia was not used primarily for interactional purposes, but seemed instead to be a compelling activity that took precedence over involvement in interaction. Despite this, Wootton similarly found evidence in the timing of his echoes that he paid close attention to both the transition relevance place and the non-verbal signals indicating the end of an action, suggesting that he closely monitors the behaviour of others.

Conversation analysis has recently been employed extensively as a method of exploring interaction between individuals with aphasia and their co-participants. Damico et al. (1999) examined conversation between individuals with aphasia and their caregivers. They found

that the co-participants collaborated to overcome the problems created by the aphasia by using adaptive strategies such as *turn completions* and the context of sequential organisation of conversation. Perkins et al. (1998) developed an intervention approach that looks directly at the interaction between the co-participants and the person with dementia, as opposed to the deficit-only approach to the person with dementia, and works closely with the caregiver to identify effective strategies to facilitate or manage breakdown in communication.

2.6.3 Positioning.

The method of conversation analysis, if employed from a critical discourse analytic approach (Forrester, 1999), such as *Foucauldian Discourse Analysis*, helps to elucidate the ways in which a person is *positioned* by discourse. This raises important issues in relation to power, given the child with autism's limited access to discursive practices and skill as a discourse-user (Gergen, 1989). Foucault (1988) proposed that the subject actively constitutes him/herself through a set of practices, which are not produced by the individual him/herself, but are found in his/her context, "proposed, suggested and imposed on him by his culture, his society and his social group" (Foucault, 1988, p.11). Forrester advocates conversation analysis as a valuable tool in elucidating the *pragmatics* of how subject positionings are co-constructed dynamically in the context of discourse (Forrester, 1999). Forrester (2002) employs conversation analysis in his examination of the everyday discourses of typically functioning children in order to describe the ways in which children position themselves in relation to such discourses. He suggests that at least part of the way in which a child acquires a self-concept is through taking up a position within conversation (an 'I') in relation to and made available by the talk that is addressed to them. He suggests through participation in conversations, children *learn* to be children (Forrester, 2002).

2.7 Intervention Methods

Autism is a condition that has undergone considerable investigation, yet there is still little agreement about optimal methods of intervention (Aldred et al., 2001; Hewitt, 1998). The range of available treatments is extensive, from medical treatments to early intervention methods that address the behavioural, social and communicative aspects (Dempsey & Foreman, 2001). Two broad approaches to intervention are briefly outlined below.

2.7.1 Behaviour Modification Approach.

Traditional behavioural intervention programmes utilize a *discrete-trial* teaching format that targets speech or language as an operant behaviour (Wetherby et al., 1997). The intervention focuses on systematically teaching small measurable units of communicative (and other) behaviour. Simple (e.g. maintaining eye contact) and complex responses (e.g. social interaction) are analysed and broken down into small steps. Each step is taught, often through one-to-one instruction, by presenting a specific cue or instruction (the stimulus) and by using prompts (physical guidance, gestures etc.) if necessary. Reinforcing consequences are employed to reward appropriate responses to the stimulus with the assumption that this will result in their increased frequency. Inappropriate behaviour is not reinforced, but replaced by more appropriate behaviour through modifying reinforcing conditions in the individual's environment (Dempsey & Foreman, 2001).

Some studies have demonstrated significant progress using this technique while others have not. To achieve the gains reported in the literature, an intensive programme of 40-50 hours of individual instruction per week is required (Dempsey & Foreman, 2001). Furthermore, it has been argued that the success stories associated with this intervention approach do not reflect the development of creative and flexible communication and social skills. Because many autistic individuals are skilled at memorizing and reproducing situation-specific phrases (i.e. delayed echolalia), they may easily learn specific responses to visual or auditory cues (Wetherby et al., 1997). The child's language is therefore often restricted to the experimental situation and does not generalise to other more natural situations (Lovaas, 1977). Wetherby (1986) argues that certain aspects of behavioural treatment programmes, for example, the use of food as positive reinforcement, and the use of questions to which the adult already knows the answer, create unnatural interactional situations in which communication is not used to social ends and the communicative intentions of the child are not taken into consideration. This inhibits the use of spontaneous speech and the development of communicative intent, and disrupts the natural process of social interaction (Wetherby, 1986).

2.7.2 Communication Therapies Approaches.

Language therapists often aim at stimulating the child's motivation and interest in natural learning environments (Dempsey & Foreman, 2001). Similarly, Prizant et al., (1997) advocate activities and routines encountered in the child's daily experiences as the best forum

for the development of functional language and to encourage active participation in social interaction. Other communication approaches involve the utilisation of augmentative forms of communication such as pictures or sign language and facilitated communication. Facilitated communication is a technique that has come under much controversy, primarily due to disagreement about its effectiveness (Duchan, 1993). Some studies report sudden and dramatic improvements in communication with the use of this technique (Dempsey & Foreman, 2001), however other studies claim minimal or no success (Duchan, 1993). It is beyond the scope of this study to discuss this, however Duchan (1993) identifies that what can be learnt from facilitated communication is that there is a necessity for the non-autistic co-participant to work harder in interactions in order to compensate for the less capable participant with autism. This has implications for collaboration in the interactive process, placing more emphasis on the role of the non-autistic participant in its accomplishment.

2.8 Family Involvement in intervention.

The parents of children with autism are a critical component of intervention (Koegel, 2000). The introduction of any device will not be successful without modifying previously existing patterns of communication. Thus it is important that any intervention involves the assessment and training of co-participants (Hewitt, 1998). Shapiro et al. (1987) trained parents to use a more child-centred approach in which they follow the child's focus of attention. He found that this resulted in an increase in synchronous interaction. Duchan (1983) recommended that the child with autism's co-participants adopt a style of interaction that incorporates features of both a teaching and a nurturing style. She suggests that the affection and intimacy associated with a nurturing style of interaction functions to moderate the directiveness of the teaching style and to offset the negativity associated with *incorrect answers*. Aldred et al.'s (2001) intervention programme, which is described later, requires that the parents of children with autism reflect on their interactive style with their child, using video-feedback, in order to identify effective and non-effective communicative strategies.

Prizant et al. (1997) recommends that the co-participants in interaction with the child with autism simplify their language. They suggest that the complex echoic utterances employed by the child with autism often creates an impression of more advanced expressive and receptive language abilities, which mask their actual communicative and social limitations. Thus co-participants tend to overestimate the child's abilities and make use of language that is too

complex for him/her to comprehend (Wetherby et al., 1997). The use of unconventional and idiosyncratic utterances of the child with autism places a greater burden on the communicative partner to be sensitive to body language and other subtle features of his or her behaviour (Wetherby et al., 1997).

2.9 Further recommendations for intervention

It is now widely accepted that individuals with autism employ idiosyncratic utterances such as delayed echolalia to express communicative intentions in the absence of more conventional means (Prizant & Wetherby, 1987, in Wetherby et al., 1997). Prizant et al. (1997), and Wetherby (1986) emphasize the importance of responding to the underlying communicative intent of the idiosyncratic/delayed echoic utterances of the child with autism and where possible to relate them to objects and events in the immediate environment using non-verbal behaviour. Not all communicative behaviours are produces with intent, but any behaviour can serve a communicative function regardless of whether it was intended, by being assigned communicative intent within the context of interaction (Dunst, Lowe & Bartholomew, 1990, in Wetherby et al., 1997). This serves both to validate initiations and to restructure any inflexible and stereotyped utterances, resulting in greater *semantic contingency* (Wetherby et al., 1997). Because idiosyncratic or delayed echoic utterances are often expressed with communicative intent, the child should never be punished for their production, as this amounts to punishing him or her for the inability to express him or herself using more conventional means (Prizant et al., 1997).

Social interaction is seen as pivotal to intervention efforts, as it is within this context that the child with autism comes to understand the impact of his or her communicative behaviour on the environment/his co-participant (Wetherby et al., 1997). This understanding is facilitated through predictable and structured interaction during which the co-participant provides clear and consistent responses to the child's utterances, allowing him or her to learn to anticipate the behaviour of others, to observe the outcome of their communication and to perceive the inherent structure of social interaction (Nelson, 1981, in Wetherby et al., 1997). Typically, developing children acquire communicative intentions through observation of the effects of communication and the predictable responses of others (Wetherby et al., 1997). Forrester proposes that children do not acquire language "but rather have to learn under what

conditions they can make one (rather than another) sound, where that sound will be recognised and treated as an accountable/intentional act" (Forrester, 1999, p.43).

The literature suggests that intervention should encourage the development of joint attention, as this forms the social context in which children learn to talk (Koegel, 2000) and is central to the development of meaningful, contextually-based language and the creation of satisfying social interactions (Bruner, 1975). Because the individual with autism may initially be incapable of establishing a joint focus of attention, reciprocity will fail to be established unless intervention is built around the interests and initiatives of the child with autism, even when these tend to be unconventional (Wetherby et al., 1997).

2.10 Individualised programmes

Clinical researchers have used empirical data from observational and experimental studies to propose models of communication intervention that emphasize individual patterns of competencies, but there is not much research on how a comprehensive treatment programme might be modified to suit the needs of an individual child or family (Lord, 2000). Specific goals for the child with autism's communication development can only be determined with assessment of his or her current profile of communicative and interactive abilities and needs (Prizant et al. 1997). Aldred et al. (2001) designed an early intervention approach, which they called *Child's Talk*, based on an analysis of the specific pattern of social communication impairments of an individual child and the characteristics of interaction between the child and his/her parent. The intervention aims to identify facilitative strategies that lead to close interpersonal interaction between the child and his/her parents. Parents are assisted to reflect on their own interactions through video feedback and helped to identify those strategies that successfully engage their child and those that appear to hinder the interaction. Child's Talk aims to facilitate adaptations to the child's level of communication by sensitively and finely tuning the interaction and mutual sharing of intentions as a basis for the emergence of communication. The underlying theory of the intervention is the development of intentional communication in the infant, and focuses on establishing joint attention, intentionality, and understanding meaning conveyed in social signals. The approach is one that follows the child's lead in parent-child interaction and interprets the child's behavioural responses as meaningful signals of intent. The Child's Talk programme provides the parents with a personalised programme of how to implement the strategies at home. Parents are then asked

to spend thirty minutes each day in a quiet distraction-free area with their child to practise the strategies in the programme as it was thought that they might initially have difficulty adapting and changing their habitual styles of interaction. Aldred et al. (2001) advocate that the Child's Talk intervention is different to other methods in that it concentrates specifically on the parent-child relationship and communication.

2.11 Conclusion

The research cited in this review emphasizes the importance of considering the utterances of the child with autism as intentional and functional contributions to social interaction. This highlights the role of the child's co-participant (usually adult) and the implications of their interactive styles. I have proposed the discourse analytic method of conversation analysis, which serves the assumptions of social constructionism, as a tool that enables us to illuminate the collaborative mechanisms employed by participants in their construction of meaning. Conversation analysis in this study encompasses a synthesis of both the Discursive Psychological and the Foucauldian Discourse Analytic approaches. Thus it facilitates examination of subject-positioning and the implications for construction of identity. Recommendations for intervention include the need for detailed assessment of an individual child's communicative profile in order to inform intervention, and the need for individualised treatment approaches that address the specific practices collaboratively employed in interaction between a particular child and his or her co-participants.

Chapter 3: Methodology

3.1 Introduction

This study arose in the context of a home-based intervention programme aimed at the development of a child with autism's communication and social interaction. Intervention was first implemented in 1999 and followed the principles of the behaviour modification approach (Lovaas, 1977). In 2002 this approach was modified to include more social activities and symbolic play and to make use of the natural context to stimulate language learning (Gaylard, Personal communication, 2002). More details appear in Section 1.2.

3.2 General goals of the research

My overall purpose in the research project is to examine in detail the discourse between this child and his co-participants. I will employ the method of conversation analysis in an attempt to elucidate repetitive processes and procedures within the discourse and to facilitate insight into how the child and his co-participants collaborate to make sense of the interaction and the strategies used in this process. I will analyse the interactive styles adopted by both the child and his co-participants in the interaction to elucidate how they function to optimise and/or hinder the process of discourse. Finally, the use of conversation analysis as an analytical tool allows me to examine how the child is positioned within the discourse and the implications for his identity, roles and relationships with his co-participants. The analysis will be used to inform intervention based on the interactive profile that emerges. This will include increasing the co-participants' awareness of the interactive styles they employ and their impact on the success or failure of the interaction in terms of the child's comprehension and participation. This will hopefully encourage the co-participants to make adjustments to their language and communicative behaviour in order to enhance the child's comprehension and participation in communicative exchange.

3.3 Specific aims of the research

More specifically, the aims of the research project are to use the method of conversation analysis in order to:

- Examine and describe features of the communicative behaviour and the interactive styles of a child with autism *and* his co-participants within the discourse.
- Examine and compare the context and conversational variables of communicative success and disruption.
- Examine and compare styles of interaction and their implications for communicative success or disruption.
- Examine and describe how subject positioning is achieved - how the child is positioned within the discourse in relation to his co-participants.
- Explicate how the emerging interactive profile can be used to inform intervention.

3.4 The Research Methodology

The method of analysis used in this study is a discourse analytic technique called conversation analysis (Pomerantz & Fehr, 1997). It aims to identify the structural features of *talk-in-interaction* and to elucidate those methods and strategies used by participants in interaction in order to make sense of each other (Have, 1999). I have introduced conversation analysis in the literature review, where I included a fuller description. This is because conversation analysis in this study is not simply a methodological tool, but is a central aspect of the study. It is proposed as a useful method of constructing the interactive profile between the child with autism and his or her co-participants in order to inform individualised intervention.

3.5 The Participants

The participants of this study are a child, diagnosed with Pervasive Developmental Disorder (Autistic Spectrum) (Barney*), Barney's sister (Mandy*), his mother (Mom), his father (Dad) and a volunteer from the intervention programme (Rochelle*). Rochelle has known and worked with Barney consistently over the past two years through the intervention programme. I requested her participation in the study as one of Barney's co-participants, along with his family members, as she has developed a close relationship with Barney during her individual work with him. In addition, Rochelle is responsible for the training of student volunteers and therefore plays an active role in the development of the intervention

* Pseudonyms are used throughout this thesis.

programme. Barney lives with his mother, father and sister. They are a white, middle-class family living in a house in a small peri-urban town in South Africa. Their home language is English. Barney's mother does not work and stays at home to look after Barney and Mandy. His father owns and manages a small business in the town in which they live. Barney is 6 years and 4 months old and Mandy is 8 years old. Data collection began one week prior to the beginning of the school year for both Mandy and Barney. Mandy is now in Grade 3 and it is Barney's first year at school. He is starting Grade 1 and will be assisted by a teaching aid as he is attending a mainstream school. Barney has attended a mainstream nursery for the past two years.

In 1999, Barney's parents approached the Psychology Clinic at their local university to request assistance in his treatment. Since then, training psychologists at the clinic have been involved in co-ordinating an intervention programme. Currently the programme employs volunteers from the third and fourth year psychology student body who provide approximately 10 hours per week of individual instruction. Although research recommends 40-50 hours per week, this was judged to be impractical as Barney was attending nursery school in the mornings and play-ball and swimming classes in the afternoons. The use of student volunteers came with some constraints. Intervention was restricted to term time and would thus terminate every university vacation. Furthermore, every year new volunteers were enrolled and trained as most of the old ones graduated and moved on. Barney has received additional input from a speech therapist. She focused primarily on his inability to articulate 'k' and 'g' sounds. He also received two weeks of *auditory integration therapy* in 2002.

3.6 Barney's developmental history

3.6.1 Birth and early development.

Barney was born on 3/09/1996. He was carried to full-term. Labour was induced and he weighed over 4kgs at birth. He reached his developmental milestones at the following rate:

- sitting up: approximately 5 months
- walking: approximately 13 months
- talking: at approximately 43 months he said "baba" and "gaga". At one year, Barney was reportedly waving goodbye appropriately and saying a number of words. Over the next year he was reported to regress and lose these abilities.

- bowel control was achieved at approximately 4 years.

3.6.2 Assessment information.

Barney was first assessed at age 19 months by a child and adolescent psychiatrist. Symptoms at the time of assessment were reported to be: regression of language development after a period of normal development during infancy; failure to develop joint attention; twirling of objects and toys; poor eye contact; and preoccupation with activities from which he could not be diverted. The psychiatrist concluded that there was insufficient evidence to meet the full criteria for a diagnosis of Autism and gave the diagnosis of Pervasive Developmental Disorder (Autistic Spectrum). She suggested that there were significant indications that Barney may be able to develop communicative behaviour and speech.

Barney was assessed again at age 26 months by a senior neurologist. He made the following observations: that Barney was slow to respond, appeared as if in another world and had difficulty maintaining interaction. It was noted that he babbled and would go to his mother for a cuddle, but spoke very few articulate words and seldom made eye contact. Further symptoms were reported as follows: he did not engage in co-operative play, was not observed to exhibit the stranger response when away from his parents, when frustrated he exhibited temper tantrums and would sometimes enter a trance-like state for a minute or two at a time. It was concluded that although these features were in keeping with a degree of Autism, due to the presence of other features contradicting this diagnosis, the category of Pervasive Developmental Disorder (Autistic Spectrum) was deemed more fitting.

A clinical psychologist assessed Barney at the age of 55 months. At the time his symptoms were described as: impairment in receptive and expressive language; use of echolalia; impairment in social interaction; hypersensitivity to noises; limited eye contact; spinning and turning objects repetitively as well as other restrictive and repetitive stereotyped patterns of behaviour; lack of interest in his peers; inability to sustain attention for long periods; apparent lack of awareness of danger; and the absence of symbolic and imaginative play. The Griffith’s Scales of Mental Development was administered. This test purports to measure the child’s performance across six different areas: in the area of physical development and locomotor functioning, Barney obtained a developmental age of 44 months, placing him well below average and 10 months below his chronological age. In the area of personal and social

development, Barney obtained a mental age of 44 months, placing him well below the average range and 10 months below his chronological age. In the area of speech and hearing, Barney obtained a mental age of 40 months, placing him within the Borderline range of functioning and 15 months below his chronological age. In the area of hand-eye co-ordination, Barney obtained a mental age of 44 months, placing him well below average and 10 months below his chronological age. In the area of skill in manipulation, speed and precision of working, Barney obtained a mental age of 50 months, placing him in the Low Average range of functioning, and 5 months below his chronological age. In the area of practical reasoning, involving basic arithmetic, comprehension and practical problem solving, Barney obtained a mental age of 40 months, placing him in the Borderline range and 15 months below his chronological age. Overall, Barney obtained a mental age of 44 months, suggesting that he was performing 10 months below his chronological age. Barney reportedly refused to answer several items, which were scored as failed. Thus the results of this test were deemed to be a conservative estimate of Barney's level of development.

Barney's most recent assessment took place over a three-week period at age 67 months. He was assessed by a clinical psychologist in association with Quest School For Learners with Autism. The following tests were administered: The Griffith's Mental Developmental Scales and The Childhood Autism Rating Scale. Barney's performance on the Griffith's test was as follows: on the test measuring loco-motor functioning, Barney obtained a mental age of 92 months, suggesting above average development in this area and 25 months above his chronological age. In the area of personal and social development, Barney obtained a mental age of 74 months suggesting that development is above average in this area and 7 months above his chronological age. The scale measuring speech and hearing was not scored as it was deemed not to reflect truly on his verbal ability. In the area of hand-eye co-ordination, Barney obtained a mental age of 92 months, an above average score and 25 months above his chronological age. In the area of skill in manipulation, speed and precision of working, Barney obtained a mental age of 74 months, suggesting above average development in this area and 7 months above his chronological age. In the area of practical problem solving, Barney obtained a mental age of 68 months, suggesting average development in this area and 1 month above his chronological age. The clinician suggested that because this test has many items that require verbal responses, this was not a true reflection of Barney's ability. Finally, on the Childhood Autism Rating Scale, Barney obtained a rating score of 35.5 placing him in the range of moderately autistic.

A discourse analytic perspective often discourages the provision of standard demographic information and particularly assessment information, which is consistent with a medical or psychiatric diagnostic approach. This approach emphasizes the identification of symptoms and objectively measurable areas and levels of impairment. My decision to include this information in the study is two-fold: Firstly to situate the child within the prevailing academic and medical discourse in which he is constructed. It should therefore be borne in mind that this offers only one of many possible constructs within many possible discourses. Secondly, in challenging the assumptions of the scientific or medical model through a social constructionist paradigm, I do not intend to exclude the model altogether. By doing this, I would be *throwing the baby out with the bathwater* and be guilty of that which social constructionism criticises the medical model - of claiming to be the *truth* to the exclusion of other possible understandings.

3.7 Data Production

I use the term *data production* in this study, rather than *data collection*. This reflects the social constructionist view that no singular reality exists to be discovered, but that realities and therefore data are *constructed* according to the researcher's perceptions, experiences, purposes and actions (Gough, 1999). Similarly, I use the term *data construction* in preference to *data processing*, as the former is more consistent with social constructionist thinking. Data was generated from a variety of naturally occurring situations of interaction in the family home, either inside the house or outside in the garden. This consisted of episodes of interaction between Barney and his mother, Barney and his father, and Barney and Mandy during a range of everyday situations in which Barney was involved. These included meal and bath-times, getting dressed, preparing food, going for a walk, playing games and general family time at home. Data was also generated from an hour-long session between Barney and Rochelle. This was a typical intervention session that comprised of semi-structured activities, such as social rule-based games, intended to involve Barney in social interaction. I made video-recordings in order to capture both verbal and non-verbal features of interaction. I recorded approximately six hours of video-footage on eight different occasions over a two-week period. Each recording lasted between 20 and 90 minutes. Some recordings were made with the video camera mounted on a tripod and left in a fixed position. This method was successful in recording interaction that took place within its stationary range, but was limited

with regard to the range of different interactional activities that took place all over the house and in the garden, often in quick succession. Thus, I made the majority of recordings operating a hand-held camera. In an attempt to reduce the influence of my presence on the interaction I also used Mandy or Mom as the *cameraperson*.

I explained to the co-participants that I would be present to record interaction between themselves and Barney and encouraged them to behave as they would in typical interaction with him, as if they were not being recorded. The initial recordings were treated as rehearsals in order to familiarize the participants with my presence and the experience of being video-taped. Several factors contributed to this process of familiarisation. Firstly I have known and developed close relationships with all members of the family whilst working with them in my capacity as co-ordinator of the intervention programme over the past two years and individually with Barney over the six months prior to the research project. Secondly, I gave Barney the camera to hold and use to video others. I observed to him to engage with this task with interest and enthusiasm, demonstrating an understanding of the function of the camera. Finally, all participants, with the exception of Rochelle, had been exposed frequently to the experience of being video-taped by the family's own video recorder.

I felt that Barney's behaviour during recordings was not noticeably different to his behaviour in the absence of the camera and he appeared to lack any self-consciousness. Three incidents, however, suggested that he was aware of the camera. On one occasion he requested to use the camera himself by reaching for it, and on two further occasions I noted that he looked in the direction of the camera with one eye closed, suggesting that he was imitating me looking through the lens. Overall, none of the participants gave evidence of attending to or being distracted by my presence or the process of being recorded. After recording I questioned the co-participants about their experience of being recorded. Mandy acknowledged initial awareness of the camera, but claimed she soon forget about it. All denied any influence on their behaviour. At a later date, after watching the video recordings, Barney's mother reflected on her experience and acknowledged that during the recording she had felt pressure to compel Barney to talk. The influence of my presence and the nature of the research project on the discourse, particularly Mom's experience, is taken into consideration in the analytical and interpretive process.

3.8 Data Construction

I have divided the video recordings into episodes of interaction, which I selected on the basis of the richness of the data. This was determined by the amount of verbal and/or non-verbal interaction between Barney and his co-participants as opposed to his participation in isolated activities such as playing on the computer or watching television. I transcribed the episodes of interaction using the transcript notation developed by Gail Jefferson (Atkinson & Heritage, 1984) (See Appendix 1). I made some adaptations to the transcript notation in order to incorporate symbols representing non-verbal activities such as eye gaze, so that interaction is composed of both verbal and non-verbal elements as defined by Gee (1999) with the concept of *Discourse*. This is defined and described more fully in Section 1.3.4

The process of transcription is considered to be a necessary and important part of the analytical process (Have, 1999). It draws attention to features of overlap, intervals within and between utterances, characteristics of speech delivery (intonation, emphasis etc.), and non-verbal features such as eye gaze, facial expression and behaviour. The transcripts are not considered to be a substitute for the recordings (Atkinson & Heritage, 1984; Psathas, 1995), but are part of the process of *data production*. They are "selective, *theory-laden* renderings of certain aspects of what the tape has preserved of the original interaction, produced with a particular purpose in mind, by this particular transcriptionist, with his or her special abilities and limitations" (Have, 1999, p. 77). The analyses were therefore based on repeated viewings of the original video recordings in addition to repeated readings of the transcripts.

The participants are identified in the left column by a letter code. I transcribed the words uttered by the participants using standard orthography. I made phonetic modifications to mark significant departures from what I considered to be typical expression. Sounds that I could not discern as recognisable words were transcribed either in their broadly phonetic form or written as *unintelligible*. I chose this method over phonetic modifications throughout, in order that it might be readily intelligible and accessible to the standard reader (Have, 1999; Wootton, 1997).

3.9 Analytical Procedure

Conversation analysis cannot be reduced to a formula that can be applied to the data. Instead it employs a wide range of interpretative skills (Hutchby & Wooffit, 1999) and the development of a "conversation analytic mentality" (Schenkein, 1978, in Hutchby & Wooffit, 1999, p.96). It requires detailed and repeated reading of the discourse against the background of the social constructionist perspective (Wood & Kroger, 2000).

Holding no predetermined hypotheses, I approached the initial stages of analysis using a process of "unmotivated looking" (Psathas, 1995, p. 45). *Unmotivated looking* is a term which implies that the researcher is open to discovering phenomena rather than searching for instances that have already been identified and described; to start from the data at hand rather than have any preconceived ideas about what the data *is* or may *represent* (Have, 1999). I examined the transcribed episodes on a turn-by-turn basis. For each turn, I asked the questions, "What is the participant trying to accomplish?" and "How was this outcome accomplished?" in order to describe the *actions* that were being carried out by the discourse. By considering the relationship between the actions produced in each successive turn, I was able to produce an "actional *description*" of the sequences (original emphasis) (Have, 1999, p. 105).

From these *actional descriptions*, I identified repetitive processes and selected thirty-one sequences for more detailed analysis. The sequences that I selected were those I considered to reflect the range of processes I identified. This range included both success and disruption in the process of discourse. I drew on both the literature on autism (Prizant, 1983; Prizant & Rydell, 1984) and social constructionist thinking (Gergen, 1999) in my construction of the definitions of success and disruption in the interaction. Interactive success is considered to be synchronous or co-ordinated interaction, based on Gergen's *co-ordinated action* (1999) and Shotter's *joint action* (1993). A description of these terms is provided in Section 1.3.2. This involves mutual participation and shared meaning constructed within the interaction, as illustrated by sustained eye contact, non-verbal and paralinguistic features, verbal responses that are meaningfully related to each other, and the corresponding execution of activities constructing comprehension. Disruption is constructed as *discordant interaction* in which there is *asynchrony* in the process of meaning making, suggested in the discourse by the

absence or active avoidance of eye contact, and/or the absence of comprehension suggested by the lack of meaningful relatedness between utterances.

I selected a sequence by locating its points of opening and closing, both of which I treated as negotiable (Have, 1999). I located the opening of a sequence at the point at which an action and/or topic was initiated by one of the participants and taken up and responded to by the co-participant. I located the closing at the point at which the interaction shifted to another action and/or topic (Have, 1999).

I then explored the sequences to identify structural features of turn-taking organisation, sequence organisation, repair organisation, the organisation of turn-construction and design (Have, 1999), and their implications with regard to the construction of *subject-positions*.

3.9.1 Turn-taking organisation.

This involves consideration of how the turn-taking process provides for certain understandings of the actions and whether it is connected to the participant's understandings (Pomerantz & Fehr, 1997) – i.e. how the turn-taking process is managed between the co-participants. For each turn in the sequence, it is noted and described how the speaker obtained the turn, the timing of the initiation of the turn, the termination of the turn, and whether the speaker selected a next speaker (Have, 1999).

3.9.2 Sequence organisation.

This refers to the idea that utterances in interactional talk are sequentially organised. In other words, each utterance is produced in relation to the preceding utterance and also provide the context for the subsequent utterances (Have, 1999). In this way, utterances are both "context-shaped and context-renewing" (Heritage, 1984, p. 242) and the meaning of actions are determined by examining preceding and subsequent utterances (Psathas, 1995). This relationship enables speakers to interpret an utterance in terms of its sequential relevance - "Why this now?" - and this is an important resource for participants in making sense of the interaction (Hutchby & Wooffit, 1999).

3.9.3 Repair organisation.

Repair organisation refers to organised ways of dealing with *trouble* in the interactional process, such as problems of mishearing or misunderstanding. A repair sequence starts with a *repairable*, an utterance that forms the *trouble source*. A repair needs to be initiated by either the speaker (self-initiated repair) or his or her co-participant (other-initiated repair). The repair can be carried out by the original speaker (self repair) or the co-participant (other repair). When there is an other-initiated repair, this is most often done in the next turn by a *next turn repair initiator*, such as the partial repeat of a prior turn or utterances such as "what?" or "huh?" Alternatively, the co-participant may also offer an understanding of the utterance, which the original speaker can then accept, reject or rephrase (Have, 1999).

3.9.4 Turn construction and design.

This refers to the *packaging* of actions - the form chosen by the speaker to produce and deliver the action from the alternatives that were available, how this provides for certain understandings of the actions performed, and how this constrains or creates certain options for the recipient (Have, 1999; Pomerantz & Fehr, 1997). With respect to any given action, there are many ways in which it can be packaged. Thus how an utterance is constructed from a number of possibilities is a meaningful choice. That choice will be informed by the speaker's knowledge of the situation in general and the co-participants in particular (Have, 1999). *Recipient design* refers to the way in which a speaker builds an utterance for it to be understandable for a particular participant, given the knowledge that the speaker presupposes the recipient to have (Have, 1999).

3.9.5 Subject-positioning.

This refers to how certain identities, roles and relationships are implicated in the ways the actions are accomplished, for example in the way the speaker takes his/her turn or forms and delivers actions (Pomerantz & Fehr, 1997). Within this perspective, notions such as *identity*, *self* and *role* are considered to be multiple and shifting (Wood & Kroger, 2000) and are continually negotiated and renegotiated throughout the interaction (Have, 1999). This area is discussed in more detail under Sections 1.3.5 and 2.6.2.

3.10 Reliability and Validity

Conversation analysis traditionally requires that the data analysis and interpretation be empirically grounded. A fundamental principle of conversation analysis is to preclude the researcher from making any assumptions about the participants' motivations, thoughts, understandings or emotions, except those instances in which it can be demonstrated that the participants in the discourse are oriented to them (Psathas, 1995). Consistent with this is the constraint of using only that information which is available to the participants themselves in interpreting the actions of others (Radford & Tarplee, 2000). Through analysis of the discourse, both the phenomena and the evidence to support the analysis are generated. "The analyst needs to demonstrate ways in which the people in the interaction in question display understandings that are consistent with those being claimed in the analysis. Identifying these *ways* (original emphasis) as they are evident within the interaction itself is, therefore, central to the proof procedures of conversation analysis" (Wootton, 1997, p. 17).

Forrester (1999), however, guards against the risk of "the seductive nature of (conversation analysis) as an empirical scientific practice" (p. 45). Wetherell (1998) similarly criticises conversation analysts for so rigidly restricting themselves to the conversation. She challenges the requirement of considering only those phenomena that can be demonstrably shown to be oriented to by the participants, stating that this requirement is too limited. She points out that in selecting a sequence for analysis the researcher constructs its relevance for the participant.

Due to the constitutive nature of language, when we produce the data, construct our analyses and reflect on the findings, we do so in language, and this language does not reflect the reality of the participants, but constructs it to have one meaning over another. The analyses are thus themselves social constructions. The task of the researcher is to acknowledge and examine their involvement in the research process and the role they play in producing and constructing the discourse under analysis. "Researchers must view the research as necessarily a co-production between themselves and the people they are researching" (Burr, 1995, p. 160). This is addressed through the process of *reflexivity*. Reflexivity is "the attempt to place one's premises into question, to suspend the *obvious* (original emphasis), to listen to alternative framings of reality, and to grapple with the comparative outcomes of multiple standpoints" (Gergen, 1999, p. 50).

I have undergone a process of repeated listening and viewing, transcribing (Psathas, 1995), and revision of the data. In order to address the requirement of validity, I have made all the transcripts available for scrutiny by other researchers (Damico et al., 1999). Finally, I have put forward the data, transcriptions, insights and analyses to an external researcher to inspect critically and to provide his observations, understandings, doubts and alternatives.

3.11 Ethical considerations

I explained and discussed verbally the purpose and goals of the research project with Barney's parents and his sister. The parents provided consent for both their children's participation in the study, in addition to their own. The same process was conducted with the volunteer. Explaining the purposes of the research and gaining Barney's informed consent was difficult due to the complexity of the explanation required. I attempted to address this partly by showing Barney the video camera and allowing him to use it to record others, in order that he might better understand the process. Barney's parents will be provided with a copy of the completed research report. Confidentiality and anonymity has been maintained throughout the research process. I have destroyed all videotapes and excluded all identifying data from the report and transcripts. I will keep the transcripts in a safe place for three years in order to address the requirements of validity and reliability outlined above, after which time I will destroy them.

Chapter 4: Data Reconstruction and Reflections

4.1 My overall co-construction of interaction between Barney and his co-participants

Through my process of producing, constructing and reconstructing the discourse between Barney and his co-participants, a pattern of disproportion in the interaction emerged. Barney's negligible verbal contributions to the interaction stand in stark contrast to the constant flow of discourse produced by his co-participants. Left to his own devices, Barney participates in solitary activities such as watching television, playing on his computer and listening to songs on his CD player/tape recorder, which he sings and dances along to alone. In order for interaction to take place, Barney's co-participants must obtain and sustain his attention and provide most of the discourse material. Thus it appears that they are required to carry most of the conversational load and Barney is a passive reactant to their discourse. At first glance, the *picture* I have constructed is one that appears consistent with many of the DSM-based or deficit-focused descriptions of autism, in which these features are highlighted. A more detailed analysis, however, constructs a different picture in which both Barney and his co-participants employ various methods and strategies in an attempt to make sense of one another, to establish shared meanings and, in this way, to construct an inter-subjective reality. From these efforts, every so often, an intimate and reciprocal interaction is constructed. Particularly exceptional are Barney's initiations of interaction that co-constitute him as an active participant in the discourse. And when both Barney and his co-participants find the resources to participate in interaction together, so that Barney is not overwhelmed and confused by the demands of his co-participants and the shifting rules of social interaction, and his co-participants are not confused by his idiosyncratic utterances, co-participating together in interaction becomes an enjoyable and satisfying experience.

In the following analysis I will attempt to elucidate the patterns and processes that emerge from episodes of interaction between Barney and his various co-participants. What do the different co-participants achieve in their discourse with Barney and what strategies do they employ to construct mutually meaningful interaction? What happens sequentially to construct co-ordinated, synchronous sequences or discordant, asynchronous sequences? What happens sequentially when Barney initiates an interaction? And how is Barney positioned with regard to his discourse with others?

I have substituted the term *analysis* with *data re-construction* and the term *discussion* with *reflections on data constructions and re-constructions* in an attempt to be consistent with a social constructionist perspective. Each section begins with an illustrative sequence or sequences. Unless otherwise specified, the episodes of interaction from which the sequences were selected were recorded using a hand-held video camera. This is followed by a re-construction of the data using the method of conversation analysis. Finally, I discuss the interactional phenomena that are constructed through the analysis in a process of reflections on my constructions and reconstructions. The co-participants can be identified in each sequence as follows: Barney – B; Barney's mother (Mom) – M; Barney's father (Dad) – D; Mandy – Md; and Rochelle – R.

4.2 Interactive styles

4.2.1 Dad's style and its consequences within the interaction.

Sequence A, Appendix 2, *Playing with the ring*

The sequence was selected from an episode of interaction between Barney and his father. It is a Saturday afternoon and Barney and Dad are outside in the garden. Dad has initiated a game in which he and Barney throw a rubber ring to each other.

Data reconstruction

Dad initiates a pretend game (line 1) in which the rubber ring has disappeared. He uses a short, simple utterance ("where's it") to prompt Barney to search for the ring. Barney's immediate echolalia of Dad's utterances (lines 2 and 4) with the corresponding action to search for the ring indicates comprehension and participation in the game. Dad imitates this pattern of articulating actions (line 8). Dad often uses single words or short phrases, which he says quickly with many repetitions (e.g. lines 1 and 13). He makes frequent use of sounds and onomatopoeic words (e.g. lines 1, 11 and 18). Barney's enjoyment is constructed by laughter, spinning and singing, frequently in response to his father's sounds (line 12). There is a noticeable absence of long intervals between turns in the interaction, and consequently the turn-taking process flows smoothly.

Sequence B, Appendix 2, *Cleaning the pool*

This sequence of interaction is taken from an episode in which Barney is helping his father to test the chlorine levels in the swimming pool. They then move on to cleaning the pool.

Data re-construction

Again Dad makes use of short utterances (e.g. lines 7, 9 and 17), expressed rapidly (e.g. line 14 and 15) with repetition (e.g. line 12 and 14). He initiates interaction with requests for Barney to carry out certain tasks. Barney takes his turn by accomplishing the relevant activity. Dad follows Barney's actions and instructs him in a step-by-step fashion (lines 7, 9, 15 and 17). Barney provides a verbal accompaniment to his actions (lines 2, 3 and 6). Absence of eye contact seems to be due to involvement in the activities. A co-ordinated action is constructed as Barney and Dad participate in the same activity together (line 13).

Reflections on constructions and re-constructions

Dad's style of interacting with Barney is characterised by short, simple utterances, a rapid rate of speech and many repetitions. The use of short, simple utterances seems to facilitate comprehension and is consistent with recommendations by Prizant et al. (1997). Barney's response is to repeat these short utterances with corresponding actions. It is possible that this functions for Dad to confirm Barney's understanding. Dad, in turn, repeats this tendency to articulate his actions. The articulation of actions functions to construct a verbal discourse alongside the non-verbal one, and forms part of the negotiation process in establishing shared meanings about what they are doing, particularly for Barney. Thus, participation and meaning is actively co-constructed. Whilst some of Barney's utterances take the form of echolalia corresponding to his actions, others seem to function as *self-talk*. This is consistent with the rehearsal and self-regulatory functions identified by Prizant & Duchan (1981) and Prizant & Rydell (1984), and might reflect the *egocentric speech* described by Vygotsky (Vygotsky & Luria, 1994). Thus these utterances function to instruct Barney's action and are an external manifestation of his construction of an internal discourse.

Dad's use of silly sounds and onomatopoeic words together with Barney's imitation of these sounds and corresponding laughter constructs a playful and enjoyable interaction. Although Barney is *reacting* to the sounds Dad makes, he actively reconstructs them as his own by laughing, spinning and putting them together with actions. Spinning in this context can be

considered to function interactively as an expression of delight. This is in contrast to the solitary spinning behaviour that is described in association with autism.

Dad's style of interaction is largely activity-based and Barney and Dad participate in the tasks and activities together. This is illustrated when Barney and Dad clean the pool together. Co-participation in activities permits the use of non-verbal turns and therefore allows Barney to participate more actively in the interaction. This goes some way towards balancing participation in the interaction and allows Barney to be a more equal participant. This helps to position Barney as *Dad's helper,* or Dad and Barney as *father* and *son*, instead of the *teacher* and the *language-deficient child*. Furthermore, according to Prizant et al. (1997), social interaction through involvement in activities provides the context through which a relationship between language and environment is constructed and supported by non-verbal and paralinguistic features. Through games and activities, mutual enjoyment and interest (Prizant et al., 1997) and joint attention is established (Shapiro et al., 1987) which is similarly considered to be pivotal in language development.

Along with participation in activities constructed by some non-verbal turns comes fewer demands for Barney to provide verbal responses. It is possible that Dad's tendency *not* to try to elicit verbal turns from Barney functions paradoxically to encourage richer verbal discourse through the reduction of explicit demands and consequent pressure to perform. The overall process constructed is a relatively smooth flow of turn taking resulting from the absence of long pauses between turns, as the interaction is largely composed of non-verbal turns, and co-ordinated interaction from which mutual understanding seems to emerge.

4.2.2 Mom's style and its consequences within the interaction.

Sequence C, Appendix 3, *Getting dressed*

This sequence was selected from an episode of interaction between Barney and Mom. It is a Monday morning during the holidays. Barney is getting dressed in his room. He is standing on his bed in order to reach into his cupboard for clothes. Mom is sitting on the edge of the bed watching him.

Data re-construction

Mom asks questions about each item of clothing in an attempt to elicit from Barney its name, colour and function. She uses various methods to achieve this, either employing a turn completion (line 1) or a direct question (lines 5-9 and 17). Mom repeats her question (lines 5-9) five times, waiting approximately three seconds before each repetition. Barney does not attend to his mother's utterances for most of the interaction, indicated by the absence of eye contact. Mom is oriented to his inattentiveness and attempts to draw him back into their interaction (line 13). Barney's turn is accompanied by eye contact (line 14), but his verbal utterance is not sequentially related to Mom's previous one. Instead, his turn is a response to the question, "What have you got there?" The strategy that Barney employs here is to guess what it required of him, perhaps a device learned from interactions characterised by object labelling. Therefore, although Barney is aware of the need to take his turn, either he was not attending to or does not understand the previous utterance. Evidence for the second possibility is found in his response later in the sequence (line 24) suggesting comprehension of the utterance.

Reflections on constructions and re-constructions

Mom tends to utilize all available daily activities and routines as language learning opportunities, which is consistent with recommendations by Koegel (2000) and Prizant et al. (1997). She further employs questions as a device to initiate and sustain interaction with Barney. Her interactive style emerges as a pattern of frequent and repetitive questioning throughout the episodes of interaction produced as data. The questions function as a means of, successfully and unsuccessfully, eliciting verbal responses from Barney. This style is commonly associated with the co-participants of individuals with autism (Shapiro et al. 1987; Dobbinson, 1998). It is also consistent with a teaching style as described by Duchan (1983), which, while useful with regard to initiating interaction, also functions to direct and constrain the interaction in the manner described by Hubbel (1977). It is possible that the absence of verbal contributions from Barney creates a need for his co-participants to compensate, a tendency supported by Aldred et al. (2001). However, Mom's questioning interactive style is also informed by a more global and deficit-constructed discourse of autism, that of the child who is incapable in social interaction. The data construction illustrates that the *urgent* attempt to elicit verbal contributions from Barney, using a more directive and questioning style, is achieved at the expense of synchronized and co-ordinated interaction and results in the breakdown of shared meanings, as evidenced by lack of eye contact, long intervals between

turns that are not meaningfully related, and proportionally greater participation in the interaction by Mom than Barney. It is possible that Barney does not have the linguistic resources available to construct the response, “Leave me alone, stop pressurizing me”, and his silence and lack of eye contact therefore constructs withdrawal from participation in interaction with his mother. Perhaps this is his only way of actively constructing himself as *not* deficient. It is also possible that Barney struggles to attend to and execute two activities simultaneously, that of dressing and interacting with Mom, particularly as the latter places heavy demands on him.

It is important in this regard, to consider the influence of the research on Mom’s style of interaction, given her acknowledgement of pressure to compel Barney to talk for the purposes of the research. We can speculate that the consequence of this has been to exacerbate her style of interaction, urging it further towards a more directive style of interaction. This is supported by the findings of Shapiro et al. (1987).

4.2.3 Mandy’s style and its consequences within the interaction.

Sequence D, Appendix 4, *Playing beanbag*

This sequence was selected from an episode of interaction between Mandy, Barney and Rochelle. It takes place on a Thursday afternoon, during Rochelle’s session with Barney. They are sitting outside in a circle, playing with the beanbag. This is a game that has often been played with Barney and he is therefore familiar with the rules.

Data re-construction

Barney produces his turn (line 6) using a soft tone of voice. His words are also muffled by laughter and the projection of his words into his lap. Consequently Rochelle does not hear, indicated by her repair initiation (line 7). Mandy executes the repair (line 9) on Barney’s behalf. In the next turn, Rochelle reverses the sequence by repeating Barney’s utterance back to him in the form of a question, thereby requesting confirmation of her understanding. In this way, all three co-participants collaborate in the construction of meaning. Rochelle’s turn also functions as an attempt to prompt Barney to self-repair. However, Mandy takes up the next turn (line 11), suggesting that it is easier for her to self-select as the next speaker and take over the conversational floor.

Sequence E, Appendix 4, *Goodbye Rochelle*

This sequence is subsequent to the one above. Rochelle takes Barney to his room to say goodbye, an established routine at the end of their sessions. Barney is lying on the bed, Mandy is sitting next to him on the edge of the bed and Rochelle is sitting on a chair.

Data re-construction

In this sequence, Mandy prompts Barney to initiate an interaction with Rochelle and provides him with the necessary words to accomplish it (e.g. line 1). Barney participates with enthusiasm, illustrated by intonation (e.g. line 10), volume (line 6), strength of his response (e.g. line 9 and 10), as well as maintenance of eye contact with Rochelle. Barney adheres rigidly to the turns of the sequence (line 6) where instead of repeating Mandy's words, he provides the next line in the sequence. This suggests a similar phenomenon to the *triggered serial memories* described by Williams (1996). Mandy initiates repair (line 7), which Barney carries out in his next turn. Rochelle asks Mandy if she and Barney were responsible for this sequence (line 13). Mandy understands this to suggest that she was responsible for the interaction, which she denies (line 14), instead positioning herself as Barney's *helper* rather than his *voice* in the discourse (line 16).

Reflections on constructions and re-constructions

Mandy actively positions herself as Barney's *advocate* when he has difficulty with self-expression or contributing to the interaction. In *Goodbye Rochelle* (Sequence E), for example, she takes on the responsibility of carrying out the repair on Barney's behalf. In this way, Mandy compensates for Barney's difficulty in monitoring the interaction and recognising and repairing breakdowns in communication. It also illustrates how collaboratively the three co-participants were able to negotiate a shared understanding of Barney's utterance, which is supported by suggestions by Perkins et al. (1998) and Damico et al. (1999). Duchan (1993) proposes the need for the non-autistic co-participant to work harder in order to compensate for the less capable participant with autism.

An alternative construction is that Mandy's tendency to talk on Barney's behalf is intrusive and imposing, and usurps Barney's active role within the interaction, as suggested by Geller (1998). This similarly suggests the influence of global discourses on autism that co-construct the child as incapable of holding his own in the interaction and position him as a passive participant in discourse. Mandy, however, does demonstrate sensitivity to constructing him as

an active participant in the interaction and as a separate person. For example in *Goodbye Rochelle* (Sequence E), Mandy initiates interaction on Barney's behalf, but in doing so she uses words that are familiar to Barney and consistent with his style of interaction. She further denies responsibility for acting on Barney's behalf, and in this way she positions her brother as a more active participant in the discourse rather than her passive *puppet*. Providing Barney with the words to use, as well as the support of her physical presence behind him, seems to engender Barney's confidence that what he is saying will be understood and acceptable to his co-participant. This is evident in the tone and volume of his utterances. The emergent co-ordinated and synchronous interaction is constructed through the development of a verbal and non-verbal rhythm, eye contact, role exchange and mutual understanding. This is consistent with Gergen's (1999) constructions of co-ordinated discourse. It can be argued that Mandy's utilisation of *knock-knock* is similar to Tarplee & Barrow's (1999) hypothesis that the use of delayed sequences of echolalia by both participants creates an intersubjective reality. Finally, although not illustrated specifically in the example sequence above, Mandy tends to assume a nurturing and protective position in relation to Barney. This is suggested through her body language, the intonation of her speech (*motherese*) and the way she closely attends to Barney's turns and follows his lead.

4.2.4 Rochelle's style and its consequences within the interaction.

Sequence F, Appendix 5, *Greeting Rochelle*

This sequence is an extract from an episode of interaction between Rochelle and Barney. It takes place at the beginning of their session together.

Data re-construction

Barney initiates the sequence with accompanying eye contact (line 1). In response, Rochelle leans towards Barney, thereby constructing his utterance as welcoming. Her behaviour functions to affirm Barney's tentative initiation, which consists of a pause and a false start. Barney's uncertainty is also reflected in the soft tone he uses (line 4), which results in *trouble*. His use of soft, often whispered utterances emerges as a central theme to the interaction. Rochelle initiates repair (line 6-7) using a gentle manner combined with a non-verbal behavioural expression of affection and whispers to match Barney's tone of voice (line 7). Rochelle repeats her question (line 10) and this time Barney responds with sustained eye contact. Rochelle is oriented to the paralinguistic features of his turn rather than its

content, and treats his response as a *correct answer* (line 14). By not treating Barney's utterance as sequentially related to her own, Rochelle changes the organisation of the interaction and forecloses sequential progress. This does not seem to impact on the synchronisation of the interaction as Barney maintains eye contact and laughs in response to Rochelle's previous turn. This suggests that for Barney, the verbal sequence is incidental to the primary interaction, which is taking place on a non-verbal level. This is demonstrated through eye contact, the synchronisation of their body movements (e.g. lines 2, 6-9), affection expressed non-verbally (e.g. lines 6, 17-19) and laughter (lines 14-16).

Reflections on constructions and re-constructions

Rochelle treats Barney's utterance as a *correct answer* rather than a conventional turn in the sequence. This is a pattern that is repeated throughout interaction between Barney and other co-participants and is consistent with a teaching style of interaction as described by Duchan (1983). Its potential consequence is to foreclose the natural progression of interaction. Furthermore, it constructs a context of interaction that is unlike that which would be carried out with a typically developing child outside a classroom situation and again reflects the influence of a more global discourse on autism. To achieve balance within the discourse, Rochelle makes abundant use of affection and other non-verbal features (facial expressions, touching, tickling etc.). Similarly, Barney's soft tone of voice could be construed as a response that resonates with Rochelle's affectionate gestures and which necessitates that she leans closer towards him. Equally, she matches Barney's soft tone, thereby encouraging mutuality and the co-constitution of intimacy through discourse. However, Rochelle contradicts this pattern in her verbal discourse by admonishing Barney for the use of a soft tone. In spite this, synchronisation of discourse is constructed on a non-verbal level and the demands of verbal interaction are tempered by the intimacy constructed non-verbally. This is consistent with recommendations by Duchan (1983).

4.2.5 A comparison of different styles.

Sequence G, Appendix 6, *Barney and Mandy*

The sequence was selected from an episode of interaction during Rochelle's session with Barney and takes place at the end of their session. This sequence continues from *Goodbye Rochelle* (Sequence E).

Data re-construction

After five requests from Rochelle for Barney to thank his sister, and two attempts to regain Barney's attention (line 6 and 11), Rochelle ends by providing Barney with the words she seeks (lines 14). A characteristic of Rochelle's style is the repetitive use of phrases and questions with little or no interval between them. For example, "Come stand up Barn and look at me come what do you say to Mands what do you say to Mandy what do you say to your sister (1.8) ↑thank you Mandy↓". Rochelle chooses to ignore Barney's unintelligible utterances, thereby not assigning them a function within the interaction (lines 6, 9 and 11). Equally, Barney chooses to ignore Rochelle's questioning, but eventually provides the response that is required of him (line 15). Rochelle and Mandy simultaneously take up the next turn and their utterances overlap (lines 17-18). Rochelle's turn is to comment on the quality of Barney's utterance (line 16-17) in comparison to Mandy's turn, which is to respond to its content, thus moving the interaction forward. Rochelle's next turn (line 19) indicates that her previous utterance was a repair initiation. Mandy's turn constructs an ability to hear and understand Barney and therefore positions her as *tuned in* to his language. The interactional consequence is that Barney approaches Mandy and whispers in her ear (line 20). Based on the rules of sequential organisation, Mandy's next utterance (line 23) informs us that Barney's turn whispered in her ear was to say thank you. Mandy chooses to imitate Barney's manner of whispering in the ear, thereby matching and reflecting his action. It is possible that Barney interpreted Rochelle's utterances (lines 17 and 19) to be an instruction to whisper, rather than a repair initiation. Barney initiates interaction with Mandy (line 27) and Mandy responds non-verbally (line 29), to which Barney similarly responds non-verbally (line 30). This constructs a reiterative, non-verbal interaction of intimacy. It is possible that this is an outcome of Mandy's ability to listen to and understand Barney and to respond to him in an affirming manner (line 18).

Reflections on constructions and re-constructions

At the beginning of the sequence, Rochelle and Barney appear to be participating in different and separate discourses. Rochelle persists with questioning while Barney continues to lie on his back producing utterances that are unintelligible, to me and possibly also to Rochelle. Barney does not respond to Rochelle's utterances and equally, Rochelle does not respond to his.

Rochelle's repetitive questioning style is pervasive throughout her interactions with Barney. It is consistent with a teaching style described by Duchan (1983) and the constraining, directive interactive style described by Hubbel (1977). This example illustrates a tendency for Rochelle to juxtapose her phrases with little or no interval between them, which constructs two possible interpretations: 1) Adequate responses from Barney are not actually expected. 2) A greater number of questions will have a greater probability of eliciting a response. These potentially construct and position Barney as non-compliant and/or non-responsive. In the example sequence this interactive style seems to be ineffective in facilitating shared attention and mutual participation in the interaction and is therefore unsuccessful in constructing co-ordinated interaction. It is possible that the demands placed upon Barney in the form of repetitive questioning overwhelm him and result in withdrawal. It is equally possible that Barney actively constructs himself as a non-participant in order to resist being positioned as ineffectual when he does not know how to respond. This in turn exacerbates the tendency for his co-participant to ask questions.

Mandy employs a style that seems to fit more closely with Duchan's (1983) description of a nurturing style. By imitating Barney's action of whispering in her ear, Mandy follows Barney's lead, reflects and affirms his action and co-ordinated interaction is thus co-constituted. Barney in turn initiates closeness with Mandy by leaning towards her, which opens up the possibility of responding to him. Mandy accomplishes this with an intimate, albeit idiosyncratic, gesture. By responding to his utterances as intentionally meaningful, she assists in the co-construction of shared meaning. This is consistent with the approach advocated by Aldred et al. (2001). It also contributes to the construction within the discourse of an intimate and trusting relationship rather than placing too much emphasis on producing the correct answer or articulating it clearly, as suggested by Wetherby et al. (1997).

4.2.6 Barney's style of interaction.

Sequence H, Appendix 7, *Hide-and-go-seek*

This sequence takes place between Barney and Rochelle during their session together. Prior to this, Rochelle, Barney and Mandy have played a series of games - musical chairs, followed by musical statues and musical bumps. Another sequence from the same episode is discussed further under *Going to the kitchen* (Sequence AA).

Data re-construction

Rochelle initiates interaction with a suggestion to play a game of hide-and-go-seek (line 1). Barney initially agrees to this (line 2) but changes his response and declines (line 4), which overlaps with Rochelle's turn (line 3). The "yes" is expressed without eye contact, which creates the possibility that it was employed as a turn-filler in the interactional exchange (a strategy that will be expounded upon later). Barney's contradictory choice generates conflict and supports the possibility that "yes" was not a meaningful utterance. Barney delivers the "no" with greater strength, making eye contact with Rochelle. The overlap with Rochelle's turn violates the rules of the turn-taking process, but does not result in *trouble* in the interaction, as Rochelle is able to respond to Barney's utterance. She repeats and elaborates Barney's utterance and continues with a request for an explanation and an alternative activity (lines 7-13). The complexity of these requests for Barney is suggested by loss of eye contact at this point and Rochelle's repeated and largely unsuccessful attempts to regain it. Barney takes up his turn (line 14) but his response is unintelligible. Rochelle attempts to listen closely to his utterance, but her next turn indicates that she has not heard him (line 16). She chooses to repeat her original question twice more rather than initiating a repair of Barney's turn. Barney finally provides an answer (line 20) in the form of the original option – "hide-and-go-seek". This utterance is accompanied by a gaze check subsequent to the utterance and a smile. He has satisfied his obligations within the interaction but has provided conflicting choices. Later in the sequence he again asserts his reluctance to play this game. It appears, therefore, that he is unable to offer an alternative. He thus uses what has taken place previously in the sequence to construct an acceptable response in order to please and appease his co-participant.

Reflections on constructions and re-constructions

In many previous sequences, Barney seems to be constructed as passive in the interaction, as reacting and responding to the initiations of his co-participants. In this sequence, however, we see that he is able to assert himself more actively within the discourse. In this sequence he and Rochelle actively negotiate which game to play next. Rochelle struggles to understand why Barney does not want to play hide-and-go-seek and Barney struggles to explain himself. The process of negotiation ends with Barney resorting to Rochelle's original suggestion. Is this because he does not have the resources to provide an alternative, or is it because the struggle to resolve the *trouble* in this interaction is unbearable and he resorts to compliance with Rochelle's suggestion in an attempt to achieve harmony? Therefore, perhaps Barney's

final utterance can be construed as one that he was directed to produce, that was imposed on him, rather than a product of negotiation.

Many sequences of interaction between Barney and his co-participants are characterized by long intervals between turns. Close examination of this example generates the idea that Barney may need more time to formulate responses that have meaningful intent. This prevents the split-second exchange that is fundamental to the turn taking process in typical conversations. This is consistent with suggestions by Perkins et al. (1998) in relation to dementia, that cognitive deficits prevent participation in the rapid exchange of interaction and that co-participants in interaction with individuals with dementia may not allow enough time to respond before taking a further turn. It is possible that Barney does not have the words to construct his need for more time, such as, “Just wait I’m thinking”, “um” or “hmm”. Barney’s violation of the rules of turn taking results in overlapping turns. In this sequence the co-construction of meaning is not impeded. However, given his tendency to produce whispered utterances, his turn could have been overpowered by Rochelle’s and lost.

4.3 How Barney is positioned within the discourse

Sequence I, Appendix 8, *Yoos!*

This sequence was selected from an episode of interaction between Barney, Rochelle and Mandy during Barney’s session with Rochelle. The three participants have returned from getting drinks in the kitchen and are in the bedroom taking a break. Rochelle and Barney are sitting next to each other on the floor. Mandy is sitting on the bed behind them.

Data re-construction

Full participation by Barney in the exchange between himself and Rochelle is co-constructed through consistent eye contact (lines 4-17), the strength of Barney’s response and his smile (lines 11 and 18). Barney’s turns (lines 11 and 18) suggest enjoyment in the sound of “yoos”, and Rochelle co-constitutes this enjoyment in her next turn, through her words, intonation and laughter (line 13). Thus the dyadic exchange creates a kind of game. Mandy initiates a turn that overlaps with Rochelle and Barney’s interaction (line 20) in an attempt to tell a story (lines 20-24). The pace and complexity of her discourse immediately excludes Barney, who continues the previous sequence (lines 23, 25 and 29) alone.

Reflections on constructions and re-constructions

Interaction between Barney's co-participants is characterised by rapid speech and split second timing, with frequent overlaps and latching. This functions to exclude Barney from participation within their discourse. In this example, Rochelle does attempt to include Barney in her interaction with Mandy, but Barney is not attending to her utterances and the complexity and abstract nature of what is being said fails to facilitate shared meaning and Barney remains isolated. Consequently, Barney is excluded from positioning within their discourse and is thus alienated from the inter-subjective world that is co-constructed through their discourse. It is possible that this further encourages Barney's withdrawal into the world in which he interacts with himself, as illustrated in the above sequence. This resonates with the words of Temple Grandin (Sacks, 1995).

Sequence J, Appendix 9, *Yours and mine*

This sequence follows on from *Going to the kitchen* (Sequence AA) within the same episode of interaction.

Data re-construction

Mandy initiates the interaction, emphasizing the word "glass" (line 2). Barney takes his turn without delay, maintaining eye contact and strength of tone. These features together constitute enthusiastic participation in the interaction (line 4). Based on the rules of sequential organisation, we can deduce that Barney's understanding of the word *my* is fixed and he associates it with himself only. Thus, there is no mutual understanding of its meaning at this point in the interaction (line 4). Mandy's turn functions to repair her previous utterance in an attempt to construct meaning in the words *yours* and *mine*. She attempts to accomplish this by emphasizing the words *yours* and *mine* in the next turn (line 6). Barney takes his turn without any interval and repeats his previous utterance (line 8) in a further unsuccessful attempt to co-construct meaning. Mandy repeats her verbal explanation with a corresponding non-verbal action (line 9). This appears to function successfully in constructing shared meaning as Barney's next turn in the sequence is a non-verbal action indicating a search for the glass (line 10). Mandy orientates to this and constructs it as intentional behaviour by articulating his action (line 11). Barney first tries Rochelle's glass (line 12), which can be interpreted as continued uncertainty as to the meaning of the words. Upon his discovery of Mandy's glass, Barney repeats "yours and mine" (line 14), which perhaps confirms the meaning of the words in relation to this context and serves a rehearsal function. In the next turn Rochelle repeats his

utterance and adds a verbal reinforcer, “very good”. Barney repeats these words several times thereafter. These are no longer part of an interaction with either Rochelle or Mandy, but could be part of some dialogue between Barney and himself, such as *egocentric speech* (Vygotsky & Luria, 1994), as well as part of a sense making process.

Sequence K, Appendix 9, *Have you washed your hands*
Barney and Mom are in the lounge before suppertime.

Data re-construction
Barney’s “yes” turns (lines 4, 10 and 14) are produced with eye contact. In another turn, responding requires Barney to twist around to face Mom in order to make eye contact, a movement that takes some effort (line 9). This constructs Barney’s turn as intentional. The use of “yes” (line 4) as an attempt to co-construct meaning is supported by the phrase “I wash” in his next turn (line 7). Barney modifies Mom’s previous turn by changing her use of *you* to *I*, thereby producing an utterance of mitigated echolalia. This is repeated again a bit later in the sequence (lines 19 and 20).

Reflections on constructions and re-constructions
The literature on autism repeatedly identifies difficulty with speaker/role relationships as one of the key characteristics of individuals with autism (Baltaxe, 1977). In interaction Barney seems to struggle to understand the meaning of *I/me* and *you*. His co-participants sometimes orient to this difficulty through their reference to both themselves and Barney by name instead of using personal pronouns. In *Have you washed your hands* (Sequence K), however, Barney modifies the previous utterance with the use of “I”, thereby actively taking up a position within the discourse by constructing himself as an individual, as described by Forrester (2002). In *Yours and mine* (Sequence J), Barney and Mandy collaboratively negotiate the meaning of *yours* and *mine* in a reiterative process. In this way, both Barney and Mandy actively position themselves in relation to each other. These sequences of interaction suggest some development of self-concept, as described by Forrester (2002) and Harré (1983).

4.4 Summary

Features that emerge as prominent from the data construction and reconstruction are summarised in the tables below.

	Characteristics	*Effects*
Dad	Short, simple utterances Fewer demands Silly sounds, onomatopoeic words Activity based	Facilitates comprehension Enriches verbal interaction Smooth flow Barney and Dad positioned more equally in the discourse
Mom	Use of daily circumstances for learning language Frequent and repetitive use of questions High demands for verbal responses	Directs and constrains interaction Imbalance in verbal discourse Barney's non-participation in discourse Difficulty in constructing co-ordinated interaction
Mandy	Motherese intonation Follows Barney's lead Matches Barney's tone and posture and language Compensates for Barney by executing repair and initiating interaction on his behalf	Adopts a nurturing and protective position Synchronised, intimate exchange Construction of inter-subjective reality Positions herself as Barney's *voice*
Rochelle	Repetitive questioning with no or brief intervals Focus on quality instead of content of turn – teaching style Use of affection to temper the demands of the teaching style	Ineffective in accomplishing joint attention Forecloses natural progression of the sequence and disrupts co-construction of meaning Constructs intimate interaction non-verbally
Barney	Sometimes longer delays in taking his turn	Needs time and space in which to form response

Table 1: Summary of the most important practices employed to construct interaction.

Comparison of styles	
Teaching Repetitive questioning No or brief pauses between questions/instructions/requests High linguistic demands Results in withdrawal and prevents accomplishing joint attention and mutuality in the interaction	*Nurturing* Imitation of Barney's behaviour and tone of voice Nurturing and protective position Accompanying affection Constructs intimacy Risks constructing Barney as a passive participant in the interaction
How is Barney positioned within the discourse:	
Barney's use of the personal pronoun *I*, which actively constructs him as an individual in relation to his co-participants. Realising that he has trouble with the shifts in the use of *I* and *you*, his co-participants emphasize the construction of separate identities through the use of names, e.g. "Daddy throw the ring" Participation in activities that allow taking non-verbal turns positions Barney more equally in the discourse. Alternatively this constructs Barney and Dad in a more father/son rather than teacher/pupil position. The complex language and rapid exchange of discourse between co-participants functions to exclude Barney from participation in the discourse that constructs their inter-subjective world.	

Table 2: Summary of the most important characteristics of different interactive styles.

4.5 Interactive strategies used by Barney and his co-participants

4.5.1 Use of the word *yes*.

Sequence L, Appendix 10, *School talk*

It is a Saturday afternoon. Barney and his mother are in the lounge. They have just finished playing a game together with a balloon. Barney's mother initiates a conversation about school.

Data re-construction

Barney employs the word *yes* for three different turns (lines 7,12 and 20), each time avoiding eye contact despite Mom's attempt to meet his gaze (line 8). Furthermore, a "yes" utterance for one of those turns (line 12) is not meaningfully related to the previous one. We can therefore make the assumption that *yes* is used as an interactional device in the absence of comprehension. Similarly, Mom's next turn is not related to Barney's yes response in the previous turn (e.g. line 13), but continues from her own turn in which she supplies the *correct answer*. In the next turn, Barney repeats Mom's utterance and meets her gaze (line 15) thereby actively maintaining his participation in the interaction. However in response to Mom's next question (line 17) Barney again uses "yes" (line 20). This response is not meaningfully related to the previous turn, is expressed in a soft, breathy tone, and is accompanied by active avoidance of eye contact.

Sequence M, Appendix 10, *Fetching the HTH*

This sequence is taken from an episode of interaction between Dad and Barney in which Barney helps Dad to test the chlorine levels in the swimming pool.

Data re-construction

Emphasis on and animated tone in the expression of "yes", combined with a corresponding non-verbal response (line 2) lends support to the idea that Barney actively produced his turn with intent to construct meaning, as opposed to a strategy employed simply to fulfil the expectations of the turn taking process. Dad treats Barney's utterance as one of comprehension. His turn provides the interactional consequences of Barney's choice (line 3). Barney implements his father's request without delay (line 4).

Reflections on constructions and re-constructions

Barney frequently employs the word *yes* to fulfil his turn in the sequence. Analysis of the sequential organisation constructs a turn taking process in which yes-answers are related to the previous and next turns and in these instances yes is considered to function to co-construct meaning. However, there are other times when the yes-answer seems to be used simply to fulfil Barney's turn obligations in the interaction in the absence of comprehension and the linguistic resources to express, "I don't understand". This is suggested when Barney's yes-answer is unrelated to the previous utterance. Equally, however, Mom's next utterance is

frequently unrelated to Barney's yes-answer in the previous turn, and she continues with her own line of discourse, thereby ignoring Barney's turn in the interaction.

This is possibly a strategy developed by Barney to satisfy his co-participants, or to participate in interaction with them despite not always: a) understanding his co-participant's previous utterance; or b) knowing how or having the available language to generate a response. As a large proportion of the utterances used by Barney's co-participants in interaction with him are questions, this device functions fairly successfully for Barney on the whole. A suggested rule of thumb is as follows: if *yes* is expressed softly, in a whisper, or accompanied by an intake in breath with no accompanying eye contact, it is employed with little or no understanding of the meaning of what the speaker has said and indicates lack of active participation in the interaction. Similarly, in these instances Mom both fails to respond to Barney's yes-answer as a relevant turn and to initiate repair. In contrast, if *yes* is expressed with animation and volume, and accompanied by a smile and eye contact, it is possibly being employed interactively with meaningful intent. This description is consistent with the *yes-answer* functional category identified by Prizant & Duchan (1981) and Prizant & Rydell (1984).

4.5.2 Use of repetition.

Sequence N, Appendix 11, *Throw over your head*

This sequence comes from the episode of interaction between Barney and Dad as they play a game throwing a rubber ring to each other. It continues from *Playing with the ring* (Sequence A).

Data re-construction

This sequence is characterised by repetitive use of the phrase "throw over your head" by both Barney and Dad. Dad uses it initially to describe how Barney should throw the ring, and it is therefore expressed with the corresponding action (line 2). Barney repeats his father's utterance and makes eye contact as he hands him the ring (line 6). Later in the sequence the utterance functions for Barney as an expression of anger directed towards Dad for throwing the ring too far for him to catch (line 12). This meaning is generated through the tone and volume of his voice, his facial expression and eye contact directed at Dad. Dad, in his turn (line 14), chooses to respond only to the literal meaning of Barney's utterance and ignores the possible underlying intent. It appears that Barney's anger does not function within the

interaction and is consequently diffused, and they return to the topic of throwing the ring over their heads. Barney repeats the phrase (line 18-19) to articulate his action, which Dad confirms (line 20). At times Barney repeats the utterance without appearing to use it interactively (e.g. line 24), which seems to carry out a rehearsal function. Dad continues to respond to Barney's use of the phrase by repeating it back to him (line 25) and in this way the phrase continues to function interactively.

Sequence O, Appendix 11, *Teaspoons and two spoons*

This sequence was selected from an episode of interaction in which Barney is helping Mom to make a salad in the kitchen. Barney is standing on a little stool in order to reach the counter. Mom is standing next to him.

Data re-construction

Mom's instruction takes the form of a suggestion (line 1). Barney constructs a meaningfully related response through repeating the utterance (line 2) and carrying out the requested action (line 3). Barney presents the spoon he has selected to Mom with a spontaneous, albeit grammatically idiosyncratic, utterance that actively contributes to the discourse but confuses the words *two spoons* with *teaspoons*. In the next turn, Mom repairs this misunderstanding by distinguishing between the two types and using non-verbal means to assist her explanation (line 6). Barney repeats the type of spoon he needs (line 7), but his action creates the suggestion that he doesn't completely understand and has only attended to one aspect of the request (adding support for the use of simple utterances). Mom repeats the distinction (line 8) and Barney repeats the instruction to himself (line 9). Mom then emphasizes the distinction by employing a more direct form of instruction/explanation, pointing out the spoons herself (line 10). In this way she orients to the confusion underlying Barney's verbal repetitions. Barney selects the correct spoon and his mother reminds him that she wants two (line 11). Again Barney uses echolalia to correspond to his behaviour (line 12). Barney concludes the process with the phrase, "there we go" (line 15), illustrating awareness of the successful completion of the activity.

Sequence P, Appendix 11, *Eat your meat*

This sequence was selected from an episode of interaction between Barney and Mom. Barney and Mandy are sitting in the lounge eating their supper in front of the television. The television is turned on and Mom is sitting on the couch watching it. This episode of

interaction was recorded by a video camera fixed to a tripod in the corner of the room. I was not present during the recording.

Data re-construction

Mom instructs Barney to eat his meat (line 1). Barney turns to make eye contact with Mom. He turns back and the tone and volume he employs to express the immediate echoic utterance (line 3) suggests that it functions as an expression of anger or frustration. Mom's turn consists of two parts: "yes" constructs Barney's turn according to its literal meaning and "It's yummy, look Mandy ate all hers up" additionally constructs his response to mean "I don't want to eat my meat". Barney continues to repeat this phrase (line 6) accompanied by moaning. Mom does not take up a next turn and therefore does not assign the immediate echolalia with a function in the interaction. An alternative construction is that she is intentionally ignoring Barney's complaints about his food as a technique of extinguishing bad behaviour. The interactional consequence is that Barney withdraws into self-stimulatory behaviour (lines 12-13).

Reflections on constructions and re-constructions

Repetition is a resource drawn upon by both Barney and his co-participants in the co-construction of discourse, resulting in a reiterative process of negotiating meaning. This is perhaps a slower and more collaborative process than in typical conversations, as the repetition functions to seek and receive confirmation of meaning. This is consistent with findings by Tarplee & Barrow (1999). Barney's use of repetition is often in the form of immediate echolalia. He adapts these echoic utterances in his turn to produce *mitigated echolalia*, as described by Prizant & Duchan (1981), which suggests both the development of more spontaneous and flexible language (Prizant et al., 1997) and that Barney is actively participating in the co-construction of meaning. Barney's turns are frequently constructed through the repetition of his co-participant's previous utterance. Similarly, Barney's co-participants tend to repeat Barney's utterances before responding to them. Thus, a large proportion of the discourse is constructed through repetition. It is therefore possible that this provides Barney with a model of talk that influences the way he learns to construct interaction, as suggested by Radford & Tarplee (2000).

Both Barney and his co-participants tend to combine their repetitions with corresponding actions or demonstrative gestures that relate the utterance to the environment. Additionally,

Barney articulates immediate echoic utterances that correspond with the execution of tasks and activities. This is consistent with recommendations by Prizant et al. (1997) for the development of contextually meaningful language. These utterances also seem to have a self-regulatory or rehearsal function as described by Prizant & Duchan (1981) and Prizant & Rydell (1984) and could be thought of as *self-talk* or egocentric speech (Vygotsky & Luria, 1994).

A second function of repetition is to confirm and legitimise each other's utterances, thereby contributing towards *semantic contingency*, as suggested by Duchan (1983). For the most part Barney's co-participants treat his echoic utterances as meaningful contributions to the interaction. Similarly, Barney constructs echoic utterances that are related to both the sequential and broader environmental context. At times, however, Barney employs immediate echoic utterances that are exact replications of the previous utterance with the absence of eye contact and a corresponding behavioural response (if required). Together these construct the possibility that they function to fulfil the requirements of turn taking when Barney has not understood the previous utterance. This is consistent with findings by Prizant & Duchan (1981) and Prizant & Rydell (1984) that echolalia functions as a turn taking device (Prizant et al., 1997) employed in the absence of comprehension (Fay, 1969). Within many interactions, immediate echolalia functions for Barney as an expression of emotion in the absence of more conventionally meaningful forms of expression. In *Eat your meat* (Sequence P), Barney repeats Mom's utterance with a strong, emotive tone, thereby reconstructing the phrase as an expression of resistance. Mom interprets this response to mean a refusal to eat his meat, thereby responding more to the emotive quality than to its literal meaning. In this way, Mom and Barney co-construct meaning as Mom provides the verbal expression to Barney's possible intent. This is consistent with recommendations by Prizant et al. (1997) and Wetherby (1986) that co-participants should respond to the communicative intent of the echoic utterance.

4.5.3 Using words from the previous utterance to guide his response.

Sequence Q, Appendix 12, *It's really warm*

This sequence was selected from an episode of interaction between Rochelle and Barney at the beginning of their session. Rochelle is in Barney's bedroom helping him to get dressed after swimming.

Data re-construction

Rochelle asks Barney a question comprising of two choices, “are you warm enough or do you want a jersey” (line 1). Barney’s turn (line 3) is not meaningfully related to the previous utterance and is accompanied by active avoidance of eye contact, creating the possibility of inattention and incomprehension. Rochelle is oriented to this withdrawal and she regains Barney’s attention before repeating the question in the same format (line 4). There is a pause (1,16 seconds) before Barney formulates a response that functions as a choice (line 7). Eye contact and emphasis on the word “warm” function to construct a more interactional function for this utterance. This is reiterated through Rochelle’s turn (line 8), which treats Barney’s utterance as a meaningful choice with certain consequences that are subsequently carried out, i.e. he does not receive a jersey to wear.

Reflections on constructions and re-constructions

From the data production emerges the possibility that Barney uses words from his co-participant’s previous utterance to help him construct his turn. In other sequences of interaction that are not included as examples here, he seems to use a word or phrase that he recognises to guide and construct his response. This has implications for the sequential organisation of interaction in that, although Barney’s turn is related to the previous one, that relationship is frequently semantically based. Thus if his co-participants employ the sequential context to decipher Barney’s utterance, particularly if it is expressed quietly, they might look to the words used in the previous utterance as a guide. From a social constructionist perspective, this could be considered an attempt by Barney to contribute to the co-constitution of discourse, as described by Gergen (1999), by using his co-participant’s utterances to reconstruct his own.

Barney’s turns, whether exact repetitions, mitigated echolalia or *yes- answers*, correspond to the rules of turn taking and necessitate awareness of the completion of an action in order to locate the transition relevance place. Moreover, his use of the previous turn in the construction of his next turn creates a sequential organisation within the interaction. This is consistent with findings by Wootton (1999). Prizant et al. (1997) suggests that the ability to locate the transition relevance place implies the ability to closely monitor the communicative behaviour of others.

4.5.4 Use of questions by Barney's co-participants.

Sequence R, Appendix 12, *Hiding the ball*

This sequence takes place towards the end of Barney's session with Rochelle. Rochelle and Mandy are in the garden. They have been discussing options for the next activity and have decided on a game of hiding the ball. While they were involved in their discussion, Barney played alone with his ball.

Data re-construction

Mandy and Rochelle's utterances overlap as they simultaneously initiate interaction with Barney (lines 1 and 2). Barney's ball is concurrently removed from his hands and he is physically drawn into the interaction (line 3-4). The consequence is that Barney actively avoids participating in the interaction by withdrawing himself physically (lines 5, 7 and 10). Mandy and Rochelle are oriented to his withdrawal and attempt to draw him back into the interaction (line 11) and to obtain eye contact (line 12), again through physical means. These attempts are unsuccessful (line 13). The sequence closes with some sense of non-verbal synchronisation between Rochelle and Barney, achieved as Rochelle puts her arm around him and he co-ordinates with her movement by leaning his body into hers.

Reflections on constructions and re-constructions

Questions are frequently employed by Barney's co-participants as a strategy to initiate and sustain interaction, and as a tool for teaching and encouraging expressive language use. As discussed earlier, this finding is consistent with the literature. From the data emerges a recurrent pattern of repetitive questions separated by intervals as the co-participant waits for a response from Barney. The duration of the interval varies between two and three seconds but is sometimes just a split-second or no pause at all. His co-participant either employs the same format or reformulates it with each repetition. This is consistent with the findings of Aldred et al. (2001), who suggest that the lack of initiations and non-responsiveness of the child with autism may influence his/her adult co-participant into adopting a more intrusive interactive style. Barney's attempts to withdraw from the interaction construct the questioning style of his co-participant's as overwhelming and demanding, especially when issued from two co-participants concurrently. In regard to the sequence above, other factors might have contributed to this withdrawal. The interaction took place near the end of an intense hour-long session during which many interactional demands were placed on Barney. Rochelle and

Mandy do not attend to non-verbal signals to abandon the interaction, but persist in attempts to reintegrate him. They employ physical and verbal means to draw him back into the interaction, which constitutes a more directive style of interaction. Often the series of questions ends with a turn completion. Damico et al. (1999) found that co-participants in interaction with individuals with aphasia made extensive use of turn completions as an interactional strategy. The use of this strategy could be considered to construct more of a narrative than the structure created by a question/answer sequence.

4.5.5 Summary.

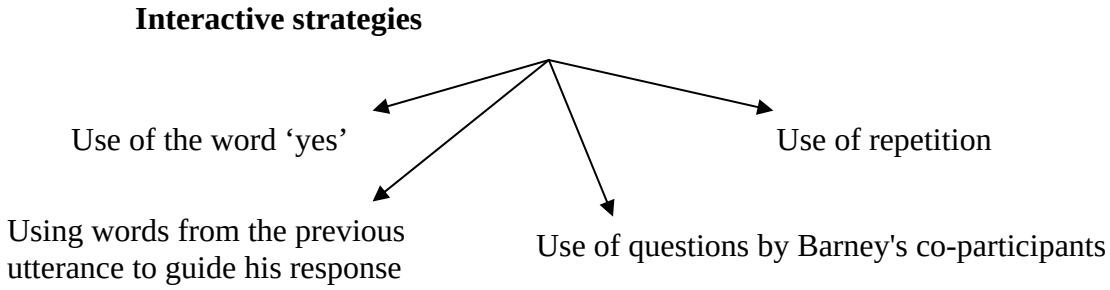

Figure1: Interactive strategies used by Barney and his co-participants.

The figure above provides a summary of the strategies employed by Barney and his co-participants in their attempts to construct co-ordinated interaction.

4.6 Practices that contribute to discordant interaction

Sequence S, Appendix 13, *My sister's hair*

This sequence is taken from the episode of interaction that takes place at the beginning of Barney's session with Rochelle. Mandy has just walked into the room in which Rochelle is helping Barney to get dressed. This sequence continues on from *Greeting Rochelle* (Sequence F).

Data re-construction

Rochelle instructs Barney to look at Mandy's hair (line 2). He complies with her request with a non-verbal response (line 3). Rochelle repeats the instruction, illustrating her lack of orientation to his previous turn (line 4). Barney again takes his turn non-verbally (line 5). Rochelle repeats her instruction a third time (line 6) and this time Barney articulates his turn

verbally in addition to the non-verbal response. The emerging construction is that non-verbal responses are not oriented to and that Barney is required to co-construct discourse verbally (line 7).

Sequence T, Appendix 13, *Facial Expressions 1*
In this sequence, Barney and his mother are sitting together in the lounge. Barney is sitting on his mother's lap.

Data re-construction
The suggestion that Barney is a full participant in the interaction is constructed by sustained eye contact, an absence of intervals between turns and his smile. The sequence follows a fairly regular pattern of instruction by Mom (e.g. line 1) followed by a response by Barney (e.g. line 3). Sometimes this is followed by Mom's repetition of Barney's previous turn in the third turn position (e.g. line 4). This pattern will be discussed more fully in Section 4.6. The interaction starts to break down at the point at which Mom changes the pattern of the sequence with an inferential question (line 8). She constructs a hypothetical situation that requires Barney to reflect on his experience and emotions, integrate them and produce a verbal response – a highly complex and abstract task for a child with autism. The consequence is avoidance of eye contact and withdrawal from the interaction (line 9). Mom seems to orient to his withdrawal, as she does not wait for a response, but changes the structure of her request to a turn completion (line 10). Barney's next turn consists of repetition of part of Mom's previous utterance with avoidance of eye contact (line 11 and 12). Mom supplies Barney with a *correct answer* (line 13), which he repeats after a two-second interval (line 15). His utterance is an exact replication of Mom's, both in content and intonation. The absence of adaptations suggests that it functions to fulfil turn obligations in the interaction, and is therefore less effective in co-constructing shared meaning.

Sequence U, Appendix 13, *Musical bumps*
This sequence is an extract from an episode of interaction during Rochelle and Barney's session together.

Data re-construction
Rochelle instructs Barney to describe the rules of the game (e.g. line 2). Although Barney maintains eye contact during the request, he averts his gaze in his turn and his utterance is not

meaningfully related to the previous one (line 4). As discussed, he seems to employ *yes* as a turn taking strategy in the absence of comprehension or lacking the resources to construct a meaningful or relevant utterance. Rochelle is oriented to his withdrawal from the interaction and physically draws him back. She challenges his yes-answer and repeats her instruction using the same format (line 6). In the next turn, Barney repeats his previous utterance, thereby continuing to employ the same strategy and to avoid eye contact (line 7). Barney's withdrawal from the interaction is further suggested by turning away from Rochelle (line 10). There is a shift in this process when Rochelle provides the required response and its associated non-verbal action (lines 14-16). Barney attends to Rochelle's action, following her movement with his gaze (line 16). Rochelle's instruction (line 19) is now met with eye contact and followed by a meaningfully related response (line 20). They repeat the action together, and participation becomes mutual and a kind of game. Enjoyment is co-constructed by Barney's laughter (line 25).

Reflections on constructions and re-constructions

These sequences illustrate just a few of the potential sources of disruption to synchronised and co-ordinated interaction. Sometimes the *trouble* is resolved within the interaction, as illustrated in *Musical bumps* (Sequence U). Sometimes it results in a breakdown of shared meaning and Barney's withdrawal from participation in the interaction. The action of withdrawal is constructed from avoidance of eye contact and the production of utterances that are not meaningfully related to each other. A source of disruption seems to be a shift in the interactive style of Barney's co-participant to one that places more demands on Barney. Another potential source of disruption is the failure of co-participants to orient to Barney's attempts to construct meaningful turns. As illustrated in *My sister's hair* (Sequence S), Barney's co-participants sometimes miss some of the subtle, often non-verbal, features of Barney's communication. A possible explanation is his co-participant's rigid focus on his/her own motivation within the interaction, which is often to obtain a specific verbal response. This is consistent with a constraining interactive style in which the co-participants' expectations are imposed on the child (Hubbel, 1977). While this doesn't always result in complete break down in the interaction, not listening and responding to these features as valid turns in the interaction communicates implicitly that they are incomprehensible to the listener and do not achieve anything interactively. This potentially impedes language development, Barney's confidence in participating interactively and the development of communicative intent. It also impedes the co-construction of meaning and further contributes to what must

already be a very confusing world. To address this would be a style of interaction consistent with recommendations by Hubbel (1977), Wetherby et al. (1997) and Aldred et al. (2001), one which follows the child's lead and encourages sensitivity and fine-tuning to subtle and sometimes obscure communicative signals. Finally, although not specifically illustrated in the sequences above, another contributing factor to discordant interaction is the strength and volume of Barney's co-participants' talk that potentially dominates and overwhelms his quieter and more tentative speech. It is possible that Barney's quietness is a response to the volume of his co-participants' voices, as his co-participants' advance constructs an intimidating pose from which Barney retreats. It is also possible that his co-participants' loudness functions to compensate for Barney's quietness.

4.7 Practices that assist in constructing co-ordinated interaction

4.7.1 Predictable sequences.

Sequence V, Appendix 14, *Knock-knock*

This sequence is taken from an episode of interaction between Barney, Mandy and Mom. They are in the lounge before going for a walk.

Data re-construction

Barney initiates interaction with characteristic hesitation (line 5). He uses the predictable format of the *Knock-knock* sequence, which he has recently learnt from a computer programme. The original sequence on the computer, however, is different to the one that he constructs in the current sequence suggesting the ability to flexibly adapt the content to be more contextually meaningful (e.g. line 10). Barney's response, after the first successfully completed sequence, is to repeat the entire sequence over, taking on both roles in the interaction (lines 14-19). His behaviour and laughter constructs delight and enjoyment, or perhaps satisfaction with his social achievement and experience. Mandy and Mom stand and watch. Mom initiates another interaction by following the same sequential structure established by Barney (line 21). Complete participation by both participants in the interaction is suggested by sustained eye contact throughout. Disruption of the smooth flow of interaction happens at the point at which Barney's mother changes the sequence structure to a question-response pattern (line 44). Barney no longer maintains eye contact and longer intervals between turns begin to emerge. He attempts to physically leave (lines 53, 57, 64, 67,

74 and 89) and withdraws into self-stimulatory behaviour (line 61), communicating an unwillingness to participate. Barney's mother responds by physically (lines 57, 64, and 68) and verbally (line 77) drawing him back into the interaction. Barney is finally *released* from the interaction when he is able to correctly provide his address and telephone number. The educational style of the latter half of this sequence is enhanced by the military stance that Barney assumes in front of Mom.

Reflections on constructions and re-constructions

The familiar and consistent rules of games and the predictable sequence structure of the knock-knock sequence provides the necessary structure for Barney and his co-participants to co-construct interaction with minimal struggle. This is consistent with the child with autism's need for sameness, predictability and maintenance of an established routine. It is possible that a change in that routine generates confusion and anxiety and Barney's response is to withdraw. Similarly, it provides a safe and consistent structure for his co-participants in which they are rewarded by responsiveness from Barney and are able to recognise his utterances as meaningful. In other words, they are not required to endure the stress of deducing what he is attempting to communicate through idiosyncratic utterances. Prizant et al. (1997), however, points out that a rigid adherence to a specific interactional routine is not conducive to the development of communication. This possibility needs to be weighed up against the benefits of a regular and predictable sequence structure with consistent responding, which according to Wetherby et al. (1997), facilitates development of the ability to recognize the inherent structure in interaction. Finally, the *Knock-knock* (Sequence V) is remarkable due to Barney's spontaneous initiation of interaction for seemingly no other purpose than interaction as an end in itself. This contradicts findings that children with autism only initiate interaction in order to meet their needs and regulate the behaviour of others (Wetherby, 1986). It constructs a mutually enjoyable and satisfying interaction for all participants until it begins to breakdown. This disruption to co-ordinated interaction is a similar process to that discussed in Section 4.6.

4.7.2 Non-verbally constructed sequences.

Sequence W, Appendix 15, *Facial expressions 2*

Barney and Mom are in the lounge. Barney is seated on Mom's lap with his back against her. His head is facing the same direction as hers and when he makes eye contact he turn's his

head to face her. This sequence was analysed and discussed with a different focus under *Facial Expressions 1* (Sequence T).

Data re-construction

This sequence, initiated by Mom, follows a fairly regular structure of request (M) /response (B) (e.g. lines 1-8) or a variation on this: request (M) /response (B) /confirmation (M) (e.g. lines 10-14). Barney responds to Mom's instruction with the sound she asks for and accompanying eye contact and smile. Mom's next turn is to echo Barney's previous utterance. Her laughter (line 14) overlaps with Barney's (line 15) constructing shared meaning and enjoyment. Mom emphasises her words using rising and falling intonation, which Barney frequently imitates and which is again re-echoed by Mom. This results in an interactive exchange of sustained eye contact and synchronised body movements, with each turn reflecting the previous one (e.g. lines 44-57), thereby constructing a verbal and non-verbal rhythm. These features culminate in a non-verbal gesture by Barney (line 57) to which Mom responds (line 59), constructing an intimate moment in the discourse.

Sequence X, Appendix 15, *Playing the fool*

Dad and Barney are in the lounge. Dad is sitting on the couch with Barney lying in his lap.

Data re-construction

This sequence comprises of a regular and familiar structure. It takes the form of a game of *silly* noises and their corresponding actions (e.g. lines 3 and 4). The sequence has a regular structure around which there is some flexibility (e.g. lines 23-25). Barney and Dad alternate initiating *mini-sequences* within the main sequence. Dad takes on the role of identifying whose turn it is to initiate. A smooth process of reciprocation is constructed from an absence of delays in turn taking, Barney's laughter (lines 14 and 27), maintenance of eye contact (e.g. lines 2-5) and the synchronisation of body movements (e.g. lines 28 and 29). Barney imitates Dad's utterances in overlapping turns (e.g. 23 and 24).

Sequence Y, Appendix 15, *Popeye sequence*

This sequence is taken from an episode of interaction between Mom and Barney. Barney is finishing the last of his meal. He is seated at the table, facing the television. Mom is sitting behind him on the couch. Mandy has finished her meal and has left the room.

Data re-construction

This sequence is unlike the previous two examples in that it is not constructed from the regular exchange of signs or sounds and body language. Its remarkable feature is the spontaneous non-verbal response produced by Barney (line 15). This response is produced after what initially appears to be repeated unsuccessful attempts to engage him in interaction (lines 2-8). Mom gains Barney's attention (line 6) but Barney's next turn is unintelligible. Mom chooses not to initiate repair on that turn, supplying the words herself for Barney's unintelligible utterance (line 8). It is possible that in this way she assumes responsibility for Barney's role in the interaction thereby compensating for his lack of participation (line 9-11). Barney's turn (line 13) is barely audible and his focus on the television creates the impression that he is not participating in the interaction. Mom is oriented to his lack of involvement and persists in her attempts to engage him (line 14). Barney takes his turn with a spontaneous and pertinent non-verbal response (line 15). Mom's next turn functions to confirm the meaning of Barney's previous turn by articulating it verbally (line 16).

Reflections on constructions and re-constructions

Some sequences are characterised by a non-verbal exchange, which helps to construct a smooth and co-ordinated flow of interaction. Non-verbal actions and sounds is a realm within which Barney seems to participate more comfortably. Shared participation in the interaction is evidenced by unbroken eye contact, facial expressions and overlapping laughter. Mom and Barney's imitation of each other's words, intonation and movements, in addition to the features identified above, function to construct a non-verbal rhythm within the interaction, which is enhanced by the absence of words. It is possible that this allows Barney to participate more freely without the demands of language. Equally, both Mom and Dad respond to Barney's enjoyment and participation, which establishes a reiterative process. This seems to be an important way of establishing shared attention, which Hubbel (1977) and Hewitt (1998) propose to be central to the process of language development. *Facial Expressions 2* (Sequence W) illustrates how this momentum breaks down when linguistic demands intrude into this non-verbally co-constructed world. Synchronisation is resumed at the end with a brief interaction between Barney and Mom, in which intimacy and closeness is constructed non-verbally. The same behaviour is seen in his interaction with Mandy in *Barney and Mandy* (Sequence G). Barney's use of non-verbally constructed turns is consistent with Prizant et al.'s (1997) point that non-verbal means of communication

comprise a significant proportion of communicative strategies used by individuals with autism.

4.8 Barney's initiations: What happens sequentially?

Sequence Z, Appendix 16, *Suppertime*

This sequence is taken from an episode of interaction between Mom, Barney and Mandy. All three are in the lounge and Mom is feeding Barney the last of his supper, which he otherwise refuses to eat. Mandy is talking to Mom while she does this. This recording was made using a camera fixed to a tripod and I was not present during the interaction.

Data re-construction

Mandy and Mom are involved in interaction between themselves (lines 1-2). They complete their action and Barney attempts to gain the conversational floor to initiate interaction with Mom. In this he demonstrates orientation to the transition relevance place (line 3). Mandy is not oriented to his initiation and simultaneously assumes the conversational floor, which Barney relinquishes. This illustrates that it is potentially difficult for Barney to compete with his co-participants. Mom, however, orients to his attempt to initiate interaction and prompts him to continue by initiating repair (line 5). Barney's utterance is spoken softly and it is difficult to ascertain which verb he uses. Mom's next turn, a repetition of Barney's previous one, functions to seek confirmation of his meaning (line 9), which Barney provides (line 11). Mom asks for an explanation (line 13), which is effective in eliciting a meaningfully related utterance (line 16). Barney pauses before taking his turn (3.7 seconds) providing support for the possibility that he needs time and space in order to construct a meaningful turn. In the next turn, Mom integrates Barney's utterances and reflects them back to him in the form of a question (line 18). Barney, however, has withdrawn eye contact and is no longer participating in the interaction. Mom attempts to extend the interaction (line 20) but Barney does not take up another turn and the interaction dwindles (line 21).

Sequence AA, Appendix 16, *Going to the kitchen*

This sequence was selected from Rochelle's session with Barney. Prior to this, Barney, Mandy and Rochelle were playing musical statues. Rochelle and Mandy have just been discussing what to play next.

Data re-construction

Earlier in this episode of interaction Rochelle asked Barney to play hide-and-go-seek, to which he gave conflicting responses (see *Hide-and-go-seek* (Sequence H)). Rochelle raises the topic again (line 2-3) and Barney repeats his decision to decline (line 5). Rochelle challenges Barney's conflicting answers (line 6) and instructs him to make a choice (line 9). Barney responds with his own alternative, to go to the kitchen (line 11). This utterance is accompanied by sustained eye contact. However, "kitchen" is articulated softly and without the *k* sound. As a result, Rochelle does not hear/ understand and produces a *next turn repair initiator*. Barney self-repairs in the next turn in the form of repetition, suggesting awareness of the *trouble* in the interaction (line 15). Barney meets Rochelle's gaze on the word "kitchen" which functions to emphasize it. Rochelle initiates repair again (line 16) and Barney's attempt at carrying out the repair overlaps with Rochelle's repetition of the repair initiation (lines 16 and 17). Barney's repair is therefore obscured by Rochelle's louder, more confidently spoken utterance. Barney makes a second attempt (line 19), this time constructing his utterance according to Rochelle's turn completion (line 16). Rochelle repeats Barney's utterance (line 21) in order to seek confirmation that she has understood correctly. Barney provides this confirmation (line 22). The use of emphasis by both Rochelle and Barney (lines 21 and 22) suggests enthusiastic involvement, perhaps because the *trouble* has been collaboratively resolved and they have established a shared understanding.

Sequence BB, Appendix 16, *Going for a walk*

This sequence is taken from interaction between Mom and Barney. Barney is sitting at the table in the lounge and has just finished eating. His mother is sitting behind him on the couch.

Data re-construction

Barney hesitates before initiating interaction with Mom (line 1-2). Mom initiates repair in the next turn (line 4). Barney carries out the repair through repetition, suggesting that he is oriented to Mom's incomprehension. His second attempt is produced with greater strength and volume, steadier maintenance of eye contact and a more conventionally constructed sentence (line 6). Mom repeats Barney's utterance as a question (line 8) - a recurring tendency in response to Barney's utterances. It is possible that these repetitions function to reflect Barney's utterance back to him and thus to confirm its meaning to both him and his co-participant. Repetition also functions to extend the interaction. In his next turn, Barney confirms Mom's understanding and meets her gaze (line 10), suggesting that a shared

understanding has been established. Mom's next turn functions to reinforce Barney's request in a manner consistent with a behaviour modification approach to intervention (line 11). She continues within her turn to instruct Barney to request that his sister accompany them, constructing her sentence with the words, "Ask Mandy if she wants to go". Barney runs to find his sister without delay (line 14). He pauses for two seconds before initiating interaction with Mandy (line 15-16). He formulates his initiation in a slightly different manner to the original utterance (line 2) and produces his request with a stammer, again suggesting uncertainty. It can be argued that Barney constructs his utterance ("May I have to go") using words from his mother's previous utterance ("Ask Mandy if she wants to go"). Barney and Mandy's simultaneously make eye contact suggesting non-verbal anticipation of the interaction. In the next turn, Mandy initiates repair. She scaffolds her turn onto Barney's previous utterance, with "Go where" (line 18). Barney partially attempts a repair, but runs out the room before it is completed. He stands outside the door with his finger in his mouth. The reason for this reaction is not clear, but it is possible that he finds the noise of the television overwhelming. Mandy does not respond to his exit nor does she pursue an explanation. Barney's mother is therefore required to take on the responsibility of initiating interaction between Barney and Mandy (line 26). Barney repeats the request several times and Mandy responds by initiating repair twice (lines 30 and 35). Barney attempts to self-repair, but other than repetition, he does not seem to have any other repair strategies available to him. Thus, he continues to repeat his original utterance, raising the volume of his voice in an attempt to be understood (line 28). Mandy provides Barney with more assistance in formulating his utterance with a turn completion (line 35 and 36). Barney uses Mandy's utterance to construct his turn (38). Mandy's turn is to repeat Barney's previous utterance as a question (line 40) and Barney confirms this, establishing shared understanding (line 42). Barney's mother provides Barney with conventionally meaningful words to use (line 43), which he repeats to Mandy (line 45).

Reflections on constructions and re-constructions

Sequences of interaction that are initiated by Barney follow a recurring structural pattern of:

- Initiation (Barney)
- Repetition as a question or repair initiation (co-participant)
- Confirmation or repair in the form of repetition (Barney).

In sequences initiated by Barney, he is positioned and constructed in a more active role, rather than a reactant to the initiations of others. Barney's initiating utterance is frequently expressed with hesitancy, illustrated by his movement, stuttering or false starts. This constructs the suggestion of uncertainty and a lack of confidence. His co-participant's next turn, often repetition of Barney's previous utterance, therefore functions to affirm it and strengthen its meaning. This suggests that his co-participant is oriented to his hesitancy and perhaps in this way they attempt to compensate. Barney hesitancy presents a potential obstacle to obtaining the conversational floor, which is illustrated in *Suppertime* (Sequence Z), as well as being a source of *trouble* in the interaction. Perkins et al. (1998) observed similar difficulties with individuals with dementia in obtaining the conversational floor. When hesitancy results in difficulty hearing it is followed by a *next turn repair initiator*. Barney's next turn is to carry out the repair through repetition alone. This suggests difficulty with either the assessment of his co-participant's comprehension needs or that he does not possess the flexible linguistic resources to construct his utterance in any other way. This is consistent with Geller's (1998) findings regarding the repair strategies of individuals with autism. Therefore repetition is again employed by the participants as a strategy to construct co-ordinated interaction and functions to affirm and confirm meaning for both participants. The structural pattern that emerges is reminiscent of Dobbinson et al.'s (1998) findings of circularity and repetitiveness in the conversation structure, which constructs a reiterative process in the negotiation of meaning. *Going to the kitchen* (Sequence AA), constitutes Barney as having agency in the interaction. He is able to assert himself and make a choice despite obstacles to accomplishing this, and is therefore able to position himself as more powerful within the discourse.

4.9 *Idiosyncratic Utterances*: how are they managed within the interaction?

Sequence CC, Appendix 17, *Now that's what I call a job well done*

This sequence was selected from an episode of interaction between Mom and Barney. Mom has just completed tying Barney's laces in preparation for their after-supper-walk. Mandy is also present in the room.

Data re-construction

Mom initiates the interaction by asking Barney to suggest the next activity. She uses the words, "Now what" (line 3). In the next turn, Barney produces what seems to be delayed

echolalia, “Now that’s what I call a job well done” (line 4-5). If we evaluate this phrase within the sequential context, it seems to be related to the previous utterance by the word “now”. Perhaps this word acted as a trigger, or rather provided the root from which his utterance was constructed. It is a meaningful utterance that constructs the activity as completed. Mom’s turn is to repeat and reformulate the utterance as a question (line 6). In doing so, Mom extends the interaction and treats Barney’s utterance as a valid and meaningful turn in the sequence. Barney repeats the delayed echoic utterance again (line 10) but this time without eye contact, thereby excluding Mom from participating and positioning himself as isolated. Thus it seems as if the utterance ceases to play an interactional role and begins to take on a self-stimulatory function. Mom’s turn is oriented to the lack of eye contact, constructing it as withdrawal from participation as she attempts to regain his attention (line 12) instead of responding to his previous turn. She therefore chooses to ignore it as relevant to the interaction, possibly in an effort to move the conversation forward. Mom’s question (lines 12, 13 and 15) and Barney’s utterances (lines 14 and 16) are not meaningfully related to one another and there is no construction of shared meaning. Mom’s next turn changes the topic (line 18), perhaps to distract Barney from withdrawing into self-stimulatory behaviour. Barney’s turn is to respond to Mom’s previous turn and is a meaningful and contextually relevant construction (line 20). Mom repeats this and reformulates it into a more general statement (line 26).

Sequence DD, Appendix 17, *At the market*

This sequence is part of the episode of interaction in which Barney and Mom are making salad together in the kitchen.

Data re-construction

Barney’s utterance (line 4) is not obviously related to the previous turn (line 1-3), but Mom treats it as contextually meaningful. By responding to it she provides it with a function and meaning within the interaction. Her turn is scaffolded onto Barney’s previous utterance and reconstructs it in a more conventionally meaningful way (line 5), although breaking off before completion of the action. Barney repeats the delayed echoic utterance with louder volume in his next turn (line 6), a strategy that draws attention to the utterance. This time Mom chooses to ignore this utterance and instead focuses on the activity of making salad. Later in the sequence, Mom initiates interaction (line 11). In the next turn, Barney’s utterance is unintelligible (line 12). Mom chooses not to initiate repair, but treats the utterance as

irrelevant, calling it “silly talk”. This is consistent with a behaviour modification approach, which aims to eliminate so-called nonsense speech and in so doing, does not assign it meaning, communicative intent or any other function within the interaction.

Sequence EE, Appendix 17, *Gingerbread-head*

This sequence was taken from an episode of interaction between Rochelle and Barney during their session together.

Data re-construction

Rochelle embarks on an extended turn punctuated by intervals, during which Barney does not take up his turn (lines 1-9). Throughout Rochelle’s turn, Barney seldom meets her gaze, instead looking in all directions except hers. These actions suggest a lack of involvement in the interaction, constructing Barney’s utterance (line 11), produced with averted gaze, as not sequentially related to Rochelle’s. In the next turn, Rochelle repeats Barney’s utterance and initiates repair (line 12). Barney responds to her repair initiation by repeating the utterance (line 14) with eye contact and a smile, so that now his utterance functions interactively. Rochelle initiates repair a second time (line 15) and in response Barney adds another word to his original utterances – “head”, which corresponds to “what” in the previous utterance (line 18). Rochelle initiates repair a third time by again repeating the utterance as a question. The sequence ends in the next turn as Mandy changes the topic (line 19). Barney repeats the idiosyncratic phrase *and* responds meaningfully to Mandy’s question in the same turn (line 21) suggesting that he is participating in the interaction. In her turn, Mandy chooses to ignore the idiosyncratic phrase and selectively responds to the second part of his utterance, which answers her question. She therefore chooses not to pursue the meaning of the phrase or to grant it a position in the discourse they are co-constructing.

Reflections on constructions and re-constructions

Research has shown that delayed echolalia serves as an important interactional resource for individuals with autism (Prizant & Rydell, 1984; Tarplee & Barrow, 1999; Wootton, 1999). These sequences illustrate that when used in the context of interaction, the delayed echoic utterances are frequently meaningfully related to the environmental or sequential context. This is consistent with Wootton’s (1999) findings that delayed echolalia seems to arise out of or be connected to the previous turn in the sequence and suggests that Barney is oriented to the sequential organisation and the need to construct contextually meaningful utterances. By

employing idiosyncratic utterances Barney adopts a more active position in the interaction and demonstrates an effort to actively co-constitute discourse with his co-participants. The way they are sequentially relevant suggests that these utterances are not constructed in isolation, but are co-constructed. By reconstructing Barney's utterances in a conventionally meaningful form, his co-participants accomplish the co-constitution of discourse.

Duchan (1983) hypothesized that people might find it difficult to legitimise behaviour considered within our culture to be abnormal. It appears that while Mom is able to legitimise Barney's abnormal verbal behaviour, in so doing she attempts to reconstruct it as *less abnormal*. Her responses do, in the main, contradict Wootton's (1999) findings that the adult's reactions to the child with autism's echoes were to ignore them and not to assign a communicative function. The co-participants responsiveness to underlying communicative intent results in *semantic contingency,* which serves both to acknowledge initiations and to restructure them to be more flexible, creative and conventionally meaningful (Wetherby et al., 1997). At times Barney's idiosyncratic utterances do remain isolated in the interaction (e.g. *At the market,* Sequence DD). It is possible that his co-participants do not know how to respond to them and thus find it easier to ignore them.

By treating Barney's idiosyncratic utterances as meaningful, his co-participants afford them a function within the interaction, regardless of whether this was intended or not. Thus the utterances become meaningful through their function within the interaction and this, according to Prizant and Rydell (1984) and Wetherby (1986), contributes to the emergence of communicative intent. *Gingerbread head* (Sequence MM), illustrates how some forms of echolalia are so unconventional and sequentially and contextually alien, that it is impossible for his co-participant to make sense of them (Prizant et al., 1997) and therefore to legitimise them. This is related to Kanner's (1946) observation that some utterances of the child with autism were grounded in the specific experience of the child and therefore incomprehensible to the listener. Furthermore, the *trouble* cannot easily be resolved within the interaction, placing more responsibility on Barney's co-participants to be sensitive to body language and other subtle communicative features (Prizant et al., 1997). The admonishment of "no silly talk" in *At the market* (Sequence DD) amounts to dismissal of an utterance that is potentially meaningful and socially directed. Prizant et al. (1997) points out that this is tantamount to punishing the child for his/her limitations in conventional expressive language. This provides

additional support for the need to attend closely to Barney's communicative behaviour, because we never know what we might be missing as we *bulldoze* on.

4.10 Influence of the researcher

Of important consideration is my influence on the interactions between Barney and his co-participants. As previously discussed, Barney did not show signs of being influenced by the recording process in terms of self-consciousness or changes in behaviour. After the process of data collection, Mom acknowledged that on reflection she had felt pressure to compel Barney to talk. The analyses of Mom's interactive style supported this, as there were suggestions in the data construction of an urgent need to elicit verbal responses from Barney. We must therefore consider the possibility that the interactive style that emerges in the data is not entirely representative of her natural interaction with Barney. Nevertheless, this is interaction that was constructed between them, employing strategies that are within both their repertoires, but perhaps more representative of interactive contexts in which Mom feels pressure to compel Barney to perform. It is possible that the influence of my presence and the nature of the research functioned to intensify a tendency to adopt this style of interaction.

With regard to the influence of my presence and the nature of the research on Mandy's style of interaction, it is possible that it contributed to her being more involved and putting more effort into her interaction with Barney. This may have been enhanced by her *identity* as Barney's *instructor* in the session with Rochelle, which constructed her in a central and important role. In spite of these contributing influences, the discourse constructed between Barney and Mandy positions them as having a close and intimate bond and a shared understanding. This is demonstrated in the many situations in which there is no apparent need for Mandy to make an impression.

4.11 Concluding note

It is important to note that although the styles of interaction have been linked to specific co-participants through the analysis, this is simply for illustrative purposes and does not imply that this style of interaction is used exclusively by that co-participant, or to the exclusion of other styles of interaction.

Chapter 5: Implications For Intervention

An aim of the research was to construct a profile of the interaction between Barney and his co-participants to inform intervention. Firstly, however, I will comment on the use of the concept *intervention*, as this construct is typically associated with a medical approach and implies an imposition of treatment in order to reduce or alleviate symptoms. In this study, *intervention* is considered to be something that is co-constructed between participants, rather than imposed on any one, and is based on the premise that all participants are equal co-constructors of discourse.

The profile is divided into four sections:

1) Strategies and devices employed by co-participants that help construct co-ordinated interaction, in which shared meaning is accomplished.
2) Practices and interactive styles that lead to disruption of the construction of co-ordinated interaction, resulting in a failure to accomplish shared meaning.
3) The strategies and devices employed by Barney in an attempt to co-construct meaning and participate actively in the interaction.
4) Structural features of the interaction as a whole. This is suggested as important in enhancing co-participants' awareness of how interaction is constructed between themselves and Barney and the implications for positioning and construction of identities within and by the discourse.

5.1 Strategies and devices resulting in co-ordinated interaction

Co-ordinated and synchronous interaction is constituted by sustained eye contact, expressions of enjoyment such as laughter or smiling from both participants which sometimes overlap, construction of shared meaning, a smooth flow with relatively few long intervals between turns, the establishment of a rhythm, and rich verbal and non-verbal contributions to the discourse by all participants. From Barney this is mostly in the form of mitigated echolalia or other idiosyncratic utterances. Practices that facilitate the accomplishment of co-ordinated interaction are outlined below.

- Short utterances: The use of short utterances by Barney's co-participants seems to facilitate Barney's understanding.

- Combining verbal with non-verbal communication: This assists in the co-construction of meaning by grounding the language in something more concrete.
- Transforming the interaction into a game, employing *silly* or interesting sounds and a playful interactive style e.g. tickling: This creates an enjoyable and fun experience, in which Barney participates as a child. This serves to remind the adult co-participants not to forget the *child* part in the discourse of *child with autism*.
- Involvement in tasks and activities: Through participation in tasks and activities, turns can often be fulfilled non-verbally. In this way Barney is perhaps better equipped to contribute to the interaction than in verbally constructed interaction, and this assists to balance out inequalities in participation. Furthermore, with fewer demands placed on him to provide the *correct answer* and by not participating in a question/answer sequence structure, perhaps these are the few discourses in which he is not positioned as the *language-deficient child*.
- Interaction constructed from non-verbal turns: As described above, in these sequences of interaction there are fewer demands for verbal responses. This often, paradoxically, produces more spontaneous and rich verbal discourse between Barney and his co-participants. Furthermore, many non-verbal turns often produce more harmonious synchronisation, and intimacy between Barney and his co-participants is co-constituted.
- Predictable sequence structures: Barney seems better able to participate in interactions in which he knows what is expected of him and has the resources with which to construct a response. He seems able to flexibly adapt the content of his language as long as the external structure remains consistent. In these interactional contexts, Barney seems to enjoy participating in social interactions. These sequences also function for his co-participants to construct predictability in that they know what to expect from and how to respond to Barney.
- Repetition: Repetition functions as a strategy for both Barney and his co-participants in the co-construction of meaning. It seems to function as one of the primary means through which Barney constructs his turn and carries out repair. Repetition also serves to affirm the meaning of Barney's utterance to both Barney and his co-participants and thereby affords the utterance a function and meaning within the interaction. Finally, through repetition, Barney's utterances can be expanded and reformulated in a more conventionally meaningful way.

- Providing Barney with the words to use: Barney's co-participants provide him with the words to express himself in the next turn. This is a useful strategy for language learning, particularly when Barney communicates non-verbally and his co-participant's words correspond to his action. However, in doing so his co-participant is required to be sensitive and careful not to overcompensate and impose his/her own words, thereby positioning Barney in a passive role within the discourse.
- Turn completions: This seems to be an effective device to elicit verbal answers from Barney where direct questioning has failed. It is possible that it constitutes a less intrusive and demanding style and constructs a more narrative discourse than the question/answer sequential structure.
- Imitating features of Barney's talk: Matching Barney's tone of voice, which is often soft and whispered, seems to reduce the potential for obscuring his tentative communicative attempts. Moreover, since Barney shows sensitivity to loud noises, this minimizes the possibility that he will be overwhelmed, particularly if two co-participants' utterances overlap. This is an important consideration, as the verbal nature of the discourse alone is extremely demanding. Finally, it helps to establish mutuality and the co-constitution of discourse (Gergen, 1999).
- Affection as a means of tempering directive interactive styles: A more directive teaching style is often necessary to initiate interaction. Thus, verbal demands can be tempered through physical affection. Barney responds positively to physical affection, which has at times contributed to the development of reciprocal interaction independent of the verbal exchange.
- Collaboration: The accomplishment of shared meaning seems to involve more effort than in typical interaction. Thus, collaboration between participants is emphasized. This also implies collaboration between the two non-autistic co-participants in a triadic exchange with Barney.

5.2 Features of co-participants interactive styles that result in discordant interaction

Features of discourse between Barney and his co-participants that contribute towards a failure to construct co-ordination are outlined below. This is suggested by Barney's withdrawal from or active avoidance of participation in the interaction (through active avoidance of eye contact, physical attempts to leave the interaction etc.), and use of immediate echolalia that is

an exact replica of the previous utterance or yes-answers that are whispered with no meaningful relation to the previous utterance.

- Complex utterances: Utterances consisting of multiple parts and using advanced or abstract language seem to contribute to Barney's withdrawal from participation in the interaction.
- Repetitive questions and/or instructions: An *incessant* stream of questions and instructions direct the interaction and place high demands on Barney to respond. It seems that this becomes overwhelming at times, particularly if Barney does not understand the question. Furthermore, the repetitive nature might become intrusive, particularly when combined with the loud volume of his co-participants' voices. The gains in obtaining *correct answers* are possibly outweighed by the loss of synchronisation as Barney withdraws from participating in the interaction.
- Co-participants' potential to impose their own agenda: Comfort and proficiency within the realm of social interaction, the necessity of carrying most of the conversational load, and the motivation to *get Barney to talk*, can potentially induce Barney's co-participants to (perhaps unwittingly) impose their own objectives on the interaction. This is consistent with a directive and constraining style of interaction and may potentially contribute to his co-participants' more powerful positions within the discourse.
- Directing and dominating the interaction: A consequence is sometimes failure by his co-participants to notice the subtle, often non-verbal, contributions by Barney to the interaction.
- Easy access to the conversational floor: A further implication of being more socially competent is the ease with which Barney's co-participants are able to obtain the conversational floor. This suggests that sensitivity to Barney's tentative attempts to initiate interaction or to take a turn is important.
- Changing the established structure of the sequence: From analysis of the sequential organisation emerges a pattern of breakdown in the interaction, in response to changes in the established sequence structure. It can be argued, however, that this is sometimes necessary to prevent rigid adherence to a structure that could potentially impede the development of flexible communication skills.
- Extraneous noise: Barney seems to have difficulty with selective attention and is sensitive to loud noises. Thus noise from the television and the overlapping utterances of his co-

participants potentially place additional demands on his attention and encourage his withdrawal.

- Non-response to Barney's utterances or non-verbal turns: Barney's use of idiosyncratic utterances and the quietness with which they are expressed often contribute to *trouble* in the interaction, which is difficult to repair. However, a potential consequence of ignoring these utterances is to invalidate them as meaningful contributions to the interaction. This may diminish the co-construction of meaning and have a detrimental effect on the development of communicative intent.

5.3 Strategies employed by Barney in the interaction

- Immediate echolalia: Immediate echolalia and a *yes-answer* are two devices employed by Barney to take his turn in the sequence. These utterances are sometimes expressed with accompanying non-verbal features that suggest understanding. A useful practice to assist in the co-construction of meaning is for Barney's co-participants to orient to features suggesting comprehension, such as eye contact, tone and volume, exact reproductions or mitigated echolalia, and corresponding non-verbal behaviour. Immediate echolalia or idiosyncratic utterances (mitigated echoic utterances) are sometimes expressed in a highly emotive tone, suggesting that the words are used to express an emotion in the absence of more conventional means. Responding to the possible emotion behind the semantic content of the utterance contributes to the construction of Barney's emotional world through language.
- Sequential organisation: Barney seems to employ a strategy of using words from the previous utterance to guide or construct his next turn. The interactional consequence is that the relationship between the turns can be considered to be *semantic* rather than *actional*. This has implications for the use of the sequential context in establishing the meaning of Barney's utterances. Barney seems to be aware of how interaction is constructed - the turn taking process and transition relevance place. This suggests that he is able to monitor the actions of his co-participants and orient to the sequential organisation of the interaction.
- Personal pronouns: There are times in the discourse when Barney uses 'I' in his turn, adapting the use of 'you' in the previous turn. Similarly, he and his co-participant (Mandy) collaboratively construct the meaning of *yours* and *mine* within the interaction.

Thus Barney seems to actively position himself in the discourse as a separate person in relation to his co-participants.

5.4 Features of the interaction as a whole

When initiating interaction with Barney, his co-participants typically employ a question, request or instruction. If Barney does not take his turn, the question, request or instruction is frequently repeated up to 4 or 5 times, sometimes reformulated with each repeat and typically ends with a turn completion.

When initiating interaction with his co-participants, Barney's initiating utterance is frequently preceded by hesitation and sometimes a false start. In the next turn, his co-participants either repeat Barney's previous turn in the form of a question, or initiate repair. In the following turn, Barney either confirms the repetition with an affirmation (*yes-answer*) or self-repairs through repetition.

There are sometimes longer intervals between turns in the turn taking process, suggesting that Barney needs more time and space than typical participants in order to construct a verbal response. By adopting the pattern of swift and rapid exchange of typical conversations, Barney's co-participants could potentially obstruct a verbal contribution from Barney.

Barney's co-participants sometimes focus on the manner in which Barney's utterance is delivered, to the exclusion of the content of his turn. A possible explanation is that it is easier to focus on the delivery of the utterance if the content is idiosyncratic. The consequence could be that the potential meaning contained in the utterance is not legitimised in the interaction. Through their function in the interaction, Barney's idiosyncratic utterances are imbued with meaning. This process is facilitated by his co-participants' response to his utterances and contributes to the co-construction of meaning and the development of communicative intent.

Finally, the pace and complexity of discourse between co-participants has the consequence of excluding Barney from participation. This potentially precludes his participation in their intersubjectively constructed reality.

5.5 Summary of the interactive profile

The primary practices employed by Barney and his co-participants, how they function to construct discourse and the implications for accomplishing co-ordinated interaction or resulting in discordant interaction are summarised in Table 3.

Strategies and devices resulting in co-ordinated interaction
1) Short utterances 2) Combining verbal with non-verbal communication 3) Transforming the interaction into a game, employing *silly* or interesting sounds and a playful interactive style e.g. tickling 4) Involvement in tasks and activities 5) Interaction constructed from non-verbal turns 6) Predictable sequence structures 7) Repetition 8) Providing Barney with the words to use 9) Turn completions 10) Imitating features of Barney's talk 11) Affection as a means of tempering directive interactive styles 12) Collaboration
Features of co-participants interactive style that results in discordant interaction
1) Complex utterances 2) Repetitive questions and/or instructions 3) Co-participants' potential to impose their agenda 4) Co-participants' potential to direct and dominate the interaction 5) Co-participants' easy access to the conversational floor 6) Changing established structure of the sequence 7) Extraneous noise 8) Non-response to Barney's utterances or non-verbal turns

Strategies employed by Barney in interaction
1) Use of immediate echolalia and yes-answers 2) Use of the sequential organisation of interaction 3) Use of personal pronouns
Features of the interaction as a whole
1) Co-participants initiate interaction with a question, request or instruction and end turn with a turn completion 2) a) Barney's initiations are frequently preceded by hesitation b) His co-participants next turn is either repetition or a repair initiation c) Barney's next turn is either confirmation or repetition as repair 3) Longer intervals between turns than *typical* conversations 4) Co-participants focus on manner of delivery instead of content 5) The pace and complexity of discourse between co-participants excludes Barney from participation.

Table 3: Summary of strategies and structural features of interaction

Chapter 6: Conclusion

6.1 Summary of interpretive constructions

Joint attention, mutual participation and co-construction of meaning in interaction emerge as prominent themes, and whether they are accomplished and maintained, or disrupted and lost becomes a motivation behind implications for intervention. Mutual participation between Barney and his co-participants is accomplished through co-ordinated interaction, which is constructed through sustained eye contact and resonating turns, generating a verbal and more frequently non-verbal rhythm in the interaction. As discussed in Chapter 5, certain features of interaction seem to be more conducive to the construction of co-ordinated interaction than others. These are discussed below.

Throughout the study, a distinction has been made between features of a teaching and a nurturing interactive style, which are adopted by Barney's co-participants. The former is constituted through practices such as frequent and repetitive questioning or instructions, gaining Barney's attention through verbal and physical means (turning his chin and using the phrase, "Look at me"), use of verbal reinforcers, and commenting on the quality of his verbal response rather than its content. This style potentially functions to direct the interaction and to impose the co-participants own objectives on the discourse, (i.e. to elicit verbal contributions from Barney). A teaching style has been associated in the study with high linguistic demands that are often exacerbated by the volume of his co-participant's voice. This potentially negates the soft, often whispered, voice with which Barney expresses himself. Demands for his attention are exacerbated and chances of comprehension diminished by the overlapping turns of his co-participants. I have suggested that these linguistic demands become overwhelming to Barney and his response is to withdraw his participation from the interaction. In so doing, the teaching style constitutes distance in the relationship between Barney and his co-participants. It is possible that Barney's silence and non-responsiveness creates discomfort for his co-participants. This results in the need to compensate by establishing a running commentary or taking on both roles in the interaction, as well as the need to *get Barney to talk*.

Those practices that constitute a more nurturing style include the imitation of Barney's communicative behaviour, the use of physical affection alongside verbal discourse, *motherese* type intonation, and following Barney's lead in the interaction. Together these practices construct mutuality and resonance in the rhythm of interaction and work together in the co-constitution of shared meaning and a close relationship. A reduction in verbal demands provides the space for Barney to make his own contributions. These are often very quiet or subtle non-verbal communicative signals, which might otherwise go unnoticed or unheard. Reducing demands also enhances the possibility that Barney's co-participants will follow his lead.

Other interactive practices include those involving play and activities. During his participation, Barney is positioned more equally in the interaction, particularly if the activity is constructed from primarily non-verbal turns or is fairly structured. Through interaction constituted by a playful interactive style and involvement in fun activities, Barney and his co-participant are able to co-construct rich verbal meaning as Barney articulates his actions and responds to the previous utterance of his co-participant with mitigated echolalia.

Non-verbal actions and sounds appear to be a realm within which Barney feels more at ease and a resource he often relies upon in taking his turn and constructing sequences of interaction. Resonating turns (of sounds, facial expressions and movement) function to construct a non-verbal rhythm within the interaction, which is enhanced by the absence of words. A regular structure or consistency to the exchange seems to enhance Barney's involvement, facilitating enthusiastic participation, as Barney seems better able to cope with the demands of social interaction.

Barney employs various strategies in the turn taking process, with and without suggestions of comprehension and construction of shared meaning. This suggests that he monitors the communicative behaviour of others and is able to identify the completion of an action, is oriented to the sequential organisation of interaction, and is therefore an active participant in the interaction. Barney is able to recognise the need for repair, even though he does not seem to have access to the resources (other than repetition) with which to carry it out. Idiosyncratic utterances are often contextually relevant and related, both sequentially and to the broader environmental context. Thus he seems to actively co-construct meaning using the words of his co-participants. Responding to his utterances as potentially meaningful contributions

provides them with a function within the interaction, thereby imbuing them with meaning, because, as Gergen (1999) proposes, if idiosyncratic utterances are left unheard, unnoticed or dismissed and discouraged, then they really are meaningless.

6.2 Positioning

If we consider Gergen's (1989) idea of a person being skilled in the use of discourse, being able to manipulate discourse and therefore to resist certain constructions of him or herself, we see that in this regard Barney lacks agency and is therefore subject to the positionings of others. The discrepancy in skills lies in his co-participants access to both *interactive* and *reflexive* positioning, which Barney does not have. Barney's sole device enabling him to maintain power within verbally constructed discourse seems to be his ability to withdraw his participation in the interaction, because as a non-participant in the discourse, he is not available to being positioned by it. Barney seems better able to position himself more actively within non-verbal interactions. Through participation in activities and tasks that are non-verbally constructed, more mutual participation is facilitated and this permits positioning within alternative identities, such as *child*, *son*, *play-mate* etc., identities other than *child with autism*.

Of necessary consideration is the inescapable infiltration of more global discourses, most importantly the discourse of autism. It is possible that this discourse incites a large number of associated constructs such as deficient, abnormal (or at the very least different), incapable, language-disordered etc., which form part of the discursive practices which position both Barney and his co-participants within the discourse. For example the compensatory position taken up by his co-participants might be a consequence of constructing Barney as incapable, resulting in the need to take on responsibility for both positions in the dyadic exchange, or to speak on his behalf, thereby exacerbating Barney's role as passive and his identity as incompetent.

With greater access to discursive practices, it seems easy for Barney's co-participants to adopt a controlling or directive position within the discourse, which is constituted through features of a teaching interactive style. Conversely, Barney's silence and withdrawal positions his co-participants in a less controlling identity, perhaps as more inadequate in their inability to obtain his attention and teach him to talk. Interaction between Mandy and Barney

illustrates the potential for his co-participants to adopt the position of advocate, his *voice*. Although this goes some way towards addressing his *voicelessness*, this may also function to constitute him negatively if accomplished through some of the more traditional discourses on autism. Furthermore, in taking up the position of Barney's advocate, his co-participants run the risk of imposing their own constructions, thereby enhancing themes of domination and powerlessness. Mandy shows sensitivity in this regard by using a sequence structure familiar to and consistent with Barney's interactive style. Through the use of discursive practices available to Barney, he and Mandy were able to co-construct an inter-subjective place, positioning themselves in a close relationship.

Due to the pace and complexity of his co-participant's discourse, Barney is excluded from participation in the inter-subjective reality they collaboratively construct between themselves, unless specifically included by them. This emphasizes his powerlessness and positions him as separate, isolated and not belonging to humanity – the *alien* that Jim Sinclair describes (Sinclair, 1992).

Barney's ability to use the personal pronoun 'I' in relation to himself provides him with a resource that he is able to draw on in actively positioning himself within the discourse. This, in addition to the sequence in which he and Mandy collaboratively negotiate the meaning of *yours* and *mine*, functions to construct Barney as an individual person in relation to his co-participants.

6.3 Reflections

"Diversity is the unknown, as either the not-yet-known or the unknowable…. It is inherent in the work. It is not error" (Josselson, 1995, p. 33).

As a non-autistic and linguistically proficient adult, I am constituted by and speak through many of the same discourses that Barney's co-participants do. Therefore, the way I have co-constructed Barney is perhaps similar in many ways to how he is co-constructed by his co-participants. For example, I have discussed his co-participant's position as Barney's advocate, which potentially constructs him in a passive identity and diminishes his ability to actively collaborate in the co-construction of himself. Similarly, this study functions as Barney's *voice*, and in this way potentially positions him as lacking in agency. In spite of

this, it is felt that the benefits derived in the form of generating reflection and interrogation of his co-participant's interactive styles outweigh these dangers.

I have introduced interpretive constructs such as *high demands*, *pressure*, *incessant*, *directive*, *controlling* and the like. These words construct the interaction in particular ways, constituting Barney's co-participants as demanding, controlling and pressurizing and the child as confused and withdrawn, overwhelmed by the bombardment and intrusion of the dominating adult. Another researcher might have constructed it differently, such as the withdrawn, unresponsive child and his or her encouraging co-participant. This brings to the fore the power of the researcher in constructing potentially unfair and damaging identities for the participants in the study. It is possible that using a number of researchers to encourage a multitude of different co-constructions might have assisted reliability in this regard. Thus I would like the reader to remember that my construction is just one of the many possible versions.

Along similar lines, throughout this study I feel there has been a slight imbalance in focus, with a leaning towards how Barney's co-participants, and the co-participants of children with autism in general, are found wanting in their methods of interaction with the child, in other words, what they are doing *wrong*. This functions to constitute his co-participants as impaired and deficient in the interaction and it is therefore possible that I have, at times, reversed the traditional discourse of autism - of the interactively impaired child to the interactively impaired adult co-participant. Perhaps I have not acknowledged sufficiently that his co-participant's interactive styles are collaboratively constituted with Barney's silence, his withdrawal, and his lack of initiations in the discourse. In this way I may have unwittingly neglected to consider interactive styles as collaborative constructions. Perhaps growing up within a western discourse has impaired my ability to step outside the idea of two separate and autonomous individuals conversing. Therefore, in attempting to challenge the power of the medical model in labelling the child with autism as impaired, it seems that I have perpetuated the existing way of looking at things with a role reversal so that the disempowered are simply constituted in a more powerful position within the same discourse.

Finally, I have found that my analysis and data reconstruction have emerged as quite directive and instructional. I make many recommendations about better ways of doing things in the form of *implications for intervention*. Thus, in some ways I take up a similar position

to the one I condemn his co-participants for. This style is somewhat prescriptive and could easily be construed as incongruent with a social constructionist approach. Furthermore, it functions to construct the researcher in a position of power.

6.4 Evaluation of the study

By exploring the interaction between a child with autism and his co-participants from within a social constructionist paradigm, many assumptions of the western, scientific, medical model are challenged. This includes a deficit-focused approach that views the child with autism as the one with the problem and as requiring cure. Thus, it promotes a *strengths approach* to intervention. It also challenges the assumption that our failure to understand Barney is due to the inaccessibility of his thoughts or mind. This study would suggest that the latter is due to the difficulty in co-constructing an inter-subjective reality as a consequence of disparate abilities in discourse use.

Through the construction of communication as a collaborative exercise, Barney's co-participants are encouraged to be reflective and interrogate their own methods and procedures employed in the interaction between them. Thus, it not only challenges the larger discourse based on western, scientific assumptions, but the smaller discourses co-participants co-construct on an interpersonal level.

The qualitative nature of the study preserves the richness of the data and the single case study constructs very specific patterns, which permit informing individualised intervention. Conversation analysis is useful as a discourse analytic approach, as the limited verbal discourse of the child with autism precludes a more content-focused method.

Many of the *flaws* of the study have been examined in the reflexive process above. An important area that has been neglected in this study is consideration of other characteristic behaviours of autism, such as spinning, twirling and self-injurious behaviour. These areas were not touched on, either in the literature or the data analysis, as they did not arise in the recordings of interaction. However, they form part of Barney's communicative behaviour and thus have implications for interaction and intervention. Self-injurious behaviours in particular challenge what are considered to be acceptable and conventional social practices and it might

therefore be interesting and valuable to explore how these behaviours are co-constructed interactionally.

Related to the above, it might have been useful to obtain interactive samples over a longer time period in order to obtain a broader perspective of a range of communication skills, as well as to generate samples of interaction from other settings such as school, between Barney and his teachers and peers.

My influence on the interactions was unavoidable and undoubtedly influenced the discourse captured in video-recordings. An alternative and perhaps better approach might have been to set up the camera on a tripod over an extended time period, varying its location within the house or school. In addition, generating data over a greater length of time would diminish the influence of the camera as participants gradually became impervious to its presence.

6.5 Areas for further research

Perhaps future research employing conversation analysis as an analytical tool in the area of autism could place greater emphasis on accomplishing social constructionist aims. Its usefulness in the construction of individual interactive profiles could be explored further as a means of informing individualised intervention. The inclusion of a developmental approach within a social constructionist framework, perhaps drawing more on the work of Vygotsky, would be an interesting area for future research. Finally, with regard to this particular child, continued research could be conducted in a longitudinal design, to monitor changes in the interactive profile as the co-participants develop and learn and identities and discourses shift and change.

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Appendix 1

Transcript notation

rising?	A question mark indicates a rising inflection, not necessarily but not excluding a question.
marked rising↑ or fall↓ing	Marked rising and falling shifts in intonation are indicated by upward and downward pointing arrows immediately prior to the rising or falling syllable. A word that is enclosed with arrows in either side indicates that the whole word is uttered with marked rising tone. A word with an arrow at the end indicates that the last syllable is rising or falling.
°quiet°	A degree sign is used on either side of a word, phrase or utterance to indicate that it is quieter than the surrounding talk.
>quickly<	When part of an utterance is delivered at a pace quicker than the surrounding talk, it is indicated by being enclosed between *less than* signs.
stre:::tch	a colon indicates an extension of the sound or syllable it follows.
<u>emphasis</u>	Emphasis is indicated by underlining
LOUD	Capital letters are used to indicate an utterance, or part thereof, that is spoken much louder than the surrounding talk.
enthusiasm!	An exclamation mark indicates an animated tone, not necessarily an exclamation.
cut-	A single dash indicates a halting, abrupt cut off.

hhh .hhh	Audible aspirations (hhh) and inhalations (.hhh)
[simultaneous [utterances	Utterances that start simultaneously are indicated by single left hand square brackets.
overlapp[ing [utterances overlap[ping] [ends here]	when overlapping utterances do not start simultaneously, the point at which an ongoing utterance is joined by another is marked with a single left-hand bracket, linking an ongoing with an overlapping utterance at the point where overlap begins. The point at which overlapping utterances stop overlapping is sometimes marked.
latching=	when there is no interval between adjacent utterances, the second being latched immediately to the first (without overlapping it), the utterances are linked together with equal signs.
(unintelligible)	brackets enclose the word *unintelligible*, no hearing could be achieved for the string of talk or item in question. If there is a word enclosed within the brackets, it indicates that this word is in doubt.

eye contact	The gaze of Barney only is marked above the utterances. A dark, solid line indicates that he is meeting the gaze of his co-participant.
_____*(looking down)*	
eye contact	A thin solid line above the utterance indicates that he is not meeting the gaze of his co-participant. The direction of his gaze is indicated in italics next to the line.
_____X	
gaze check	The point at which Barney makes eye contact with his co-participant is marked with an X. This is used to indicate sudden eye contact, such as a gaze check subsequent to an utterance, or briefly making eye contact, after which he looks away.

(actions)	Any non-verbal actions or behaviour is described in italics and contained in brackets.
(facial expressions)	facial expressions or laughter are written within brackets.
‘singing’	words that are sung are enclosed in single inverted commas.
[utterance [*(takes her hand)*	If an non-verbal action takes place simultaneously to an utterance, this is indicated by square brackets at the point of overlap.
{utterance {utterance	Occasionally these brackets are used to avoid confusion as to which utterances overlap
(2,7)	When intervals in the stream of talk occur, they are timed in tenths of a second and contained within brackets in bold, either within the utterance or between utterances.
(.)	A short untimed pause within or between utterances is indicated by a full stop enclosed in brackets

Appendix 2

Sequence A, *Playing with the ring*

1	D:	woo *(hides the ring behind his back)*>where's it gone<>°where's it°<
2	B:	(skips over to D) <u>where's</u> it (takes one hand and looks in it)
3	D:	where's it it's not there
4	B:	not there *(looks in the other hand)* not there its <u>not</u> there
5	D:	where's it ↑<u>gone</u>↑
6	B:	[here it is
7		[*(discovers the ring behind D's back)*
8	D:	you ↑<u>got</u>↑ it come throw to me (throw) [↑high↑
10	B:	[*(throws the ring high up)*
11	D:	[.hhhwoo::sh *(as he catches)*
12	B:	[(laughs) *(spins around)* (sings) 'splish splash I was having a bath'
13	D:	catch quick catch quick catch quick catch
14	B:	*(catches)*
15	D:	↑he::y↑ clever boy
16	D:	you (bump) your ↑<u>fing</u>↑er
17	B:	*(holds out his finger to D)*
18	D:	ouch must I kiss it better *(kisses B's finger)* >doot doot doot doot<
19		*(pokes fingers in B's ribs)* is that ↑bett↑er now

Sequence B, *Cleaning the pool*

1	D:	<u>come</u> go get that net and we'll stick it in (unintelligible)
2	B:	*(turns around and looks in direction of net, then runs to fetch net)* I oh
3		et the <u>net</u> (.) I odit I odit I odit I odit I (.) ow *(as he lays the net on the*
4		*ground)*
5	D:	ow
6	B:	I *(picks up tube)* odit I odit I *(holds the tube over the water)* **(2)**
7	D:	throw it
8	B:	*(drops it into the water)* and (Barney) is ↑<u>in</u>↑ the tower
9	D:	get the net

B: shoo::ee *(fetches the net and dips it into the pool)*(singing) *(scoops out the tube, puts the net down on the grass)*

D: come pick it up **(2.32)** Barney come pick it up **(2.19)**
(D and B hold the pole of the net together, D standing behind B)
lets catch th bugs (.) catch a bugs **(4)** come catch a bugs **(9)** >here y'are< *(hands B the tube)* >throw it in again<

B: *(takes the tube and throws it in the water)*

D: fetch it out

B: *(goes to pick up the net, then scoops up tube with net)*

Appendix 3

Sequence C, *Getting dressed*

1	M:	first we put on some↑ **(1.12)**
2		_____(facing the cupboard, taking out underpants)
3	B:	some underpants
4		_____
5	M:	yes some underpants good what colour underpants are you wearing
6		_____
7		today? **(3.17)** what colour underpants you wearing today **(2.99)** tell
8		_____*(B putting on underpants)*
9		me what colour underpants
10		_____*(turns back towards cupboard)*
11	B:	(grunts)
12		_____
13	M:	I'm a:sking you a <u>ques</u>tion
14		_____
15	B:	**(1.62)** pants (*takes out pants from cupboard and holds them up*)
16		_____
17	M:	what colour underpants are you wearing **(2.69)** mm?
18		_____
19	B:	(grunts) *(lying on back on bed)*
20		_____
21	M:	what colour underpants are you wearing
22		**(1.09)**
23		_____*(half turns towards M)*
24	B:	↑blue↑
25	M:	yes very good **(1.76)** and what's that
26		**(1.84)**
27	B:	(an sh) <u>blue</u> pants *(lying on back, flaps shorts over head to put on)*
28	M:	is it ↑<u>long</u>↑ pants or short pants
29		**(1.57)**

30 _____

31 B: long pants *(lying on his back putting shorts on)*

32 _____

33 M: is it long pants

34 B: *(stands up, turns around and looks at M)***(1.59)**

35 _____

36 M: I think its short pants

37 B: *(turns back to the cupboard)***(2.97)**

38 _____

39 M: you like blue pants (.) and what colour T-shirt are you going to

40 ____

41 wear

42 B: *(reaches up into the cupboard and pulls out a T-shirt, hesitates* **(7.28)**

43 _____

44 M: your ↑cat↑ T-shirt

45 ____

46 B: ye:s (half-smiles) *(holding T-shirt)*

47 M: why don't you wear your zebra T-shirt

48 B: (takes the 'cat' T-shirt back to the cupboard)**(4.03)**

Appendix 4

Sequence D, *Playing beanbag*

1	Md:	(laughs)
2		___*(B looking at Md)*
3		ee::h (pause) um (pause) I like my ↑dress↑ *(throws to B)*
4	R:	[(laughs)
5		___*(head down, then lifts it up)*
6	B:	[(laughs) T-shirt too (smiles)
7	R:	what↑
8		___(B looking at both M and R)
9	Md:	he likes his T-shirt too=
10	R:	=do you like your T-shirt too
11	Md:	it used to be my T-shirt
12	R:	↓it's lovely its very nice↓ (.) In fact I (.) Barney's shirt has got
13		↑zebra's on it

Sequence E, *Goodbye Rochelle*

1	B:	Barne:y lets tell Rochelle one last knock knock joke say knock knock
2		say knock [knock]
3	B:	[knock] knock
4	R:	who's there
5	Md:	*(whispers in B's ear)*
6	B:	RO- WHO!
7	M:	no you must say ro-
8	B:	RO-!
9	R:	RO- WHO
10	B:	RO- ↑CHELLE↑
11	R:	[(laughs)=
12	B:	[*(falls back on the bed smiling)*
13	R:	=that's very clever (.) did you two do that
14	Md:	no=

15 R: =very clever
16 Md: I gave him an idea [(unintelligible)
17 R: [aaaah do you want to (.) Bradley boy do you want
18 to say thank you to your sister for playing so nicely with us today

Appendix 5

Sequence F, *Greeting Rochelle*

1		__X_______X_____
2	B:	Hello**(1.09)**hell (.) hello Rochelle? *(R leans towards B)*
3	R:	hello Barney it's lovely to see you how are you?
4	B:	(whispers) **(2.76)**
5		_____ _____
6	R:	you whispered (*strokes his face*) try it again**(1.80)** (*whispers in his ear*)
7		°what did you say°
8	B:	*(has his ear to R's mouth and smiling, looking at her out corner of eye)*
9		(unintelligible)=
10	R:	=how are you?
11		_____
12	B:	I'm fine >°and you°<
13		_____
14	R:	ye::s=
15		_____
16	B:	[laughs
17	R:	=[do I get a kiss and a hug
18	B:	[*(puts hands on R's shoulders, leans in and kisses and hugs her)*
19	R:	[what are my chances mwaah (*kisses B on the cheek*)

Appendix 6

Sequence G, *Barney and Mandy*

1		___
2	R:	aa::h do you want to (.) Barney boy do you want to say thank you to
3		___*(seems to be looking at R from bed)*
4		your sister for playing so nicely with us today
5	B:	(wha pi) *(lying on his back on the bed)*
6	R:	*(takes object out of B's hands)* look at me **(0.7)** what do you say to
7		Mands *(points with her finger towards Md)*
8	B:	°(naah wha pi)°
9	R:	what do you say to Mandy *(points towards her)*
10	B:	(wha pi)
11	R:	come stand up Barn and look at me come what do you say to Mands
12		what do you say to Mandy what do you say to your sister **(1.8)** ↑thank
13		you Mandy↓ (sing-song tone)
14		_____*(gaze down)*
15	B:	°thanks° (whispered)
16	R:	*(sitting behind B, leaning round to speak near his ear)*no you
17		[whispering again (.)
18	Md:	[it's a pleasure Barney
19	R:	{can't hear cos he's °whispering°
20	B:	{*(goes over to Md, cups his hands over her ear and whispers, hesitates*
21		*and continues)* (inaudible) **(3.4)**
22	R:	aah there you go
23	Md:	*(whispers back in B's ear)* it's a pleasure Barney
24	R:	very good
25	Md:	[giggles
26	B:	[*(flops down on the bed)*
27	B:	*(turns around and looks at R and then back at Md. Leans towards Md*
28		*and closes eyes)*
29	Md:	[*(bounces the beanbag on B's lips)* (laughs)

30 B: [*(purses his lips)*

31 *(takes the beanbag from M and flops back down on bed)*

Appendix 7

Sequence H, *Hide-and-go-seek*

R: shall we play hideandgoseek

B: yes *(walking in front of R)*

R: it's been a while since we [played that

B: [no:: *(turns around to face R, then turns again with his back to her)*

*(B walks towards bed)*_____

R: no you don't want to **(1.27)** why ↑not↑ what do you want to play

_____

(0.4)look at me*(lifts B onto her lap and grunts)*look at me look at

___ _____*(downcast)*_____

me *(B looks at R)* what do you want to play what game do you

_____*(B turns head and looks to the side)*

want to play

B: (unintelligible)

(R puts an ear to his mouth to listen, B looks away)

R: *(R and B have heads down together)* no tell me what game you want to play **(1.27)** *(both lift heads, B looking away from R)* what game do you want

_____**X**__*(turns and makes eye contact)*

B: hide and go seek (smiles)

Appendix 8

Sequence I, *Yoos*

1		_____
2	R:	have you finished your cool drink? **(1.5)** he<u>llo::</u> look at me *(puts her*
3		*hand on B's head and he turns to look at her)* **(0.8)**
4		**_____**
5		have you finished your cool drink
6		**_____**
7	B:	°yes° (whisper)
8		**_____**
9	R:	no you whispering again (.) speak up
10		**_____**
11	B:	<u>Y</u>OOS *(looks directly at R and smiles)*
12		**_____***(gazing at R, smiling)***_____**
13	R:	<u>bet</u>ter! (laughs) good boy do you want to go put your sink in the (.)
14		_____*(looks over shoulder at Md)*
15		your glass in the sink
16	B:	*(looks over his shoulder in the direction of Md)* °yes°
17		**_____**
18	R:	[aah whispering again (.)[try again
19	B:	YOOS!
20	R:	[<u>bet</u>ter
21	M:	[and um [and once [and then what happened once
22		is he sprayed it on the window and mom said he must go get a face
23		cloth and clean it up and instead of getting a face [cloth he got one of =
24	B:	[yoos
25	M:	= my dad's underpants and cleaned the window with it haa::h!
26	B:	[hu::h hu::h *(looking away from R and Md's conversation)*
27	R:	[oh <u>dear</u> (.) that couldn't have gone down well (.) did you use your
28		dad's underpants to wash the window pudding oo:h Dad couldn't have
29		been too pleased **(0.4)**
30	B:	*(staring ahead making noises and laughing)*

Appendix 9

Sequence J, *Yours and mine*

1		═══════════════════
2	M:	where's my ↑glass↑ I don't know where my glass is
3		═══════
4	B:	here's my glass! *(holds out his glass to M)*
5		═══════════
6	M:	that's your glass where's my glass
7		═══════
8	B:	here's my glass
9	M:	no that's your glass (.) *(points at B)* where's my glass*(points to herself)*
10	B:	*(turns around)***(1)**
11	M:	look for my glass Bradley
12	B:	*(approaches R and reaches for her glass)*
13	R:	uh-uh who's glass is this
14	B:	*(discovers M's glass on the bed)* your and mine
15	R:	good very [↑good↑ Barney yours and mine
16	B:	[↓your↓ and ↑mine↑
17	M:	lets put the cups in the sink
18	B:	yours and mine (.) mine and yours

Sequence K *Have you washed your hands*

1		_____
2	M:	have you washed your hands and made a wee?
3		═══
4	B:	yes
5		_____*(B turns and walks down stairs)*
6	M:	have you?
7	B:	I wash
8	M:	have you had a wee?
9		═══*(turns back to face M)*
10	B:	yes

11 _____*(turns away)*
12 M: have you washed your hands
13 ___*(turns back)*
14 B: yes
15 M: let me smell your hands
16 B: *(holds out one arm to mom, facing away in the direction he was*
17 *walking)*
18 M: *(smells B's fingers)* no::: that doesn't smell like soap to me (.) I think
19 you better go wash your hands
20 B: *(turns and runs out the room)* oh I better go
21 M: yes you better go
22 B: *(runs out the room)*

Appendix 10

Sequence L, *School talk*

1	M:	=Mrs Craw (.) and are you going to wear *(lifts B's chin to look at*
2		———————————————————————
3		*her)* **(1)** are you going to wear ↑black↑ shoes **(1.92)** to school school
4		———
5		shoes
6		____*(looking down)*
7	B:	°yes°
8		and what else you going to wear *(lifts B's chin, he looks at her)*
9		**(1.17)** what you going to wear around your neck
10		**(1.09)**
11		_____*(looking down)*
12	B:	yhhes
13	M:	you going to wear a tie
14		————
15	B:	wear a ↑tie↑
16		_____
17	M:	what colour is the tie
18		(.)
19		_____*(looking down)*
20	B:	yhhes

Sequence M, *Fetching the HTH*

1	D:	come shall we go check the HTH?
2	B:	yes! *(jumps off the chair and walks towards D)*
3	D:	>go get the HTH in the kitchen<>go get it quickly<
4	B:	(*walks towards the door*) (singing)

Appendix 11

Sequence N, *Throw over your head*

1		*(B goes to fetch the ring from behind the bushes, starts throwing it by himself)*
2	D:	come throw it here Barney throw over your head
3	B	*(comes back towards D)*
4	D	throw it over your head
5		———
6	B:	throw over your head (smiling) *(hands the ring to D)*
7	D:	go stand there
8	B	*(moves backwards)*
9	B:	throw over your
10	D:	catch *(throws the ring to B, which flies past him)*
11		———
12	B:	*(goes to fetch the ring)* THROW OVER YOUR HEAD! (screams)
13		———
14	D:	throw over your head (.) Barney's turn
15	B	*(throws to D)*
16	D	*(catches)* waah look here now its stuck on Jessie's nose *(hangs ring on the*
17		*dogs nose)*
18	B:	*(looks down at Jessie)* [throw ove your head
19		[*(throws the ring over his head)*
20	D:	that's right throw ove your head that's right
21		———
22	B:	throw ove your head *(prepares to throw to D)*
23	D:	down Jessie down that's right
24	B:	throw over your head (sings) 'splish splash I was having a bath'*(spins)*
25	D:	big throw Daddy throw it over his head see?
26	B:	*(copies D throwing it over his head, looks up at D and then jumps up and*
27		*down)*(singing)

Sequence O, *Teaspoons and two spoons*

M: you know what we need now now we need two spoons
B: two spoons↑
(unintelligible) *(goes to look in the drawer)*(sings)'missus farmer friendly' *(finds a teaspoon and looks at while turning to take it back to M)* (I is) ↑tea↑spoons
M: not a tea spoon get two big spoons *(indicates large with her hands)*
B: ↑big↑ spoons *(goes back to the draw, looks, takes out two teaspoons)*
M: no big spoons not tea spoons
B: not tea (.) not teaspoons
M: look look inside there there's big spoons (°we need°) two how many have you got [I want ↑two↑ please
B: [*(stops in his tracks)* I want ↑two↑ please *(finds another spoon)* (.) no
M: yes
B: there we oh *(as he closes the draw)*

Sequence P, *Eat your meat*

M: Barney you must eat your meat
B: *(turns to look at M)* **(1.10)** *(turns back to food)* eat your meat [EAT YOUR MEA::T! (squeals)
M: [yes yes its yummy [look Mandy ate all hers up]
B: [eat your mea::t] [oo::h oo::hoo::h oh oh
[*(looks down at food, shaking his head)*
=(with one hand propping up his head, starts eating again)
(plays with fork on the table, and then starts to make circular movements with the fork in front of his face)

Appendix 12

Sequence Q, *It's really warm*

1	R:	there we go are you <u>warm</u> enough or do you want a jersey
2		**(0.6)**
3	B:	yes *(turns away)*
4	R:	mm: look at me is it ↑<u>warm</u>↑ enough or do you want a jersey
5		**(1.16)**
6		———————
7	B:	it's <u>really</u> ↑warm↑
8	R:	is it really warm OK=
9	B:	=yes

Sequence R, *Hiding the ball*

1	R:	Bar[ney Mandy wants to tell you something
2	Md:	[Barney {look at me [**(0.4)** look at me **(0.8)** [look at me
3		{*(takes ball away from him)* [*(turns his chin to look*
4		*at her)*
5	B:	[*(flinches and steps back)*
6	Md:	[you and Rochelle are going to go inside (.) Barney **(0.6)**
7	B:	[*(turns away)*
8	Md:	you and Rochelle are going to go ↑in[side=
9	R:	[Barney boy (.) listen to Mandy
10	B:	[*(walks away from Md)*
11	Md:	*(grabs B's arms to bring him back)*=and Mandy's going to hide the
12		ball somewhere OK?= [*(leans over attempting eye contact)*
13	B:	[*(eyes downcast)*
14	Md:	=and then I'm gonna come say that you can come look for the ball then
15		you and Rochelle gonna look for the ball (.) OK?
16	R:	OK Barn?=
17	Md:	=OK? Barn? you go inside with Rochelle
18	R:	come lets go and wait for Mands to hide

(Rochelle and Barney walk towards the house together. Rochelle puts her arm around Barney and he leans into her body)

Appendix 13

Sequence S, *My sister's hair*

1	R:	it's the gorgeous Melissa come here h'llo how are yo:u your hair looks
2		lo::vely **(1)** lovely to see you shew your hair look at your sister's hair
3		(*points at Bradley who looks up at Melissa then turns away*)
4		look
5	B:	(*turns head to face Melissa*) **(0.2)**
6	R:	↑look↑
7	B:	it's my sister's ↑hair↑
8	R:	it's beautiful hey? °it's lovely who did it for you°

Sequence T, *Facial expressions 1*

1	M:	a::nd hiccups (smiling)
2		___
3	B:	hic (smiling)
4	M:	hic *(with head movement)*(.) and show me a ↓sad↓ face
5		_____
6	B:	*(makes a sad expression)*
7		_____
8	M:	when do you get sad (.) when do you get sad
9		_____*(gaze shifts up and down)*
10		say I get sad when **(3.80)** I get sad when I
11		_____*(looking away)*
12	B:	when I
13	M:	I get sad when I when I f↑fall↓
14		**(2.00)**
15	B	[when I ↑fall↓
16		[*(sits in M's lap with back to her, looking forward)*

Sequence U, *Musical bumps*

1		___
2	R:	what do you do tell me what you do *(kneeling, looking up at B)*
3		___*(turns away from R)*
4	B:	yes
5		___*(pulls B back to look at her)*
6	R:	nuh-uh tell me what you do in the game
7	B:	yes *(places hand on R's arm)*
8		___*(eyes downcast)*___
9	R:	uhuh tell me what you do (.) when the music stops what do you do
10	B:	*(turns body away from R)* **(1)**
11		_____
12	R:	*(pulls B back towards her with her arms around him)* when the
13		_____
14		music stops what do you do? **(1.5)** [sit on your bum (.) like
15		___
16		this [*(demonstrates sitting on bum – B's*
17		*eyes follow her movements)*
18		___
19		come show me
20	B:	[*(sits down in Rachel's lap)*
21	R:	[not on my bum (.) not on my bum on your bum not on my bum
22		stand↑up↑ (.) come stand ↑up↑ *(pushes B who stands up)*
23		*(turns round, looks)*___
24	R:	sit down. ready teddy sit quick sit [>sit sit sit sit<
25	B:	[(laughs)*(sits down)*
26	R:	there you go very good OK now we going to do this all of us
27		together (.) come

Appendix 14

Sequence V, *Knock knock*

B: *(runs out the room and returns with Melissa)*
(stands in front of the TV watching, then turns around and looks at Md)

B: *(hesitates)*(unintelligible)(.) knock knock *(corresponding knocking with hand)*

Md: who's there

B: hilton

Md: hilton who?

B: hilton ['ollege] [(badapede badepede I heard you say) knock knock who's there
[*(jumps up)*] [*(runs across the lounge)*
(looks towards M)
hilton hilton who [hilton 'ollege! (laughs)
[*(leaps)*

M: knock knock

B: who's there

M: glen

B: glen who!

M: glenwood college

B: (laughs) *(approaches M, stands in front of her, hesitates, looks behind him and back to her)***(6.82)**

31 ——————

32 B: kno:ck kno:ck

33 M: [who's there

34 [*(gets up to switch TV off)*

35 **(3.7)**

36 ——

37 B: buh

38 _____

39 M: buh who

40 **(2.63)**

41 _____X *(looking down, meets M's gaze after completion of utterance)*

42 B: barney

43 ——————

44 M: ↑barn↑ey <u>who</u>?

45 B: barney [<u>gold</u>

46 [*(lifts hands up)*

47 _____*(turns away)*

48 M: and where does barney gold live?

49 _____——

50 B: he lives into the ↑<u>lounge</u>↑

51 _____*(B turns and walks away)*

52 M: no what where's his house on what street **(1.6)** what's your address

53 B: *(walks away a bit and turns back)*

54 M: mm?

55 B: (unintelligible)

56 M: whats (.) whats your address

57 B: *(starts walking away, M pulls him back by his shoulder)***(2.86)**

58 M: *(takes B's hand)* number?

59 B: (unintelligible)

60 M: your address is number forty five **(2)** what street=

61 B: *(is looking towards the camera with one eye screwed up)*

62 M: =don't do that with your eye *(touches the side of his face)*> it looks

63 silly < [what's your address **(2.31)** what is your address

64 B: [*(starts to walk away, M pulls him back)*]
65 M: say my address is [num↑ber↑
66 _____*(looking in towards door)*
67 B [my(.)my address *(starts walking away)*
68 M: *(softly brings B back)*
69 **(1.81)**
70 number?
71 _____
72 B: forty five branbury road
73 M: east london
74 B: *(starts walking away)*
75 M: and what's your telephone number
76 B: *(turns back to M)* oh *(turns away and walks out the door)*
77 M: no come stand here I can't hear you if you walk away
78 _____(stands to attention in front of M)
79 B: oh two two six six five six
80 _____
81 M: what's your phone number?
82 _____
83 B: oh four four six six five six
84 _____
85 M: six four four
86 _____
87 B: six four four eight eight five six
88 M: that's your telephone number very good
89 B: *(walks out the door)*

Appendix 15

Sequence W, *Facial expressions 2*

1	M:	and can you ↑yawn↑ show me how you ↓yawn↓= *(B's hands on M's*
2		*knees, gaze down)*
3		▬▬▬▬
4	B:	=.hhh hhh (yawns) *(puts hand to his mouth)*
5		▬▬▬*(gaze held)*
6	M:	cough
7		▬▬▬▬
8	B:	(coughs) *(hand to mouth)*
9		▬▬
10	M:	burp
11		▬▬
12	B:	burp (in burping tone) (smiles)
13		▬▬
14	M:	burp [(laughs)
15	B:	[(laughs) *(whips around to face M)*
16		▬▬▬▬▬*(gaze held, smiling)*
17	M:	a::nd hiccups (smiling)
18		▬
19	B:	hic (smiling)
20	M:	hic *(with head movement)* (.) and show me a ↓<u>sad</u>↓ face
21	B:	*(makes a sad expression)*
22		▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬
23	M:	when do you get sad (.) when do you get sad
24		_____*(gaze shifts up and down)*
25		say I get sad when **(3.80)** I get sad when I
26		_____*(looking away)*
27	B:	when I
28	M:	I get sad when I when I f↑<u>fall</u>↓
29		**(2.00)**
30	B	[when I ↑<u>fall</u>↓

31		[(sits in M's lap with back to her, looking forward)
32	M:	and show me a happy face
33	B:	*(turns around to look at M, happy expression)*
34	M:	and when do you get happy **(1.69)** I'm happy when ↑I **(2.73)**
35		when are you happy **(3.56)** say I'm happy when I play
36		*(turns back to sitting with back to M, gaze down)*
37	B:	[°I'm happy when I° play *(goes to fetch rubber shape off the floor)*
38	M:	[show me a [show me a cross flace show me a cross face
39	B:	[*(puts on cross expression and folds arms)* ghmm
40	M:	↑why↑ you cross **(2.4)** why? you ↓cross↓ **(3.00)**
41		*(playing with rubber shape, one eye closed)*
42		and show me a surprised face
43		_____
44	B:	*(puts on surprised expression)* ↑.hhh↑ (.) ↑.hhh↑ (gasping)
45	M:	I get surprised when (.) I get a ↑fright↑
46		_____*(gaze held)*
47	B:	↑.hhh↑
48		_____*(gaze held)*
49	M:	↑.hhh↑
50		_____*(gaze held and smiling)*
51	B:	↑.hhh↑
52	M:	[↑.hhh↑
53		[*(bounces B on knee)*
54		_____*(looks away)*
55	B:	↑.hhh↑
56	M:	you got a fright
57	B:	↑.hhh↑ *(puts the rubber shape in front of M's face and leans back)*
58		_____*(B looking at M)*
59	M:	(leans forward and kisses the shape)
60		(sitting with back to M again, looking forward)
61	B:	I bet my beat
62	M:	here you are here's the balloon *(hands B the string to the balloon)*
63	B:	*(takes the balloon and runs off)*

Sequence X, *Playing the fool*

1	D:	Daddy's turn
2		———————
3	B:	*(kneels on D's lap, leans towards him)*[°honk honk° barp barp
4		[*(squeezes D's nose)*
5		————
6	D:	ba::[(.) wa:h= *(makes vomiting movement and tickles B)*
7		[*D s throws his head back as he pauses and B waits)*
8	B:	=(giggles)
9		———————————————
10	D:	right Barney's turn doot doot [honk honk [barp barp
11	B	*(leaning towards D)* [°honk honk° [°barp barp°
12		**(2)** braagh *(said softly without head movement)*
13	D:	braagh *(head moves forward)*
14	B:	(giggles) *(leans back in D's arms and starts to fall off lap)*
15	D:	ooh >upside down upside down< *(turns B so that he is lying on his*
16		——————— ———
17		*back in D's lap)* go like this >doot doot< *(poking B in the chest)* lets do
18		———— *(B looking up at D)*
19		it Daddy's turn
20	B:	°doot doot° *(reaches up and squeezes D's nose)*
21	D:	ouch
22	B	*(takes his hand away)*
23	D	*(pokes B in the chest)* doot doot barp barp [honk honk
24	B	[°honk honk°
25	D	sa::↑hiss::↑ *(tickles B)*
26		——————————— *(gaze held)*
27	B:	(giggles) *(reaches up and squeezes B's nose)* doot doot
28	D:	[bwaargh *(head movement forward)*
29	B	[*(screws up his face and pulls away)* (laughs excitedly)

Sequence Y, *Popeye sequence*

1	M:	(leans forward and round towards B) aren't you going to eat your
2		fishfingers
3	B:	*(continues watching the TV)* **(3.59)**
4	M:	[why are you not eating them **(2.37)** mm?
5		[*(tickles his back)*
6	B:	*(turns to look at mom behind him)***(2)**
7	M:	why aren't you eating your fishfinger
8	B:	*(turns back to look at the TV)* **(4.44)** (unintelligible)
9	M:	don't you <u>like</u> vegetables **(1)** vegetables are good for you (.) eat them
10		↑<u>all</u>↑ up because they make you big and strong (.) you want to be big
11		and ↑strong↑
12		_____*(watching TV)*
13	B:	(°yes°)
14	M:	then you must eat your vegetables
15	B:	*(picks up his fishfinger, takes an animated bite and flexes biceps)*
16	M:	WOW you got <u>strong</u>
17	B:	(unintelligible)
18	M:	lets see how strong you are?
19	B:	*(gets up from the table and pulls biceps)*

Appendix 16

Sequence Z, *Suppertime*

1	M:	(unintelligible) what shoes are you going to wear to walk in
2	Md:	probably my black sandles
3	B:	*(looks at M* [*opens mouth)* dd-
4	Md:	[I dunno how I'm going to bath tonight
5	M:	*(looks at Bradley)* what
6		___
7	B:	*(looks at Mom while he finishes chewing)* do I (°buy°) school shoes
8		___
9	M:	you want to buy school shoes?
10		____
11	B:	↑yes↑ =
12		____ *(looking at TV)*
13	M:	=why
14		**(3.70)** *(looking at TV)*
15		_____X
16	B:	I oh for a ↑walk
17		_____(*watching TV)*
18	M:	you want to go for a walk with your ↑black↑ school shoes
19	B:	(.) °yes°
20	M:	↑<u>these</u>↑ shoes Bradley *(indicates the school shoes on the floor)*
21	B:	*(looks down at the shoes on the floor, then back to TV)*

Sequence AA, *Going to the kitchen*

1	R:	↑<u>are</u>↑ you tired (.) Mandy and ↑<u>I</u> are *(directed towards Md)* no
2		it's very energetic I tell you what **(1.4)** then we going to play some
3		hideandgo↑<u>seek</u>↑ *(looking at B)*
4		____*(looking away, eyes flicker)*
5	B:	=no:
6	R:	I thought you said <u>yes</u>

7 _____*(looking away)*
8 B: ↑<u>yes</u>↑
9 R: aa::h kay you have to choose
10 ____________________
11 B: *(turns head to look at R)* do you want to °↑itch↑n°
12 _____*(B's gaze remains on R)*
13 R: do I what
14 (looks away)_____ _____(looks back)
15 B: do you do you want to ↑itch↑en
16 R: do I want to try that again say that again slowly **(1.79)** [do I want to
17 B: [(°kitchen°)
18 _____
19 oh to the ↑itch↑n *(gaze towards R, but looking into her shoulder, not*
20 *meeting her eyes)*
21 R: <u>go</u> to the <u>kitch</u>en!
22 B: <u>yes!</u> *(looks up towards Md)*

Sequence BB, *Going for a walk*

1 B: *(leaves the table, hesitates at the chair and* [*approaches M – puts*
2 [can we oh to th walk
3 tonight
4 M: hey?
5 _____(hands on M, leaning towards her)
6 B: can we go for a walk tonight
7 _____*(starts walking away)*
8 M: do you want to go for a walk tonight
9 ___*(turns to look, walking away)*
10 B: yes
11 M: that was good ↑ask↑ing Barney we going for a walk tonight
12 [do you ↑want↑ to go (.) ask Mandy if she wants to go
13 B: [*(running up stairs)*
14 *(stops in his tracks, then runs to Md in the bedroom, enters)*
15 *(lies down next to Md. the TV is blaring music)***(2)** m<u>may</u> I have to

oh *(Md and B look at each other simultaneously)*
(1.83)
M: go where?
B: may I have to- *(runs out the room and stands by the door with his fingers in mouth)*
M: *(comes up behind B in the doorway)* did you ask Mandy?
(4.82) did you ask Mandy?
B: *(goes into room at looks at the TV)***(2.66)**
M: did Barney come talk to you
Md: he said please may I go
M: ask Mandy Barney? **(1.69)** Barney come ask Mandy what you want to do
B: *(jumps onto the bed and leans towards Md)* MAY I WANT TO GO _____*(intermittently)*
Md: go where
(1.54)
_____*(gets off bed and stands in front of Md)*
B: may I have to go
_____*(turns away)*
Md: go where (.) where do you want to go **(5)***(Mom switches TV off)*
Barney where do you want to go (.) say I want to go to
_____
B: I want to oh for a (°walk°)
_____
Md: do you wanna go for a walk
_____
B: yhhes *(turns around)*
M: say would you like to come with Mandy
_____
B: would you um to Mandy
Md: ↑yes↑ OK Barney
M: would you come for a walk with us
B: *(walks out the door)*

Appendix 17

Sequence CC, *Now that's what I call a job well done*

1	M:	there you ↑<u>are</u>↑
2	B:	(squeals) (stands up)
3	M:	now <u>what</u> **(1.7)** now what Barney
4	B:	(laughs) *(looks down at his shoes)* it looks like now that's what I <u>ca:ll</u> a
5		<u>jo:b</u> well ↑<u>done</u>↑ *(walking around)*
6	M:	is that what you call a job well done? *(affectionately touches B's chest)*
7	B:	now that's what I call a <u>jo:b</u> well ↑done↑ *(looking at the photos)*
8	M:	*(puts hand on B's arm)* what do you want to do now
9		**(2.18)**
10	B:	now [that's what I call a job well done] (*looking at*
11		*photographs on the mantelpiece)*
12	M:	[look at me don't look at the photograph look at me] what d'you
13		want
14	B:	un (I unintelligible) [(unintelligible)
15	M:	[what do you want
16	B:	[<u>yes</u>!
17		═══════════
18	M:	[you all dressed up now where you going to
19		___________
20	B:	I'm oin to (the) Bett↑ina's house *(walks around)*
21		═══════════
22	M:	you want to go to Bett<u>in</u>a's house
23		═══
24	B:	[°yes°
25		═══════════
26	M:	[you going for a walk
27		═══ *(gaze held)*
28	B:	yes

29 ——————

30 M: bye bye

31 ——————

32 B: bye bye::: *(turns and waves as walking out door)*

Sequence DD, *At the market*

1 M: chop slices mind your fingers

2 *(stands behind Bradley to demonstrate how to chop, both hands over*

3 *B's)* I'll show you how

4 B: at the ↑mar↑ket

5 M: at the market yes we buy

6 B: at the ↑mar↑ket (louder) *(slicing the cucumber)*

7 M: don't do that *(moves away from B to let him do it on his own)*

8 that's it that's a good boy you helping Mommy good

9 *(moves away from Bradley to allow him to chop on his own)*

10 two pieces and more mind your ↑fing↑ers mustn't cut your ↑fing↑ers

11 what would happen?

12 B: (unintelligible) there

13 M: no silly talking °↑hey↑°

14 B: *(concentrating on cutting)*

Sequence EE, *Gingerbread head*

1 R: =statues that's good so you dance and then? **(1.5)** and then what

2 ——————————————————————————

3 happens when the music stops what do you do **(2.77)** you stay still

4 ——————————————————————————

5 **(1.20)** you stay ↑still↑ boy (.) you don't sit on your bum and you

6 ——————*(gaze shifts up and down)*——**X**——————*(downcast)*——

7 don't sit on the chair you stay ↑still↑ **(1.6)** do you want to ↑play↑

8 ——————————————————————————

9 **(2.14)** mm:? *(puts hand on forehead)***(0.70)** shall we ↑try↑

10 _____(looking down)
11 B: ginger bread
12 R: ginger bread? ginger bread what *(takes B's hand)*
13 _____*(smiles and looks at R)*
14 B: ginger bread
15 R: ginger bread (.) ginger bread what
16 _____
17 B: ginger bread head
18 R: ginger bread head?
19 Md: [do you want to ↑play↑ Barney (.) [must I turn the ↑music↑ on
20 _____
21 B: [*(laughs)* [gingerbreadhea:::d yes
22 Md: ↑OK tell Rochelle to get up (.) get ↑up↑ Rochelle

Rhodes University Psychology Department

PARENTAL CONSENT FORM

We, _____, have been informed of the nature of the research that will be conducted by the student researcher, Catherine Geils, which explores the communicative interaction of a child with Pervasive Developmental Disorder (Autistic Spectrum).

We understand that:

1) The researcher is a student conducting the research as part of the requirements for a masters degree in Clinical psychology at Rhodes University.
2) The research will involve video-recording sessions of naturally occurring interaction between our son and family members, as well as a volunteer instructor. Approximately six hours of video footage will be gathered.
3) These sessions will take place in our home at mutually agreeable times, however the nature of the research will require times that may intrude upon family time, such as mealtimes and bedtimes.
4) We are invited to voice to the researcher any concerns we have about our son's participation in this study and to have these addressed to our satisfaction.
5) Some information might be of a personal nature, but we may choose not to allow its inclusion.
6) We are free to withdraw our son's participation from this study at any time – however we give our permission for his full participation unless some unusual circumstances occur or we have concerns about his participation which we did not originally anticipate.
7) If any part of the research process is a source of distress for our son, the research will be terminated until a later date.
8) Our son's name and personal details will not be included in the report, and anonymity and confidentiality will be maintained by keeping the tapes and transcripts safe. The tapes will be destroyed once the research is completed.
9) Transcripts will be available for scrutiny by other researchers. The transcripts will be kept safely with the project supervisor for a period of three years, after which they will be destroyed. All personal details and identifying information will be excluded from the transcripts.

We, _____, give consent for our son's participation in the research project.

Date:_____

Parent:_____ _____

Researcher:_____

Witness:_____

Rhodes University Psychology Department

PARENTAL CONSENT FORM

We, _____, have been informed of the nature of the research that will be conducted by the student researcher, Catherine Geils, which explores the communicative interaction of a child with Pervasive Developmental Disorder (Autistic Spectrum).

We understand that:

1) The researcher is a student conducting the research as part of the requirements for a masters degree in Clinical psychology at Rhodes University.
2) The research will involve video-recorded sessions of interaction between our daughter and son.
3) Our daughter's participation will involve the role of interactive partner in the sessions.
4) These sessions will take place in our home at mutually agreeable times, however the nature of the research will require times that may intrude upon family time, such as mealtimes and bedtimes.
5) We are invited to voice to the researcher any concerns we have about our daughter's participation in this study and to have these addressed to our satisfaction.
6) Some information might be of a personal nature, but we can choose not to allow its inclusion.
7) We are free to withdraw our daughter's participation from this study at any time – however we give our permission for her full participation unless some unusual circumstances occur or we have concerns about her participation which we did not originally anticipate.
8) If any part of the research process is a source of distress for our daughter, the research will be terminated until a later date.
9) Our daughter's name and personal details will not be included in the report, and anonymity and confidentiality will be maintained by keeping the tapes and transcripts safe. The tapes will be destroyed once the research is completed.
10) Transcripts will be available for scrutiny by other researchers. The transcripts will be kept safely with the project supervisor for a period of three years, after which they will be destroyed. All personal details and identifying information will be excluded from the transcripts.

We, _____, give consent for our daughter's participation in the research project.

Date:_____

Parent:_____ **_____**

Researcher:_____

Witness:_____

Rhodes University Psychology Department

PARTICIPANT CONSENT FORM

I, _____, have been informed of the nature of the research that will be conducted by the student researcher, Catherine Geils, which explores the communicative interaction of a child with Pervasive Developmental Disorder (Autistic Spectrum).

I understand that:

1) The researcher is a student conducting the research as part of the requirements for a masters degree in clinical psychology at Rhodes University.
2) The research will involve video-recorded sessions of interaction with my son.
3) My participation will involve the role of interactive partner in the sessions.
4) These sessions will take place in my home at mutually agreeable times, however the nature of the research will require times that may intrude upon family time, such as mealtimes and bedtimes.
5) I am invited to voice to the researcher any concerns I have about my participation in this study and to have these addressed to my satisfaction.
6) I am free to withdraw from this study at any time – however I commit myself to full participation unless some unusual circumstances occur or I have concerns about my participation which I did not originally anticipate.
7) My name and personal details will not be included in the report, and anonymity and confidentiality will be maintained by keeping the tapes and transcripts safe. The tapes will be destroyed once the research is completed.
8) Transcripts will be available for scrutiny by other researchers. The transcripts will be kept safely with the project supervisor for a period of three years, after which they will be destroyed. All personal details and identifying information will be excluded from the transcripts.

I, _____, agree to participate in the research project and will maintain the confidentiality of the other participants.

Date:_____

Participant:_____

Researcher:_____

Witness:_____

Rhodes University Psychology Department

PARTICIPANT CONSENT FORM

I, _____, have been informed of the nature of the research that will be conducted by the student researcher, Catherine Geils, which explores the communicative interaction of a child with Pervasive Developmental Disorder (Autistic Spectrum).

I understand that:

1) The researcher is a student conducting the research as part of the requirements for a masters degree in Clinical psychology at Rhodes University.
2) The research will involve one session of one-hour duration with the child. This session will be video taped.
3) My participation will involve interaction with the child.
4) I am invited to voice to the researcher any concerns I have about my participation in this study and to have these addressed to my satisfaction.
5) I am free to withdraw from this study at any time – however I commit myself to full participation unless some unusual circumstances occur or I have concerns about my participation which I did not originally anticipate.
6) My name and personal details will not be included in the report, and anonymity and confidentiality will be maintained by keeping the tapes and transcripts safe. The tapes will be destroyed once the research is completed.
7) Transcripts will be available for scrutiny by other researchers. The transcripts will be kept safely with the project supervisor for a period of three years, after which they will be destroyed. All personal details and identifying information will be excluded from the transcripts.

I, _____, agree to participate in the research project and will maintain the confidentiality of the other participants.

Date:_____

Participant:_____

Researcher:_____

Witness:_____