

**Attuning: A Theory of Interaction
of People with Severe and Profound
Intellectual and Multiple Disability
and their Carers**

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I declare that this dissertation has not been submitted as an exercise for a degree at this or any other University and that it is entirely my own work.

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Summary of the Dissertation

The aim of this study was to develop a theoretical framework to explain the interaction between people with profound intellectual and multiple disability and others with whom they interact. In order to explore the dyadic process of communication between people with PIMD and those interacting with them, this study also aimed to develop appropriate data-gathering and analysis methods.

People with profound intellectual and multiple disability require multiple supports to partake and engage with the daily activities that constitute ordinary life and to achieve a good quality of life. They may be regarded as having such pervasive disability that currently existing standardised tests do not assess their capacities in a meaningful manner (Nakken and Vlaskamp 2007). A resulting communication gulf frequently exists between the person with PIMD and those who support them in both familial and professional settings, largely because of the difficulties of interpreting their verbal and non verbal communications.

The fieldwork for the study was carried out in a development disability centre in Leinster. A video camera was used to make a one-hour observational record of key activities in the daily lives of three dyads. Each dyad consisted of a person with profound intellectual and multiple disability and a staff member. The study developed a methodological framework to transcribe the narrative data that was derived from the videotapes. Detailed description was made of the actions and verbal and non verbal communications of each member of the dyad. In total 25 minutes of data were transcribed from the tapes of dyad one and two. Data from interviews with the staff member of each dyad were added to the transcript. Classic Glaserian grounded theory was used to analyse the observational narrative data. Initially 242 substantive codes were generated from the raw data; these were then sorted into eight provisional categories. Analytic and theoretical memos were written on the data, which led to a provisional theoretical understanding of the relationships between the codes and categories in the data. Subsequently further theoretical sampling was carried out. This resulted in field notes being made from the tape of the third dyad, two focus groups being carried out with staff in the DDC, and field notes being taken of observations of activities in the centre. These processes ultimately led to the emergence of the theoretical framework composed of seven categories, one of which was the core category.

The substantive theory that emerged was centred around the core category of attuning. The theory explained the process by which communication occurred within the dyad. Six sub-core categories were also identified, these were attention, being, setting, action, stimulus and engagement. The theory contends that the answer to the question of ‘how

do people with profound and multiple intellectual disability and their carers organise, modulate and run their relationships, their interaction and their communication?’ is that they attune to each other to a greater or lesser extent. The theory defined attuning as a **process (that can be bilateral or multidimensional) whereby communication partners move symmetrically or asymmetrically towards or away from each other mentally and emotionally**. In behavioural terms, attuning was further identified as a **process that describes how different participants display understanding of each other, through their observable behaviours**. The theory describes the relationships between the differing categories. The codes that comprise each category are explained and the relationships between the codes are also made clear.

The theory is situated in the context of communication theory and the literature on people with PIMD. Recommendations for theory development are offered and the implications of the theory for practice in the field of intellectual disability are proposed

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Dedication

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“Man is constituted as a speculative being; he contemplates the world, and the objects around him, not with a passive indifferent eye, but as system disposed with order and design”.

John Herschel (1782-1871), Astronomer

CHAPTER 1

Introduction:

A theory of interaction of people with severe and profound intellectual and multiple disability and their carers:

A summary

1.1 Background and rationale for the study

The purpose of this chapter is to set the scene for the reader, to explain the experiences and perspective of the researcher, to summarise some of the key questions, and also to present an overview of some of the methodological challenges.

A day spent working with people with severe and profound intellectual and multiple disability is a day spent in a different world—a world where mutual understanding is not commonplace. In practice, communication success seems to me to be a function of the knowledge, demeanour and interpersonal approach of the non disabled person. My¹ experience suggested that unless the staff member is open, cheerful and self-confident, chat between service users and the staff who care for them tends to be desultory at best, and non-existent much of the time. Five years spent working with this client group led me to reflect on how this communication difficulty might be addressed. It seemed to me that close observation of service users' interaction patterns might be a useful starting place. The development of an explanation of how these service users communicate started out from the observation that it was very difficult to know the thought processes of people with severe and profound intellectual disabilities. The reason is that they cannot articulate their thoughts in words and their non verbal communications, which are perhaps a more powerful and more effective mechanism for communication than the use of words (Khan 2007), may be configured quite differently to the expectations of the non disabled person.

Such a situation may lead to difficulties in interpreting the meaning of communicative non verbal behaviours. Two of the challenges posed by the interpretation process were concerned with the direction of the behaviour, and most particularly, with identifying the intent that might underlie it. The research topic started to identify itself as being concerned with the communications that service users showed and how others responded to these. I felt that close observation of the dyadic behaviours would offer some understanding of what these behaviours meant. However, it seemed to me that simply to observe behaviours shorn of the context in which they occurred would not yield understanding that would offer practical guidance to care staff because it can be difficult to interpret a behaviour without knowledge of the context in which it occurs.

1 The author is referred to in the first-person singular in this dissertation.

Behaviour, then, was to be viewed in context. This meant that an individual's behaviour, that of staff member or service user, would be construed as part of an interaction. I sought to develop an understanding that would provide practical guidance to care staff, nurses, teachers and relatives who spent time with people with severe and profound multiple intellectual disability. As a result it seemed necessary to include the behaviours of the staff as well as those of the service users in the research and a focus emerged on the service user-staff dyad as the unit for investigation.

The basic premise of the study was defined as being concerned with gaining a clear comprehension of all the factors that were involved in the dyadic communication process between a person with profound intellectual and multiple disability and a care staff or carer. To that end the study aimed to develop a theoretical framework to explain the interaction between people with profound intellectual and multiple disability and others with whom they interact. In order to do this I also set the objective of developing appropriate data-gathering and analysis methods. Lastly, an objective of the study was to inform intellectual disability practice regarding the findings.

1.2 The experiences and perspectives of the researcher

As an Englishman approaching training as a student nurse in the mid 1970s in Ireland, I wondered how a culture that so clearly valued the worth of people with intellectual disability or mental handicap (as it was termed then) might give expression to their rights and their care and support. I discovered that services were developing rapidly but that these were mostly custodial in nature and that the role of the nurse in Ireland tended to be centered around supporting those with the most severe disabilities. In 1980 I found myself in charge of a residential unit that catered for 24 children and adults who had severe and profound intellectual and multiple disability. I spent five happy years working in that unit. The provision of physical care and support was the primary role of the nurses and care staff, however recreation and community involvement were also central to the daily life of the unit. All the caregivers were acutely aware of the holistic aspects of care and at times we used to reflect on the existential nature of life for the service users. In particular, there was one teenage girl who was greatly loved by the staff; she would laugh, cry, be peaceful, moan, smile and be silent during each day. At times I wondered why she did such things and what she was feeling to make her display such behaviours—in short, what was her lived experience? At my behest one of the staff who had published a short story in the local press wrote a conceptualised story explaining life from this girl's point of view. The story was illuminating and troubling at the same time. Although this was a formative, interpretive piece of writing, it was illuminating because it gave insight into how she might feel, but troubling because it implied that what she felt was so rarely understood by the people who came into daily contact with her.

Many years later, in the late 1990s, while I was working in a different service running

a day centre I had the opportunity to do a Masters degree and I wished to pursue this question. My research for the degree achieved this aim tangentially. It looked at the effects of different settings on the interaction rates of people with profound intellectual disability (Griffiths 1999). The research showed that this group of people were sensitive to what happened around them and their behaviours reflected the activities and stimuli which took place around them. Subsequently I continued to be disturbed by the thought that while this research—and research that was emerging internationally—showed that people with PIMD clearly engaged with their world, much of the behaviours of staff members whom I encountered in my practice did not reflect that understanding. Many well-meaning, kindly staff still engaged with the service users as if they did not possess full personhood. When the opportunity arose to undertake doctoral research, I decided to look as deeply as possible into this matter. In order to do that I sought a research methodology that might achieve a deep insight into the nature of such engagement.

1.3 Grounded theory methodology and observational method: An unusual synthesis

It seemed to me that understanding of the phenomenon or process of interaction was best achieved by starting from a blank sheet. Although I was familiar with the way in which people with severe and profound intellectual and multiple disabilities behave and had read much of the literature in the substantive area, I had few preconceptions of what was actually going on in terms of comprehending how communication might be occurring. The literature on the topic could be summed up as suggesting that observation and testing of communications and communicative behaviours could offer data that, if subjected to inference and intuitive insight in a systematic way, might offer a valid approach to the interpretation of the meaning of communications (Grove et al. 1999a). I wished to build on this. The aim that I set was to develop a research approach that, on the one hand would reduce the role of inference in the interpretation of communications to a minimum, but that, on the other hand, would engage with that minimal interpretive process and the data to explain the structure that underlay the communication process. I also considered that the raw data should be detailed in its coverage of the micro as well as the macro behaviors that were demonstrated by participants in the study. In order to do this, as a researcher, I felt that qualitative data should be sought, conducive to an inductive process that could form the basis for theory development. Various methodologies were considered. Both ethnomethodology and symbolic interactionism were regarded as being relevant to the area of study. However, the former was rejected as its essential phenomenological roots did not fit the interactionist nature of the research. The role of symbolic interactionism was considered because it has a place in the development of grounded theory as it is concerned with the way in which people construct their social reality (Glaser 1998). Symbolic interactionism was also regarded as an important influence on the research because it emphasises the importance of meaning-making in the interpretation of social interaction (Blumer 1969). In fact, the theoretical framework of symbolic interactionism was both a foundation for grounded theory and a key influence

on the processes that were at work in the area of study.

Theories explain or predict something (Glaser and Strauss 1967). Grounded theory as a research methodology enables the development of theory that emerges from a substantive area of study and explains or predicts the activity that pertains to that area. As such, depending on how the methodology was formulated, grounded theory appeared to offer a methodology that would enable the aims of the study to be achieved.

1.4 Methodology

Data was gathered for the research in the following way. The setting for the study was a developmental disability centre in Dublin. This centre catered for a small number of adolescents and young adults with severe and profound intellectual and multiple disability. Staff in the centre comprised a teacher, nurses, care staff and (from time to time) a physiotherapist.

The actual data that was collected consisted of the following:

- Observational data was gathered using video recording of three staff–service user dyads. Each dyad was videotaped for one hour.
- Three interviews with the staff members of the three dyads were undertaken. The aim of these interviews was to examine events in selected parts of the tapes with the staff participant, in order to obtain elucidation and clarification of the meaning of the events.
- Two focus groups were conducted with the staff of the unit.
- Field observations were carried out of the general interactions in the unit.
- A diary was kept containing a detailed recording of the research process.

Of the three tapes that were made, detailed transcriptions were made of 25 minutes of selected episodes from the first two. The sessions that were selected for analysis were those where high levels of interaction took place. Typically these included the service user having a meal, a story session, a game session or a one-to-one activity. Field notes were taken from the third tape. The results of the interviews with the staff members were incorporated into the comments section of the transcripts of the tapes.

A transcription structure was devised for the videotaped data that allowed for a narrative to be constructed that included both participants' verbal and non verbal behaviours, information regarding other participants, as well as the background to the interaction. Each tape was transcribed on a frame-by-frame basis (24 frames per second) so that a detailed account of the interaction and the sequences of behaviour contained within it was developed. A comments section incorporated any interpretations of mine and the staff member of the dyad.

There are three main approaches to analysing data in grounded theory which are derived from the work of Barney Glaser, Anselm Strauss and Kathy Charmaz. Data analysis in this study was undertaken using Glaser's classic approach to grounded theory (Glaser 1998). This was done largely because Glaser places much emphasis on the emergence (of the theory from the data) in his approach to theory development. He eschews the use of frameworks to support data analysis such as that suggested by Strauss and Corbin (1998) or the interpretivist and constructivist assumptions that Charmaz (2006) considers essential for data analysis. Glaser views all the inputs into the data as being relevant and emphasises that the theory will emerge from the data through the consistent use of the constant comparative method. He notes that the role of the researcher is to listen to the research participants and that meaning will emerge from the process (Glaser 1998).

There were two essential steps in the analysis of the observational data. The first was that the data was fractured by the generation of substantive codes that described and classified the data into codes and categories. The second was that theoretical memos were written on the data. These defined the relationships between codes and categories, identified the main concern of the participants and the core category that explains how the main concern was resolved or dealt with. Initial coding of the data from the 25 minutes of transcribed videotape led to the development of 242 substantive codes most of which were based on multiple incidents. Sorting of these codes led to the emergence of an initial eight categories of data. At first, analytic memos were written on the codes and theoretical memos followed. Consideration of the categories of the theory led to the emergence of the core category. The process of memo writing led to the revision of some ideas regarding the structure. This was followed by changes in the grouping of codes, the renaming of codes and categories and the merging of two categories when it became clear that one was a property of the other. In all of this process, constant comparison of the codes and memos with the data upon which they were based was the fundamental process at work.

Theoretical sampling was undertaken some two years after the initial fieldwork. By the end of the analysis of the videotapes of the first two dyads, it became clear that some codes needed to be compared against further data, some categories were based on insufficient data and some aspects of some categories had to be explored further. A return to data-gathering took various forms:

- Field notes were written on the third videotape, although full transcriptions were not made.
- Two focus groups were held with the staff in the DDC and notes were made regarding the content of the discussions.
- Observational field notes were taken during activity sessions in the DDC.

At the conclusion of the theoretical sampling process many more memos were written

that refined and changed some of the ideas that had been advanced in earlier memos. Theory construction followed as all the memos were sorted against the background of the categories of the theory. This led the development of an integrated model that reflected the codes and categories and made their relationships explicit within the theory.

The rigour of the research process was considered in the following way. Trustworthiness, credibility and auditability are not concepts that are acknowledged in grounded theory. Instead Glaser suggests that the theory should have *fit* (trustworthiness / validity) which is achieved if the categories of the theory emerge from and reflect the data; *relevance* (they apply to the area of investigation); *modifiability* (they can be changed); and they *work*, (they explain what happens in a practical way). Much of the evidence for the presence of fit and relevance is derived from thorough application of the constant comparative method. The latter two properties are post-theoretical tests that relate to the application of the theory to practice. Lastly, auditability was provided for in the research diary which documented every step of the process.

1.5 A note on the theory

The theory that emerged from the research answered the main concern of the participants, namely: how do we, the participants, communicate and regulate our relationship? A core category was discovered. Six sub-core categories also emerged and together with the core they accounted for most of the data. The theory uncovered the structure of all the categories and, in particular, the complex structure of the core category was established. The interrelationship of the categories was discovered, as was the mechanism by which the core category regulated the other categories. It should be noted that the theory is a substantive theory that explains the structure of interaction as it occurs in the substantive area of communication between people with severe and profound intellectual and multiple disability and their carers.

1.6 Conclusion

The initial aim of the research study was to elucidate the way in which people with profound intellectual and multiple disabilities communicate. As the research question was refined and the study aim was identified more clearly, it became evident that the interactive nature of communication could not be ignored. Subsequently, the aim of the study was refined, to examine the operation of communicative dyads in which one person had a profound intellectual and multiple disability and one person was a carer or support staff. The identification of a theoretical framework to explain how such interactive dyads operated became the goal of the research. Although I had worked with this client group for many years, the theory that emerged was completely unforeseen and to this researcher unforeseeable, as nothing had prepared me for the emergence of the concepts of the theory and of the core category that linked them. A secondary but nonetheless important aim of the research was to develop a method that would clarify how grounded theory

might be used in the analysis of video based observational data. Grounded theory had not previously been used to analyse this type of data in such a structured manner and as result the study developed an important methodological innovation. This methodology has been explained and demonstrated in the research. Lastly it is hoped that the application of the theory may make a contribution to intellectual disability practice in order that the lives of people with severe and profound intellectual and multiple disability may become less obscure to those of us in the non disabled community and also so that our communications may become less obscure to those with intellectual disability.

CHAPTER 2:

The principles of communication

2.1 Introduction

“Communication is a fundamental characteristic of human interactions” (Kaiser and Goetz 1993:137). Interaction, which may be considered the context in which communication takes place, will be considered firstly in this chapter. Subsequently, some definitions and models of what communication is and how it works are examined. This is followed by a consideration of the different types of communication. Interaction and communication may be considered as being mutually dependent (Burgoon et al. 2002) and some of the overlapping aspects of the two concepts will be considered. The relationship of communication to thought will be noted and some specific analysis will be devoted to the role of signs and speech acts in the communication process—an important element in comprehending the behaviours of those with severe and profound intellectual disability. Chapter Three of the review will explore the role of intentionality as a concept that underpins the communication process. Intentionality is regarded as an important concept in the communication process because its presence is an early developmental indication of interactional ability and also because it directly affects the interpretation that the other communicator places on a person’s behaviour (Foster 1990). A consideration of how people with profound intellectual and multiple disability communicate will follow in Chapter Four.

2.2 Literature searches

This review of the literature is based on numerous searches carried out between April 2004 and the autumn of 2009. The main searches were of databases that relate directly to the subject matter of the study, namely people with severe and profound intellectual and multiple disability and their communicative competence. The following databases were searched frequently: Psychinfo, Psychlist, Linguistics and Language Behaviour Abstracts. Wiley Interscience (formerly Synergy), CINAHL, PUBMED and ERIC were also consulted periodically. Google Scholar was useful in determining indicative search results. The Trinity College Library databases were also consulted copiously. Search dates were ordinarily for the previous ten years. However, for major searches the search dates chosen were for the past 30 years or as long as possible. Search terms were numerous. However, the main terms relating to the sample group were: severe intellectual disability, profound intellectual disability, profound intellectual and multiple disability, profound mental retardation, profound developmental disability and profound learning disability. Other search terms included communication, interaction and combinations of these and the other terms listed. During the preparation of the discussion chapter of the research report further searches were carried out. These searches examined combinations of terms relating to people with intellectual disability and the eight main concepts that the

theory generated. Manual searches of documents and library shelves were also carried out. Reference lists of identified books and papers also yielded results.

2.3 The nature of interaction

This chapter has already referred to interaction as the context in which communication takes place. Interaction has been described as bi-directional and transactional (Nind 1996) and, as such, Nind is of the view that mutuality is a key component. The emphasis on mutuality points to the dyadic nature of the concept of interaction; indeed some view the interaction process as so intense that a transfer of emotions takes place between the participants (Adler 1997). The implications of emotional transfer in the context of an unusually intense interaction process need to be considered in relation to both the nature of the interaction and the low level of interactions that are experienced by people with profound intellectual and multiple disability and their carers.

2.3.1 Description of interaction

Jones and LeBaron (2002) emphasise that interaction is fundamentally dyadic. It requires that information be transferred from one person to another (Jones and LeBaron 2002). Thus senders of messages produce their behaviours which are sent to others and interpreted by that other (Heritage 1984). The interaction process itself may be characterised as involving both macro behaviours that are readily noticed and reacted to by the other and also by micro-behaviours which may be more subtle and less easily remarked by the other but which are nonetheless important components of the process (Jones and LeBaron 2002). According to Heritage (1984) interaction may be described as having the following features:

1. It is structurally bound

Social action and interaction is characterised by identifiable patterns and structures (Heritage 1984). Heritage contends that these patterns are recognised intuitively by the interactants. These patterns have been termed ‘niches’ (Granlund and Wilder 2006), that is, stable recurring situations where the participants interact. Examples of such niches are the “routine of the changing of diapers” (2006:176), mealtimes and organised games. Niches are characterised by three aspects: ‘contemporary redundancy’ which refers to the way that different environmental and personal factors combine to influence stable interaction patterns between the interactants; secondly, ‘thematic elaboration’ which refers to the way interactants construe meaning as it changes over time within the interaction pattern; and, ultimately, ‘chaining’ which describes the way one phenomenon in the interaction process influences another (Granlund and Wilder 2006). Niches may be positive or negative for the individual. They are created by individuals doing things such as communicating or engaging in activities that are familiar. Niches are useful in identifying and defining stable contexts in the interaction process. Niches also demonstrate the principle that “all aspects of social action and interaction can be

found to exhibit organised patterns of stable, identifiable structural features” (Heritage 1984:241). This is a view echoed by Radley who contends that social relations have an implicit structure that is to be understood by uncovering the patterns within it (Radley 1996). This is an important consideration as the aim of this research study was to uncover such patterns. One particular aspect of the niche is the setting or context in which the participants find themselves and that subject is considered in the next section.

2. Interaction is context-dependent

The environment acts as a determining factor on the nature of the interaction and needs to be taken into account in understanding the dyadic process. People engaged in interaction are positioned within an environment (a context) and the nature of this positioning also affects the interaction and its interpretation. Therefore context has a double effect on the interaction in that it influences the communication of the first- person, which then becomes a part of the context for the communicative response of the second person (Heritage 1984). Furthermore, context informs the nature of the dialogue that occurs (Thompson and Fine 1999). However, context also includes the personal variables of the individual which operate interdependently to affect behaviours (Pellegrini 1985).

3. All elements of the interaction are relevant (Heritage 1984)

Nothing can be dismissed as unimportant. Therefore a detailed examination is required of the interaction process and the setting that surrounds it in order to gain full understanding of it. Given the assumption that micro behaviours are important facets of interaction, these should be sought after. However, the degree of detail that can be mapped in an interaction must always be relative. More sensory data impacts on an individual than can ever be processed by the individual (Sperber and Wilson 1986). Thus the principle should apply that as much data is included in the analysis as is considered relevant and can be analysed.

4. The dyadic interaction process is mapped by a series of rules

A cardinal rule of the process is that interaction occurs when the individuals engage in *turn-taking* (Adler 1997). Adler notes that video analysis of dyadic interactions suggest that non verbal body movements accompany the words of a speaker and also characterise the behaviours of the attentive listener in the dyadic interaction process. He suggests that a synchronised process resembling dance partners best describes how interaction works and that turn-taking is implicit in the synchronised process. Interaction therefore can be considered to “exhibit systematic and orderly properties which are meaningful for the participants” (Heritage 1984:243). These properties may be considered to constitute a series of rules which govern the way in which interaction proceeds.

5. Interaction is characterised by the exchange of inter subjective understandings (Heritage 1984)

The progression of inter-subjective understandings may lead to the process of ‘tuning’ (Thompson and Fine 1999) occurring between interactants. In order to achieve this, the tuning process requires the individual to be sensitive to the perspective of the communication partner. When it works well, tuning involves the fitting together of lines of action produced by the interactants. This process can lead to the construction of shared reality between the interactants or, at a minimum, the perception of a shared reality. Tuning is exemplified by Wilder et al. (2004), who report that parents of children with PIMD see their role in interaction as being sensitive to their child’s expressions, and being aware that they should not project their own feelings onto the dialogue.

2.4 The role of context in the interaction process: An elaboration

There are differing views as to how the context or environment should be construed as a variable in the interaction process. Lewin’s work on children’s behaviour noted that there is synergy between the person and the environment (Lewin 1956). Indeed, Lewin contended that the understanding of behaviour is advanced if the person and the surrounding psychological, physical-geographic environment are viewed as being one field in which independent variables interact with and influence each other (Pellegrini 1985; Gold 1999). Lewin is also of the view that psychological factors such as an individual’s goals, the behavioural stimuli that take place in the interaction and the social relations that apply between the interactants are important variables in determining how an interaction works. Other variables that affect interactions, according to Lewin, are the physical environment and the social environment—that is, the atmosphere of the setting. One final point that Lewin makes, is that each interactant perceives the action from their unique viewpoint and that the purpose of a description of the interaction is to elucidate this viewpoint as effectively as possible, while acknowledging the implicit bias that each individual may bring to their perception of the interaction.

Barker and Wright attempt to anatomise the environment and how it operates on the interactants. They suggest that different environments tend to elicit specific or standing patterns of behaviours (Barker and Wright 1955). Pellegrini cites the example of the church in which worshippers go about their business in a manner that is congruent with the expected role of the environment. The result is that the building effectively determines much of the behaviour of the people who are in it (Pellegrini 1985). This concept is termed ‘synomorphism’ which describes the interactants’ behaviour combined with the context in which it takes place. Pellegrini notes that behaviour is “synomorphic with a specific environment” (1985:115) and that the environment may refer to factors of both time and space. Thus worship may be considered the appropriate activity in a church on a Sunday morning. However, a concert might be regarded as being appropriate in the same church at a different time of the week. Synomorphism is perhaps a variation

or even an aspect of the concept of 'niches' referred to in Section 2.3.1, where the point is made that niches are stable patterns of behaviour that occur in recurring situations. As with Lewin, Barker and Wright (1955) emphasise the importance of understanding the interaction behaviours from the viewpoint of the people concerned; an understanding of the role of the environment may assist this.

Bronfenbrenner has looked at how interaction occurs in four different contexts, all of which operate at different levels. The micro-system is the primary system of interest in an ecological analysis of interaction processes. Bronfenbrenner defines a micro-system as "a pattern of activities, roles and interpersonal relations experienced over time by the developing person in a given setting with particular physical characteristics" (Bronfenbrenner and Crouter 1983:380). The setting is seen as being the place in which the interaction happens and it is composed of five variables: time, its material characteristics, the activity that is going on in it, the role of the individuals, and the interpersonal relations that operate within it (Pellegrini 1985). Other commentators have emphasised the importance of setting in determining emotional expressions and the interactions that flow from that (Wilder et al. 2004).

2.5 Interaction patterns and script theory

Synomorphism and niche theory both attempt to explain behaviour in terms of identifiable patterns that are to some extent determined by the environment in which the behaviours occur. Furthermore, these concepts suggest that behaviours including communicative behaviours may be stable and recurrent over time so that a repeated situation will quite likely induce repeated similar behaviours in that situation. These concepts identify the influence of the setting or environment on behaviour and communicative behaviour, in particular. A further development of the concept of recurrent behaviours is script theory which describes the effect of emotional (and by implication communicative) habits on the behaviours of individuals (Jenkins et al. 1998). Scripts evolve; they may start in childhood and develop and become amplified as the individual develops. Scripts involve behavioural habits that may be concerned with the influence of mood or affect upon a person's behaviours. Typical behaviours might be related to eating, the consumption of alcohol, engaging in sexual practices or communication. The point about scripts is that individuals develop them so they resemble habits that are associated with particular aspects of their lives and these scripts then form a part of the way they live. The script links, or in some cases ties, affect and setting so that particular behaviours occur in a particular setting (Jenkins et al. 1998).

Script theory was developed by Silvan Tomkins as a part of his theoretical explanation of how human emotions are displayed in physiological, gestural and emotional packages and how they play out in the interaction process. Tomkins explains that scripts are formed on the basis of "perceptual, cognitive, memory, affect, action and feedback theory"

(Tomkins 1998:216). Scripts are formed as individuals attempt to maximise the order inherent in an event or in a scene. Tomkins views scenes as discrete happenings that have an identifiable beginning and an end. He suggests that understanding of a scene is achieved through discerning the relationships between the variables within the script and, through that process, analysing the roles of the different variables and thus identifying the patterns inherent in the script (Tomkins 1998). The intensity of the affect displayed in the interaction, the speed of change and the frequency of the repetition of the sequences of behaviour are regarded by Tomkins as the most important factors that impact upon a script. Funnell considers that scripts play an active role in organising information in the memory and in restructuring the memory when new information is added (Funnell 2001). Both writers agree that scripts play a part in determining the relationship between current behaviour and past events in a person's life.

These theorists place great emphasis on the importance of the setting in influencing interactions. However, what also emerges is that it may be difficult to know if the setting and the interactants should be viewed as a unified phenomenon or if it can be untangled so that the differing influences of variables that are external to the person and those that are internal may be discerned. Ultimately it would appear that an accurate understanding of the processes that operate to cause individuals to act and to interact in the way that they do must be predicated on the assumption that the setting or context, in all its complexity, has a major role to play.

2.6 Definitions and models of communication.

There are many views of what constitutes communication. In order to establish an understanding of the diverse nature of this fundamental concept, differing elements that constitute it will be considered, so that it can be located in the pantheon of manifestations of interaction.

Communication may be said to occur "whenever the behaviour of one individual influences the behaviour of another" (Buck 1984:4). Buck's definition takes the commonly held view that communication requires a transfer of information and that includes non verbal information (behaviour) as well as verbal information. Communication can be conceived as existing in an action or inaction and the (in) action contains information which is given to or received from another person. The nature of the information may be concerned with a person's needs, desires, perceptions, knowledge or affective states. Communication may be intentional or unintentional, may involve conventional or unconventional movements or expressions of emotion (Hogg et al. 2001) and may take linguistic or nonlinguistic forms which may occur through spoken or other modes.

The most basic models of communication construe the process as one where the sender

sends a message which is then received and interpreted by the other person (the receiver). Claude Shannon and Warren Weaver's model builds a little on this to incorporate the central aspects of the process (Shannon and Weaver 1949). Shannon and Weaver view the sender as the information source who transmits the message (via verbal on non verbal means) to the receiver. They note that the information source and receiver are located in the brains (or minds) of the individuals in the dyad. The transmission of the message suffers from interference and information loss during the process so that the received message differs from the sent message (Griffin 1994).

Figure 2.1: Adapted from Shannon and Weaver's Model of Communication (Shannon and Weaver 1949)

Information source → Message → Transmitter → Signal → Interference from Noise

Source → Received signal → Receiver → Destination.

This type of model of communication conceptualises the process as a direct sending of a message from one person to another and does not explain interpretivist approaches to message comprehension. The communication events may be reciprocated any number of times but in this model, communication consists of linked one-off events. The advantage of such a model is that the basic framework of what happens is made explicit. The deficiency of Shannon and Weaver's model is that it does not allow for the mutual influence that is inherent in what more recent conceptualisations of communication view as a process. Examples of these conceptualisations, such as systems theory, view communication as part of a wider pattern in which relationships exist within total systems (Griffin 1994). Others consider that a cooperative element between the partners is frequently involved as the interactive relationships are played out (Jones and LeBaron 2002). Buck and VanLear (2002) sum up the requirements for a general communication theory concisely when they state that "explanations of message production alone or message reception alone, although potentially useful are incomplete" (Buck and VanLear 2002: 522). They suggest that a general communication theory must take account of biological aspects of communication, as well as those aspects that are learned and symbolically structured. For that reason Shannon and Weaver's model may be considered too simple a framework to explain a complicated phenomenon. A more complex understanding suggests that if communication is regarded as being by its nature a reciprocal process, then it would be viewed as a process that "requires that one partner's behaviour is noticed by another who *understands the message* and responds accordingly" (Butterfield and Arthur 1995: 43). This view of communication raises the reciprocity and comprehension level of the communicators, in that not only should the communication be noticed, but it should also be responded to in a manner that demonstrates understanding. Such a condition implies that a high degree of mutuality should be present in the

communication process. Butterfield and Arthur proceed to add a further condition to their definition. They suggest that the communication should be of such a degree “that the first partner is satisfied” (1995:43), a far more stringent criterion for the definition of communication. However, they do emphasise an important aspect of the processes that constitute communication, namely that it is an interpersonal process that requires both partners in a dyadic dialogue to engage with each other. Such engagement, Butterfield and Arthur imply, will not occur in the absence of motivation by both partners which requires a degree of satisfaction with what happens. Whether such satisfactions actually occur in everyday communication is debatable, in that much communication takes place irrespective of the willingness of the intended receiver of the message to accept it and hence to express satisfaction.

Cronen et al (1982) offer an explanation of what constitutes satisfactory communication, in their coordinated management of meaning theory. This theory examines how people create and manage their social reality. The theory assumes that people comprehend the world by ascribing meaning to events and then acting on the basis of this understanding (Cronen et al. 1982). Such an approach is very similar to that of symbolic interactionism which contends that “human beings act towards things on the basis of the meanings which these things have for them” (Blumer 1969:3) and that meaning is dynamically developed in the interaction process. Blumer conceptualises meaning as developing from the way in which the persons communicate and the way they handle the subject matter of what they are communicating. Meaning then, is a dynamic creation which is developed by the people who are communicating in the context of a continuous communication process and the comprehension of meaning enables communication partners to achieve satisfaction in communication.

2.6.1 Conclusion: Tentative criteria for communication

Communication may be regarded as a dyadic process, that is, it implies that more than one individual is involved and also that it is located as a part of the overall interaction process (Messer 1994). Although it is accepted that information is contained in the actions and stimuli that individuals send, the meaning of that information is co-created both by the sender and receiver of the information, with the result that there is a continuous process of perception and action that plays out in the dyadic setting (Fogel 1993a). This is the communication process. By accepting such a schema, interaction can be construed as the context in which communication takes place, thus communication constitutes interaction. The converse does not apply in that interaction is a broader term that encompasses more than just the communication process. However, in apparent contradiction of the dyadic principle, this chapter will also consider the question of whether it is necessary for another person to be present in order for a behaviour to be termed communicative, as well as the related matter of whether all behaviours should be regarded as communications.

2.7 The nature of communication

2.7.1 All behaviour is communicative

A general definition of communication widens the discussion of how people communicate. The definition states that “in the broadest way, communication can be regarded as the transmission of any influence from one part of a living system to another part, thus producing change” (Sebeok 1991:22). Such a statement clearly frames communication acts as constituting information displayed in one part of the system (for instance, the dyad) that generates an effect on another part of the system (generally an individual). This definition would appear to set a frame whereby communications are conceptualised as behaviours that cause change. Both Mindell (1999) and Fornefeld (2006) (see Section 2.14.) contend that indicators of change in the autonomic system communicate something of how the individual is feeling to another who is watching. Paul Watzlawick and his fellow authors suggest that it is not possible to not communicate (Watzlawick et al. 1967). They contend that communication is happening even when it is questionable whether or not it is intended. They cite an example of when a fellow passenger on a plane tries to engage another in conversation and the other ignores him/her, the second person is clearly saying “do not speak to me”, even though s/he is doing nothing. The example identifies that communication may occur even if it is apparently not intended, which highlights the crux of the matter i.e. that all behaviour communicates something. However, not all behaviour is intended to communicate by the person who makes the behaviour (Radley 1996). This situation is summed up by Herbert Adler who refers to the work of Pittenger et al. (1960) when he states that “in interpersonal communication, nothing never happens” (Adler 1997:2). Such a construct is important in considering the behaviours of people with profound intellectual and multiple disability whose communications may be difficult to interpret and are therefore at risk of being ignored. If all behaviours are assumed to be potentially communicative then a rich field for observation, interpretation and understanding is opened up and the focus shifts from identifying communications to the question of interpreting them (Grove et al. 1999a).

2.7.2 The reciprocity of communication

Communication is by its nature a reciprocal process. Indeed for many there can be no communication without a transmitter of the message and a receiver of the message. Therefore communication is framed in the context of two or more participants which gives rise to Grice’s description of the ‘cooperative principle’ as a principle underlying conversations (Grice 1999). The presumption is that interactants cooperate in some way in order to communicate. Equally communication is seen as a partnership by Bradshaw (2001a), she cites Bartlett and Bunning (1997) who comment that “a communication partnership involves two or more people who exchange ideas and interpret meanings” (1997:8). It has already been noted in Section 2.6. that the sender–receiver model does not fully account for the communication process. Buck and VanLear (2002) explain

that in constructing a general theory of communication a feedback process is needed. However, feedback loops can be complex as in most situations the feedback process implies a continuum of communication from person to person that involves multiple interactions between individuals. These multiple interactions may at times form continual feedback loops so that it can be difficult to pinpoint the beginning and end of the interaction.

The two principles that have been described: that all behaviour is potentially communicative and that communication is a reciprocal process form the basis for the discussion that follows. They frame the next section of the chapter which examines the detailed mechanisms of communication.

2.8 Speech act theory

A speech act is a spoken utterance, the basic unit of verbal communication; it is a behaviour that has an effect on the listener; it is, in effect, the main mechanism used in oral communication to achieve a speaker's goal (Angell 2009). Speech acts consist of the individual issuing a symbol or a word, which are the basic units of linguistic communication (Searle 1969). Furthermore the performance of speech acts such as "giving command, asking questions and making promises... (is) made possible by and (is) performed in accordance with certain rules" (Searle 1969:16).

2.8.1 The perlocutionary-illocutionary divide

Speech acts have three different dimensions: these are locutionary acts which are expressed as words, perlocutionary acts and illocutionary acts.

In constructing a view of the developmental precedence of each, it is important to understand that both perlocutionary and illocutionary acts must be viewed as preceding the locutionary (or speaking) stage (Bates 1976). It is therefore clear that neither illocutionary nor perlocutionary acts require language (Tsohatzidis 1994).

Perlocutionary and illocutionary acts coincide, in that both emerge before conventional language develops. In their earliest developmental form they constitute pre-speech acts (Foster 1990). An illocutionary act consists of the expression of a person's communicative intent; it is "the motive or purpose underlying the utterance" (Angell 2009:108). Illocutionary acts can make a basic statement (such as a gesture or speech act that indicates one wants something). The illocutionary stage of infant development is characterised by the development of intentionality and takes place in the latter half of the infant's first year of development. Illocutionary acts are performed by the message sender, they constitute the sent message. The effect the illocutionary act may have on the receiver of the message constitutes the associated perlocutionary act, the force of which may cause the receiver of the message to change his or her behaviour (Coulter

1992). The perlocutionary act is thus considered to be that part of the speech act which affects the listener. The perlocutionary stage occurs over the first six months of an infant's development and does not imply that an infant possesses intentional behaviours. The period is characterised by the caregiver or parent interpreting the infant's communicative behaviours (McLaughlin 1998).

In analysing the developmental order of perlocutionary and illocutionary acts, most researchers concur with Copley (1996) who suggests that illocutionary acts are concerned with the generative motive for the act and represent a higher order of communication ability than perlocutionary acts. However, in effect both illocutionary acts and perlocutionary acts are distinguished by their respective places in the communication process.

2.8.2 The development of speech acts

Infants use intentional illocutionary force at the pre-verbal stage in their very early incomprehensible utterances (Dore 1974). Halliday (1975) notes that a child at the 6-9 month stage will use the sound generated by his or her voice to achieve goals such as getting something, getting close to somebody or ordering somebody about, in other words he may use illocutionary acts to generate a perlocutionary component in the listener. Both these types of speech acts are considered to manifest towards the end of the first half of the infant's first year of life. If these acts are identifiable in the infant's usage of utterances, it seems a reasonable assumption in line with the view of Tsohatzidis (1994) that speech acts may be expressed non verbally, that their early gestures and non verbal acts also demonstrate illocutionary and perlocutionary aspects which can then provide a structure to understand how pre speech acts operate. So it can be hypothesised that even very early communications may be interpreted in a speech act framework. Searle contends that the use of language implies "engaging in a rule governed form of behaviour" (Searle 1969:12). Therefore it might be concluded that infants comprehend the rules of communication when they manifest illocutionary and perlocutionary acts. Both of these concepts are not only relevant in understanding the developmental level at which a non verbal communication is operating, but they are also indicators of the intentionality (see Chapter 3) of the act itself and hence of the meaning of the act (Searle 1969). If perlocutionary acts are deconstructed they can be divided into two elements: acknowledgment of the other and also an understanding that it is possible to get the other to act in particular way. Taken together these assumptions imply that infants understand and then establish the rules which govern the processes of interaction and communication at an early age (around 6 months) and use them to achieve their goals. This conclusion has important implications for people with profound intellectual and multiple disability, many of whom function at or around the six month developmental level, as it suggests that they too can comprehend the rule-bound nature of the communication process and use it to achieve their aims.

2.9 Multi-modal communication

2.9.1 Verbal and non verbal communications: A classification

Although current thought suggests that the discrimination between verbal and non verbal communication is unhelpful and that communication should be regarded as whole (Jones and LeBaron 2002), this chapter differentiates them because non verbal communication is the primary communication method of people with PIMD and, as such, merits close scrutiny as a separate form of interaction.

Verbal communication may be regarded as the use of spoken words that convey linguistic symbols (Blishak et al. 1997). However, arguably the verbal (deriving as it does from the Latin ‘verbum’ or ‘word’) is more accurately interpreted as referring to all communication that is constructed out of formal linguistic units—whether spoken, signed or written. Non verbal communications (where the term is used synonymously with non linguistic communications) consist of all communications that do not use formal linguistic units within a coherent system. A subsection of non verbal communication is the use of vocal communications which are sounds that may be speech sounds, but are not necessarily so. They may include non linguistic utterances such as cries, exclamations and laughter and can be defined as “sounds produced by expelling air from the lungs, first past some sort of vibrating mechanism and then one or more resonating chambers or tubes” (Smith 1977: 31). Non vocal communications do not involve the voice (Blishak et al. 1997) and they describe the use of gestures and even some signs that are not part of a formal language system. It is these forms of communication that are predominantly used by people with PIMD (Hogg et al. 2001).

2.9.2 Verbal communications

For most people talk is the basis of dyadic interaction. It is also a central element of the everyday world (Schegloff 1999). The main verbal tool used in talking or discourse is language. The special quality of language is that it “can take itself as an object” (Bates 1976:1). The capacity whereby language can refer to itself, presents it as a unique tool that can be used to work through a person’s reflective processes. Language is arguably the mechanism that enables thought, communication and meaningful interaction. For many, verbal communication is the main characteristic of what it is to be human (Griffin 1994).

2.9.3 Non verbal communications

Non verbal communications are difficult to define. As Buck and VanLear (2002) note, a concept that is defined by what it is not is therefore imprecise. However, the components of non verbal communication are quite clear; they comprise behaviours that can be classified under the following categories: facial expressions, body activity, gestures, vocalisations and eye expressions (Wilder 2005).

Facial expressions include such behaviours as smiling, chewing, and forming the mouth. Body activity may manifest as the person stretching, sitting upright (posture) or being still, whereas examples of gestures would be nodding, making hand or arm movements and pointing. Examples of vocalisations range from loud breathing to screaming, and from moaning to babbling. Eye expressions are mostly characterised by different forms of gaze, which is regarded as a mechanism for communication which develops early in the infant's life (Caron et al. 1997, Goosens and Crain 1987). Non verbal communications can be divided into two categories: symbolic and non symbolic. These are considered below.

2.10 Symbolic and non symbolic communications

An elaboration of the role of non verbal communications requires a note on the terminology that is used to classify the role of symbolic and non symbolic communications. Communicators can be classified into those who use symbols in their interactions and those who do not.

2.10.1 Symbolic communications

Symbolic communications include the use of conventional visual signing systems such as Makaton or LAMH, signing systems that use pictures such as Blissymbolics, pantomimic behaviours and the gestural movements that accompany verbal language. They also include the conventional use of words, pictures and other signs. As with non symbolic communications, symbolic communications may be idiosyncratic in nature, but they differ fundamentally from non symbolic communications in that they require a consistent meaning to be attributed to each communication; furthermore, they possess an inherent representational aspect.

2.10.2 Non symbolic communications

Non symbolic communications tend to be idiosyncratic, inconsistent and to be located within the individual or within the dyad. They include non linguistic vocalisations, a person's physical characteristics, the person's relationship to the environment and to space (proxemics), and personal artefacts such as clothing (Beukelman and Miranda 2005). A comprehensive list includes: "generalised movements and changes in muscle tone, vocalisations, facial expressions, orientation, pause, touching, manipulating, or moving with another person, acting on objects and using objects to interact with others, assuming positions and going to places, the use of conventional gestures, depictive actions, withdrawal and aggressive and self injurious behaviour" (Siegel-Causey and Guess 1989:7). It should be noted that the same modes of communication (for instance, gestures or vocalisation) may be used to convey both symbolic and non symbolic communications.

2.11 The development of pre symbolic communications

Those who interact at the pre symbolic level are described as having communicative behaviours that are idiosyncratic, that cannot be understood as being conventional communications (Butterfield and Arthur 1995). Pre symbolic behaviours constitute signifiers that are arbitrary but they may signify meanings that offer a shared interpretation that in the context of the particular dyad is very clear and understandable. Pre symbolic communications are often developed by the individual himself but if correctly understood within the dyadic context may nonetheless offer a possibility for the development of shared meaning. This type of communication is common to those with profound intellectual and multiple disability. It is useful to recognise that this type of communication can be an important mechanism for communication (Kaiser and Goetz. 1993).

2.12 Gestures

Ekman and Friesen (1969) classify gestures into three categories: emblems, body manipulators and illustrators. *Emblems* use symbols to indicate an intentional meaning. Examples of these are waving to someone one knows to say hello, or a child in class holding up a hand to indicate a wish to use the lavatory. By contrast, *body manipulators* are actions and behaviours that quite frequently are unintentional in the sense that there is no overt message conveyed in them, although covert messages may be part of the actions. Examples of these include scratching oneself, fidgeting and displaying postures that indicate specific emotions such as severe tension that is expressed by being ramrod upright when one is being spoken to. *Body manipulators* are essentially not symbolic communications. *Illustrators* are gestures that accompany thought and often are a part of a conversation. Although these may have specific meaning, often they accompany verbal messages and illustrate or enhance them (Ekman and Friesen 1969). While it is abundantly clear that many people with more severe forms of intellectual disability use non verbal behaviours because they have limited verbal ability or none, it is less clear how much communicators who have access to both verbal and non verbal forms of communication may choose to use the latter. There are some suggestions that the environment plays a part in the deployment of non verbal communications in the generic population (Jones and LeBaron 2002). An example of a prolific employer of non verbal gestures was the late French president Charles DeGaulle, whose personal style utilised *illustrators* to a high degree. Such a phenomenon is also characteristic of the current French president Nicolas Sarkozy, which suggests that as well as personal style, culture also has a role to play in the deployment of gestural communications.

2.13 Intentionality and non verbal communications

Some gestures are non symbolic communications that reflect an individual's internal state. Such communications are quasi-intentional in that some may be expressively directed at a communication partner, whereas others are non symbolic communications

that express emotional, autonomic or indeed intentional communication, but are not aimed at another person with the intention of producing an effect (see Section 2.8.1 on the perlocutionary-illocutionary divide). Chapter 3 of this review examines how intentionality may be construed and operationalised from the viewpoint of the person with profound intellectual and multiple disability.

2.14 Micro communications

Micro communications are expressed as “subtle micro-movements, postures, gestures and eye behaviours” (Buck and VanLear 2002: 536) and they arise from the interplay between the environment, the predisposition of the individual and the nature of the interaction in the here and now (Buck and VanLear 2002). Such communications are important expressors of how people feel about each other and consequently how they relate. They occur fleetingly and may often be unnoticed due to their ephemeral nature (Finlay et al. 2008a). However, decisions regarding courses of action are made by both partners in a dyad during such micro moments which exist briefly after the expression of the communication and therefore it can be argued that these micro communications are both expressions of and also modulate interpersonal relationships. This type of communication can only be observed by closely following the small behavioural changes that every person displays, but which generally go unremarked—at least at a conscious level. Such communications may include twitches of different parts of the body, shaking of a digit or a change in a person’s skin colour or breathing rate. Behaviours like these can be interpreted as meaningful and regarded as potential precursors of much more expressive and expansive non verbal communications (Mindell 1999). That these behaviours are communicative of something is clear; however, the degree of intention behind them is questionable. Even more questionable is how much meaning may be placed on inferences that are based on the observation of autonomic signs. Mindell (1999), whose work has been mostly carried out in the field of coma studies, suggests that the communicative power of autonomic signs should not be dismissed. Fornefeld (2006) suggests that autonomic signs (somatic signs, as she terms them), can be the basis for relationship-forming in the case of people who display no other behavioural indicators. Fornefeld’s contention is that such signs as salivation, body odour respiration rates and skin moisture levels are indicators of the person’s internal state and as such represent a call from the person with PIMD to the non disabled person. This call is something to which the communication partner must find an answer before a dialogue can proceed (Fornefeld 2006). However, in order to receive that call, to be aware that a potentially communicative message has been sent the receiver must be alert to the idiosyncratic and subtle nature of these behaviours (Porter et al. 2001).

In short, this section has emphasised the importance of small behavioural indicators, micro-communications and minimal changes in the person’s behaviours as integral elements in the person’s pattern of non verbal signals. All these details of the interaction

process must be considered as being potentially significant in order to understand the process (Heritage 1984). Therefore these behaviours should not be overlooked but should be regarded as potentially communicative.

2.15 The relationship between verbal and non verbal communications:

Analogic and digital

Verbal and non verbal communications can be construed as complementary aspects of the same phenomenon. Indeed, many researchers regard the distinction as artificial preferring to view communication as including both speech and all other visible aspects of behaviour (Kendon 1977). Consequently, it is possible to view communication as an integrated holistic construct in which the two elements combine to form one unified construct (Jones and LeBaron 2002). Admittedly it is a construct in which there is considerable overlap and interplay between the elements which comprise it. However, in attempting to deconstruct the concept of communication the similarities and differences between non verbal and verbal communication modes need to be examined. The clearest explanation of these differences is to use the analogy of communication being either analogic or digital. In this construct verbal communications are regarded as being digital in nature and non verbal communications as analogic. The discrimination describes how the information that is conveyed in the message is presented.

Digital information is presented in written or verbal (i.e. using words or numbers) form. In its nature, it is comparable to the way that information is processed by computers. Computers process information in packets of data which are stored and manipulated as a series of 1s and 0s, hence the term digital. This type of information bears no resemblance to the idea upon which it rests. Thus the word 'bird' no more resembles a flying animal than does any other word, its use is essentially arbitrary. Digital information has the capacity to convey very complex ideas and is an essential foundation for the development of human civilisation (Watzlawick et al. 1967). In other words digital methods of communication can convey messages that are more complex, more versatile and represent a higher degree of abstraction than analogic communication and this is done primarily through abstract linguistic units.

By contrast analogic communication tends to resemble the thing that it communicates, it is by its nature more iconic than digital communication. Analogic communications are more primitive; they are also truer in the sense that they are harder to falsify. It is as Watzlawick et al. (1967) state, "difficult to carry a lie into the realm of the analogic" (1967:63). Analogic communications comprise "virtually all non verbal communications" (Watzlawick et al. 1967:62) such as body posture, tone of voice, patterns of intonation, "gesture, facial expression, voice inflexion... [and] any other non verbal manifestation of which the organism is capable, as well as the communicational clues [that are] unfailingly present in any context in which an interaction takes place" (1967:62).

The resemblance to artificial data processing machines holds to the point that analogic communication presents less accurate, more generalised information (meanings) whereas digital communication is more specific. Digital information is easier to portray falsely and thus may be viewed as potentially less true (valid) than information conveyed through an analogic medium. In terms of separating the different aspects of a communication, digital information (broadly) conveys the content aspect of the message, whereas analogic communication conveys the relationship aspect of the communication (Watzlawick et al. 1967). While digital communication presents specific information, analogic communication tends to be less precise. Such an analysis is echoed by Sperber and Wilson, who regard non verbal communications as tending to convey imprecise information. Non verbal communications do not make explicit statements regarding contexts or situations, nor do they send detailed messages. Rather they “stir the thoughts of an audience in a certain direction” (Sperber and Wilson 1986:60). Non verbal communication, in Sperber and Wilson’s view, conveys a general message regarding the way in which the sender feels about the matter which he or she wishes to convey.

There are aspects of both sorts of communications that are exclusive to each. The communication of specific ideas is best rendered digitally, while in certain instances analogue communications (gestures) may in fact convey information such as complex emotions that it is not possible to put into words (Jones and LeBaron 2002).

Finally, the relationship between the two elements is a dynamic ongoing process. Analogic and digital communications are complementary aspects of a holistic communication (McNeill 1992). It has been argued that both derive from deep structures within the mind of the individual (McNeill 1992) although whether they arise from the same structures is unclear.

2.16 Semiotics and the role of signs

Linguistics is exclusively a science of forms, according to Saussure (1916). However, thought is shapeless and is only brought into shape through the use of forms, that is, signs. He proceeds to state that “Without language, thought is a vague, uncharted nebula. There are no pre-existing ideas and nothing is distinct before the appearance of language” (Saussure 1916:112). Saussure views language and thought as opposite sides of the one sheet of paper. These are challenging ideas for those who consider that thought also manifests as non verbal behaviour. Saussure, however, considered that ideas manifest as linguistic signs, but signs may also manifest as icons, drawings or non verbal behaviours (Saussure 1916). The identification of the role of signs in communication theory by Saussure led to the coining of the term semiology by Saussure and the opening-up of the field of semiotics in which the names of Charles Peirce and Roland Barthes feature prominently. The identification of the role of non verbal signs can be attributed to Barthes, who identified pictures and autonomic symptoms as constituting signs. Other aspects of the

field of semiotics include the study of voice tones and gesture. Indeed, some view most of human activity as being the proper subject of study for semioticians (Griffin 1994). Signs constitute two elements: the sign itself which is the signifier and the meaning of the sign, the signified or (according to Pierce) 'the interpretant'. The sign encompasses the everyday meaning of the word, but expands it to become an indicator of something, where it indicates or signifies a quality or concept which is termed the signified. The signified is interpreted on the basis of the meaning that the sign displays. A sign may display iconicity where there is a similarity between it and the signified concept to which it alludes (Andrews 2007). Signs can occur as images, diagrams and metaphors.

Iconicity is determined by the relationship between the sign and the object (the signified) that it represents. Iconicity is located in one of three places: "the sign, the object or as a product of the sign-object relationship itself" (Andrews 2007:4). Andrews contends that the quality of the sign is found in the ground of the sign, which is where the correlation between sign and the signifier or object resides. However, iconicity may be interpreted by the different observers of the sign in different ways and some signs may be ranked as having greater iconicity than others (Beukelman and Mirenda 2005). Therefore iconicity, to some extent at least, is in the eye of the beholder.

To return to Saussure's contention that signs are necessary in order to permit the identification of distinctions between ideas and therefore to allow the formation of concepts, signs can be construed as the building blocks for verbal and non verbal communication. People with profound intellectual and multiple disability use words only sparsely, if at all. They do, however, communicate through reflex response, actions, sounds and facial expressions (Ware 2003). In other words, people with PIMD communicate as do all people, with signs. Their signs are, however, mostly non verbal and analogic in nature. There may be an advantage that such a communication process can confer. Semiotics offers the possibility to identify a sign that an individual makes and then to identify the accompanying signified meaning. Because people with PIMD predominantly make analogic signs, the interpretive process may become clearer and more specific because the link between analogic signifier and signified is more valid than the equivalent digital relationship (Watzlawick et al. 1967).

2.17 Gesture and thought

In this section the genesis of communication within the individual is considered in order to throw some light on how the individual's communicative symbolic and non symbolic manifestations may make clear the thought processes that generate them. Thought and gesture arise from and are part of the same growth point within the mind (McNeill 1992). McNeill suggests that gestures are to be found at the very root of thought that generates verbal and non verbal statements. Consequently there is a symbiotic connection between non verbal and verbal communications. Saussure (1916) suggests that thought

cannot be formulated and concepts cannot be identified if signs are not available to the individual in order to facilitate the delineation of thoughts. Indeed gestures and verbal communications (signs) are required in order for distinctions between ideas (thoughts) to be made (Saussure 1916). McNeill's contention that thought and gesture have the same genesis is based on the following line of thinking: firstly, thought, language and gesture develop together; they are translated from within the organism to their external manifestations. Therefore they coexist simultaneously. However language manifests in generalised standardised format (the person conforms to the language rather than the reverse), while gesture tends to be rather more idiosyncratic in its manifestations. At the utterance point the two are synthesised and made manifest as a communication. Thus McNeill would contend that as a result there is a synchrony between gesture and the verbal communication that accompanies it.

McNeill (1992) considers (after Vygotsky) that the relationship between thought and the communication that makes it manifest is not a singular event but is a process, "a continual movement back and forth from thought to word" (1992:219). He contends that the sources of these communications are located deep within the mind and that the communication eventually reaches the surface through a dynamic birthing process. McNeill seems to be suggesting that gestures are sourced at the very root of thought. Indeed it is possible to argue that in the hierarchy of communicative gestation, gestures underpin and precede words to which they are connected in thought. In this view gestures appear to be less amenable to change as they surface, that is they reflect deep rooted affective or intentional states. Digital, predominantly verbal, information by contrast may be portrayed falsely more easily than analogue communications as has been noted in Section 2.9.4. Thus analogic information derives directly from the source of the communication and appears to be difficult to modify, whereas digital communication may be altered as it is expressed or even consciously reframed so that it bears little resemblance to the initial source. A possible mechanism for this alteration is that as the thought arises, the individual reflects on what he feels s/he wishes to say as s/he formulates it. However, it is changeable up until the point at which it is uttered. In contrast, within this perspective the gesture comes directly from the thought source and more closely reflects it. Thus it is possible to alter the spoken word but less easy to alter the gesture. Not all philosophers accept that it is possible to engage in a reflexive process as thoughts rise to conscious awareness, Malabou notes that there is "an irreducible distortion between thought and form" and "neither speculation nor reflection between the two" (Malabou 2007:19). The speed with which thought emerges and is recognised is a concern for Malabou which may preclude reflection taking place, which might alter the content of the digital (predominantly verbal) message as it arises. Malabou does not examine the reflective process in any detail, so the concept of reflection in action, which suggests that thoughts can be refashioned before they manifest as action or words (Schon 1994), is not considered by her.

All in all, the veracity of analogic communication is an important element that emerges from this discussion so that in terms of understanding communications of people with profound intellectual and multiple disability it can be argued that because they are primarily analogic communicators and that because gestures are deeply reflective of the thoughts that generate them, then their communicative behaviours tend to be authentic and true to their perception of how they feel.

2.18 Conclusion

This chapter has described differing approaches to the understanding of general communication theory. The major assumptions that all behaviour is potentially communicative and that communications occur primarily in an inter-subjective manner have been elucidated. The chapter has examined the nature of verbal and specifically of non verbal behaviours in the context of differing theoretical frameworks such as script and niche theory, with a view to examining how communicative behaviours develop.

Both approaches offer explanations of how communication and behavioural patterns are established. Speech act theory suggests that these patterns are comprehensible to infants and by implication to adults with intellectual disability. The exact nature of how and what people with severe and profound intellectual and multiple disability comprehend is thrown into relief by an examination of the nature of intentionality in the interaction process which is the subject of the next chapter.

CHAPTER 3

Intentionality and the person with profound intellectual and multiple disability

3.1 Introduction

This section seeks to explore the question of intentionality and what it may have to offer as a way of providing a perspective on how people with profound intellectual and multiple disabilities construct their internal world and communicate with the outside world. A basic premise of the discussion is that intentionality is viewed as constituting an important characteristic that influences behaviour. This is because it is concerned with three differing elements, all of which constitute basic concepts that underpin the communication process. These are *will* (which produces an intention in action), *aboutness* which fixes the focus of the action and *meaning* which determines the understanding of the action (Haye 2008). The analysis of intentionality that is presented in this thesis is important because it is regarded as a key concept which throws light on the nature of communication, the degree to which purposeful intent may be ascribed to a communication and the interpretation of the meaning behind the communication (Grove et al. 1999a). The philosophical, psychological and communication literature offers two distinct research perspectives on intentionality. The first is the philosophical research that situates intentionality in the realm of consciousness studies and construes intentionality as an aspect of the understanding of how the individual gives expression to his/her beliefs about the world. The second perspective is the psychological research that considers the person with intellectual disability and examines how intentionality may be observed and identified in persons with profound communication difficulties. This chapter examines the philosophical underpinnings of intentionality first.

The aim of the chapter is to elicit understandings that derive from both sources and ascertain how they may explicate understanding of the interactions, communications and behaviours of people with profound and multiple disabilities.

This chapter comes with one caveat: Intentionality is construed by some as an emergent rather than an all or nothing concept (Lyons 1995). That emergent nature implies that some illustrations of the concept rely on animal behaviours to provide a spectrum of examples of how the concept may be construed. I must state categorically that such an approach is offered in order to illustrate the concept and implies no suggestion that the personhood of people with profound intellectual and multiple disability should be questioned in any way. Rather the use of these illustrations is intended to enhance understanding of how the inherent unique nature of the individual may be identified.

3.2 Definitions of intentionality

Intentionality is defined by Searle (1983) as “that property of many mental states and events by which they are directed at or about objects and states of affairs of the world” (1983:1). Blumer (1969) makes the point that

“Fundamentally, action on the part of the human being consists of taking account of various things that he notes and forging a line of conduct on the basis of how he interprets them” (1969:15).

Searle views intentionality as being concerned with the precursor of action. Blumer suggests that people’s behaviours (i.e. actions) are developed from how they understand the world outside them- their system of meanings. Taken together these perspectives suggest that intentionality is the pivot upon which the construction of meaning and action hang. The interface between the person and the world is where intentionality is to be found. In the same general territory, there is an existentialist view that identifies the presence of intentionality in the individual as a key manifestation of existence and of the consciousness of that individual (Mohanty 1972). Such a view marks intentionality out as an important indicator of the person’s place in the world. Another indicator that intentionality regulates the person’s place in the world is Searle’s statement that intentionality is “that property of the mind by which it (the mind) is able to represent other things” (Searle 1983:24), the other things being the world outside the consciousness that registers them. Haye (2008) concurs with Searle’s view that cognitive science generally construes intentionality as being concerned with a state of mind that is directed to something. He also adds that the concept includes the “old sense of intention as the inner inclination of the living being” (Haye 2008:158) and proceeds to include intentionality as also referring to meaning where it is related to “significant social action” (2008:159). This discussion reinforces the view that intentionality appears to exist at the conjunction of the person and the external world and is concerned with how the person impacts on and understands that world.

3.3 Intentionality, consciousness and belief

Searle (1983) situates intentionality in the context of consciousness. He views it as part of but not the whole of consciousness and only some mental states have intentionality. These are mental states that are directed at something such as beliefs, fears, hopes and desires. However there are some states that do not have it, i.e. emotional states such as nervousness, elation and undirected states. Searle suggests that the key difference between these states is that intentional states are always ‘about’ something that is they have a focus. He considers intentionality in the context of philosophical understanding. Unlike Casby and Cumpata (1986), he states that intentionality is independent of language although language can give expression to it.

Freeman defines intent as “the endogenous initiation, construction and direction of behaviour into the world” (Freeman 1999). The properties of intentionality are described as “intent, unity and wholeness” (1999:147). Freeman seems to be saying that intentionality must derive from a directed source within the individual and be exerted on the outside world in some observable fashion. Freeman’s view of intentionality reinforces Searle’s, in that the concept of aboutness is inherent in his thinking also.

Mohanty examines action and intentionality and takes observable behaviour as the starting point for his definition. He opines that

“An act is anything which exhibits intentionality, and if empirically it may not be possible to detect anything like a mental activity, it surely is possible to discern the directedness, the of-ness the peculiar aboutness characterising our thoughts and beliefs, desires and wishes” (Mohanty 1972:42).

In bringing together the philosophical and practical understandings of intentionality Searle (1983) notes that whereas beliefs can have intrinsic intentionality, the intentionality of a speech act (or non speech act) is derived from the underlying belief that generates it. This suggests that intentional actions of people with intellectual and multiple disabilities must be underpinned by either belief or desire.

The awareness of the intentionality of one’s emitted behaviour is one other element that should be considered according to Granlund and Olsson (1999). They note that communications can be considered to be intentional if the person is aware of his or her intention to communicate (Granlund and Olsson 1999). The difficulty that this raises is that such awareness may not be always evident to the outside observer and this is particularly true for people with communication difficulties. In many ways, although it is necessary to try to identify that the person is aware of the effect of his or her behaviours it is not the defining requirement for the identification of intentionality. What is a defining requirement is that the behaviour should be identifiable to the external observer (Malle 1999).

3.4 Identifying intentionality: Behavioural issues

Wetherby and Prizant’s (1989) work summarises the following indicators for intentionality:

- Alternative eye gaze between a goal and a listener.
- Persistence in signalling.
- Changing the quality of a signal until a goal is met.
- Using a signal with a conventional or ritualised form.
- Awaiting a response from the receiver.
- Terminating the signal when the goal is achieved.
- Indicating satisfaction or dissatisfaction depending on whether the goal was achieved. (1989:178).

Carter and Iacono (2002) refer to the possibility that indicators of intentionality are not uniform and that they may differ between individuals so that overall patterns are hard to distinguish. They examined the judgments of 20 special education teachers and 19 speech therapists who were examining video tapes of behavioural sequences of one non disabled and five children with intellectual disability. They found little agreement between professionals' judgments of intentionality and that there was a tendency to over assign meaning by the teachers in the study. There is a lack of consensus as to how intentionality may be identified which is illustrated by the approach of Carter and Iacono which emphasises strict criteria for intentionality and states that intentional communication is

“defined as a behaviour that was clearly directed at a partner and showed evidence of a desire to achieve an identifiable goal....such that a specific message could be identified” (Carter and Iacono 2002:181).

The requirement to identify the message implies not only that an intention must be present but that its content is also nameable, a far more complex matter. Olsson in summing up the literature on the topic comments on the diversity of communications that people with profound intellectual and multiple disabilities generate. She makes the point that many of the behaviours that Carter and Iacono refer to are developmentally beyond those people in this group (Olsson 2005). She also states that making inferences about intentionality that are derived from work with children without disabilities may not be relevant to people with disabilities because their internal states may differ. Olsson (2005) suggests that criteria for defining intentionality for this group of people should not be drawn too tightly. She concludes that “the behaviours of people with severe multiple disabilities are considered to be intentional and to have meaning, irrespective of whether or not these behaviours meet published criteria for intentionality” (Olsson 2005: 4). Olsson proceeds to note that it may be necessary to regard all behaviours produced by such people to be intentional. While this is certainly a constructive approach if one wishes to develop intentionality in somebody who does not apparently possess it, it is of little use in actually defining when it does or does not occur and would appear to represent the uncertain state of the research at this point. Carter and Iacono (2002) emphasise the importance of the interpretation process when ‘reading’ the behaviours of pre intentional communicators and that this requires ‘observant communication partners’ to pick up the indicators of intention. The requirement to read the communication partner’s interactions is a key one because it emphasises the importance of close observation in order to gain sufficient information upon which to identify intentionality.

3.5 Identifying intentionality: Developmental issues

The identification of intentional communication can be assisted by considering theories of child development. Abbeduto and Hesketh make the link with Piaget's work where they point to some of Piaget's earliest research on pre-linguistic communication which suggested that a link exists between intentional communication and cognitive ability (Abbeduto and Hesketh 1997). In particular Bates' work is cited as finding a positive association between sensory-motor performance and intentional communication in children without disabilities (Bates et al. 1979). Carter and Iacono (2002) locate the manifestation of intentionality as occurring in the infant at around 9 months of age. They comment that the presence of intentionality is marked by the shift from perlocutionary to illocutionary communication where intent becomes clearly evident (Carter and Iacono 2002). They also note that it is hard to pick out intentionality in people with 'significant disabilities'. Abbeduto and Hesketh (1997) review studies that researched the pre-linguistic period in the development of the child and offer an indeterminate conclusion. They state that (the studies) "suggest that sensorimotor advances are associated with improvements in intentional communication for prelinguistic children who have mental retardation and for those who are developing typically" (1997:324-5). They then caution that it may take a long time to pass from one stage of development to another for people with intellectual disability. The summary conclusion of these early studies is that intentional communication is a developmental precursor to language (Casby and Cumpata 1986). This is a not very surprising assumption to those who have worked with young children or with older children and adults with severe and profound intellectual disabilities. However, it does ground the discussion. The difficulty is that these authors view intentionality as an all or nothing concept that either exists or does not. Therefore a child progresses from a stage where he does not have intentionality to one where he does. Such an approach rules out the possibility that intentionality may be a developing concept in the child.

In conclusion, in trying to construct a summary working description of intentionality it can be said that Mohanty's view of intentionality concurs with that of Searle, in that they both emphasise that intentional acts must be about something and along with that there is the requirement that these acts are observable phenomena. Lastly, as noted above, what these acts are about is generated by the beliefs of the person who generates the acts. These writers would seem to suggest that **if a purpose to a behaviour can be identified or has the potential to be identified then it can be regarded as an intentional behaviour**. This criterion discriminates somatic and reflexive behaviours from all others and perhaps leads to a working definition of intentionality sufficient for this research project. The definition takes account of the presence of underlying belief or desire having the effect of generating the intentional behaviour.

3.6 The philosophical aspects of intentionality

3.6.1 The relationship between intentionality and consciousness

The basic process of how people attain a state where they recognise that one thing signifies another is termed epistemic or interpretive intentionality (Lyons 1995). This achievement, whereby infants learn through their sensory experiences the principle of representation, is a process of co-creation between the individual and the world. Lyons proceeds to locate intentionality in the area of consciousness, as does Searle who views intentionality as a part of consciousness. Lyons, however, regards consciousness as a “product of the brain” (1995:158) which is required for intentionality to manifest. Lyons maintains that as a result of evolutionary processes, consciousness has become the bridge between the brain and the world. Therefore intentionality can be regarded as a mechanism which gives expression to the individual’s consciousness. Intentionality develops as the infant brings information in from outside (sensory experiences) and processes it, thus providing the initial data that consciousness can be built on and compared to. However, the development of consciousnesses is considered to manifest as certain features of knowing, that are characterised by two aspects of intentionality namely will (intentional behaviours) and aboutness (Haye 2008). The circularity of the argument suggests that intentionality and consciousness are closely related but imperfectly comprehended. Nevertheless the central point is clear: the presence of intentionality is indicative of functioning consciousness.

3.6.2 The brain and intentionality

If the relationship between consciousness and intentionality can be pinned down, can the same be done for the place of intentionality in the brain? This is an important question because pervasive brain damage is the major underlying pathology for profound intellectual disability and as neural activity is the basis for all action, if neural networks are reduced or absent this will impact on the person’s ability to express intentionality.

Functionalism is an approach to the brain / mind question that views the mind as the software of the brain. The mind is the programme that runs on the neural hardware of the brain. The functionalist approach posits that consciousness and mental content bear a direct relationship to brain activity (Searle 1997). This would imply that intentional actions are productions of the brain. Dennett (1978) sees a complex relationship between actions and neural activity. He sees the processes of intentionality developing due to the same evolutionary factors that precipitated the development of intelligence (Dennett 1978). This would contrast with Lyons’ thinking which views intentionality as a developmental rather than evolutionary function.

Dretske (1988), like Dennett, takes the view that intentionality is hard wired into the brain, rather than being developed. He regards the brain as an information processor

that receives sensory data (information) and processes it rather like a computer. Although this reductionist approach to consciousness and intentionality is problematic to those like Lyons who view intentionality as a rather more complex phenomenon, the approach does offer an attractive model for the construction of intentionality. Dretske sees information (primarily incoming sensory data) as producing meaning, this being achieved as the individual interprets the significance of the information that has been received (Dretske 1988). Having established an understanding of the meaning of an item of sensory information, the individual builds on the achieved meaning and this leads to the construction of beliefs. From that point, it can then be suggested that the beliefs that the person has constructed provide the context from which intentional behaviours are derived. Thus the line of logic takes basic sensory input and leads through a conscious process eventually to the output of intentional behaviour. Such a line of reasoning chimes with Haye's view that meaning and belief (aboutness) are fundamental aspects of intentionality (Haye 2008). Both Dretske's and Haye's thinking also fits with the proposed definition of intentionality, as beliefs about the world generate actions that are believed to have an effect upon the world. These actions have the quality of aboutness; they have a purpose. Jacob (1997) sees intentional behaviour arising through the interplay of sensory input and the individual's mind state. Jacob states that belief systems "arise out of nomic dependencies between an individual's states of mind and the states of the world around him or her" (Jacob 1997:174). They are dynamic, they result from the interaction of perception and memory. Belief systems are not the direct instigators of the intentional behaviour but they have what Jacob terms "a hand on the steering wheel" (1997:175). According to Jacob (1997) the implication is that the person has 'inferential abilities' which implies a capacity to ascribe meanings to the sensory events that input to the person's neural system and by implication drive the intentional behaviours that result.

To sum up, the contrasting paradigms that have been outlined concur in that they all imply a developmental process that interprets sensory data, constructs an internal representation which then forms the basis for generating intentional actions on the perceived world.

3.7 Taxonomies of intentionality

An intentional action can be divided up into four components according to Searle. First there occurs:

- The prior intention, then
- The intention in action, which is closely linked to
- The experience of acting and
- The movement that is the end product (Searle 1983).

It must be emphasised that these four elements are not hierarchical but broadly sequential. Thus the overall root of the action is the prior intention, which generates

the intention in action which causes the bodily movement. This anatomising of the fine process of the intentional act allows a more detailed understanding of how an intentional action occurs. However, in order to fully explicate the concept of intentionality, it is important to consider those writers who have tried to deconstruct the concept and so to reveal the different levels of intentionality into which intentional acts can be categorised.

Lyons takes the view that intentionality is a “layered developmental concept” (Lyons 1995:160-1) that is, there are different forms of intentionality that vary in their complexity. Lyons has developed a four level taxonomy:

1. Brain level intentionality

Animals receive sensory input which is transmitted through the sensory organs to the brain, where it is committed to memory. The basic record of the inputted behaviour is registered, but little else occurs. This very primitive level of intentionality may be regarded as occurring in animals; Lyons cites dogs, cats and frogs as exemplars. This type of intentionality requires no interpretation of the aboutness of what has been inputted.

2. Sensory experience intentionality

This is a more complex form that involves the association of a sensory experience with a behaviour, or with another experience that can be remembered. According to Lyons sensory experience intentionality is not attributable to the frog but may be to the dog and cat and certainly is a feature of the consciousness of the infant. The infant or person with profound intellectual and multiple disability can make a link between what is happening now and what has happened before. Most likely this occurs at the level of sensory experiences. This type of experience is a rather basic version of Marcel Proust’s association of the taste of the Madelaine dipped in tea which evoked memories from the past when he had had a similar taste in a different setting and long ago. This level of understanding is termed quasi-interpretive by Lyons, that is, some element of association is made but it is not at the symbolic level.

3. Linguistic intentionality

This type of intentionality is characterised by the use of basic words or proto words. At this level an association is made between words and a sensory memory. Thus the memory of a four legged animal may be associated with the word ‘dog’ or ‘bow-wow’ or similar.

4. The intentionality of propositional attitudes

This highest level is far more sophisticated in that it describes the relationship between beliefs and intentional actions or inactions. At this level language is a vehicle for the articulation of the beliefs that drive and explain the complex behaviours of the person.

Granlund and Olsson (1999) regard awareness as a crucial element that underpins intentionality. Awareness is an important concept that underpins Dennett's (1987) four part classification which is as follows:

Level 1. Unawareness of intent

This level of awareness is manifested by somatic, reflexive autonomic reactions. An awareness of cause and effect is not necessary at this level as the behaviours that are displayed result from the person's body reacting to external circumstances.

Level 2. Goal intentional acts

This basic level of intentionality occurs where a person tries to obtain a result (item or action) for which behavioural evidence is clearly identifiable. However, the behaviour in question is not necessarily socially directed.

Level 3. Means intentional

At this level, the person tries to reach a goal by using a tool or another person. The person has a higher understanding of his or her own intentions. This level involves the display of perlocutionary acts that involve an awareness of the effect of the action on another.

Level 4. Partner intentional

This level requires an understanding by the individual that the other person has desires and intentions also. This level is characterised by the person realising that what he or she does has an effect on the other person (Dennett 1987).

Lyons and Dennett's approaches seem to have much in common at levels one and two. The difference between them is that Lyons' taxonomy refers to the internal experiences of the individual, whereas Dennett's refers to externally observable behaviours. Likewise at levels three and four it can be argued that there exist strong parallels between the two approaches. Lyons' concept that the use of words is helpful but not a requirement in getting someone else to do one's bidding, seems to suggest that parallels exist at level three. However, Lyons' level four seems to be much broader than Dennett's, in that although the requirement to understand the nature of the other is a constituent part of Lyons' framework, it is not sufficient, as Lyons' highest level goes further in considering the complex nature of belief and how it impacts on behaviour.

3.8 Intentionality as a non verbal construct

It has been noted above that neither illocutionary nor perlocutionary acts require language. Furthermore it is generally assumed in the literature that language is not necessary for intentionality to manifest. Searle takes the view that intentionality is independent of language although language can give expression to it (Searle 1983).

He suggests for example that dogs have intentionality. This aspect of animal behaviour is fairly obvious to anyone who has walked by a farmhouse in the country and been confronted by a barking dog. The intention is almost always to warn the stranger to go away. Indeed dogs are accounted by some as being capable of intentional communication (Arluke and Sanders 1993). The continuity between humans and animals in terms of the way they manifest the more basic levels of intentionality has been noted by Freeman (1999). Interesting aspects of human non verbal behaviour can be thrown into relief by comparison with the behaviours of animals particularly the higher primates.

The further consideration of the non verbal aspects of intentional behaviour may be enhanced by reference to Wetherby and Prizant's (1989) rigorous description of intentional behaviours that is referred to in Section 3.4. Of the seven indicators that are named, all may manifest as non verbal behaviours and the first (alternating eye gaze) is by definition non verbal. Indeed Wetherby, et al's description of an intentional communication act which involves the child directing "a motoric and/or vocal act towards an adult" (Wetherby et al. 1988:241) further supports the view that intentional behaviours may be non verbal.

3.9 Locating the point at which intentionality manifests itself

The relationship between sensory impressions and ideas and concepts that form as a result of the impressions lies at the heart of human development. The sensing of an experience that produces a clear unitary sense impression is termed a quale and it underpins the whole understanding of consciousness (Tannenbaum 2008). It is through the comprehension of qualia (plural) that the person comes to an understanding that distinct events exist outside of oneself. This leads to an understanding that a separate outside exists. In developmental terms the infant (or the person with PIMD) reacts to a sensory event that comes from the external environment. However, it is not necessary for this person to know what is causing the effect (Lyons 1995). Lyons comments that it is not necessary for an infant to have a concept of outsideness in order to function in the world. According to Lyons, the foetus may in the final months of pregnancy display behaviours that indicate intentionality. He cites the example of a foetus that moves across the womb in order to be near the comfort of the mother's heartbeat. He is of the view that the association of comfort with proximity to the maternal heartbeat forms a memory which then drives a belief (that the foetus will feel better if nearer the heartbeat) that causes an intentional behaviour to occur. So despite the fact that the foetus (or person with PIMD) has not formed concepts of the external world, intentional behaviour may manifest and it may do so in the 7-9th months of gestation in Lyons' view.

There are of course other, more conservative views, such as those of Wootton (1997) that symbolic communicative acts, which clearly demonstrate intentionality, commence around 9 months, where the child will employ hand gestures often accompanied by

vocalisations to communicate. Wootton is looking for hard edged evidence of intentional acts before intentionality may be countenanced. The difference between the two views is that Lyons is prepared to consider evidence that intentionality is not an all or nothing concept and that lower level intentionality may manifest earlier.

Messer (1994) reviews much of the literature on the topic. He notes that for Piaget, communication is part of cognitive development. Messer cites Piaget who feels that children under the age of 8 months do not recognise that their communications have an effect on others; therefore intentionality is a feature of their communication from that age onwards but not before. Kaye's view is that intentionality emerges from the process of social interaction. He notes that shared rhythms between young infants and adults develop into shared intentions. However, that does not happen until the infant understands something of how the social system functions. For Kaye this happens in the 2-8 months age range (Kaye 1982). Lastly Trevarthen (1979) asserts that intentionality exists at a very early stage and that infants can demonstrate the rudiments of intentionality (and individual consciousness). He suggests that communication arises by the infant understanding his or her separateness from the world and then establishing that he or she needs to communicate with others who are the same, which happens through a process termed 'intersubjectivity' (Trevarthen 1979).

In concluding this section it would seem that intentionality can be construed as an emergent multi level concept that does not happen at one point, but that emerges in different manifestations along the developmental path. Although this view certainly explains much of the differing ideas relating to the subject, one other point should be made; that is, it would appear that intentionality may be found where it is sought. Thus Lyons sees it rather earlier than others because he is looking in great detail at a particular point in the developmental lattice. This is relevant both to developing foetuses and infants as well as people with profound intellectual and multiple disability. In order to establish that something exists, it is necessary to know where to look and Lyons suggests that it is necessary to look back to early in the person's developmental history for the first signs of intentionality.

3.10 Interpreting intentionality and the ascription of meaning

As has been discussed, the precise establishing of the presence of intentionality is as yet a debatable point. The reasons for that uncertainty have been made explicit in the previous section. However, it may be that to some extent such a situation applies because in order to receive a communication or indeed to observe a behaviour of another, a process of interpretation of the communication or behaviour must occur.

An illocutionary utterance exists at two levels. It exists at the level of performance of the act (such as stating 'it is snowing') and it also exists at the level of expressing the

speaker's view that it is snowing (Searle 1983). That situation also applies with non verbal gestural acts as by implication, gestural communications also comprise the intent to make the gesture and the meaning of the gesture itself. One can then decompose non verbal and verbal acts into two elements: the intention to act and the meaning of the act itself. If communication is to occur, it follows that the meaning of the message must be interpreted by the receiver of the message. One question that arises is: is meaning wholly idiosyncratic, or does it have a shared element whereby certain sounds, gestures and behaviours have virtually the same universal meaning? For instance pushing someone away implies rejection, hugging someone implies acceptance (at least some part of the two behaviours is explained in these examples). However, if Dennett's (1978) view that certain basic behaviours are hard wired into the brain is cautiously accepted, then a universality of meaning for some gestures may be assumed. Such an assumption would lead to the view that all people including infants and people with PIMD share some basic meanings.

Comprehension of the innate understandings of another is difficult by nature, it is arguably impossible to get inside the mind of the other. As Searle puts it, consciousness is a first-person ontology and this cannot be expressed by a third person science (Searle 1997). However, if some basic communications possess a shared universality of meaning and if these communications manifest in gestural or analogic form then understanding of that fact may facilitate the interpretation process. Furthermore if intentionality is established as being potentially inherent in non verbal, bodily / gestural communications then the process of interpretation of these communication, may be assisted if intentionality is consciously looked for by the observer.

3.11 Intentionality and the person with profound intellectual and multiple disability

The foregoing suggests that intentionality is located somewhere in the conscious state and that in all probability, consciousness bears a relationship to the neural networks of the brain. Bearing this in mind, how does the person with profound intellectual and multiple disability emerge in terms of having the capacity to produce intentional behaviours? It is generally accepted that people with this level of disability either have cerebral malformation (American Association on Intellectual and Developmental Disabilities 2009) or have generalised brain damage (Zijlstra and Vlaskamp 2005). In both cases, their ability to produce intentional behaviours would appear to be severely circumscribed. A question that immediately arises is, if intentional behaviours occur only as result of the person having beliefs or belief systems, is there evidence to suggest that persons with profound intellectual and multiple disability have belief systems? However, the question could also be turned around. A cohesive case can be made that all individuals receive sensory inputs and that no matter how severely compromised a persons' neural network may be, these inputs register in some manner in all those

who have more than basic brain stem function. If this happens, then these inputs are interpreted by the person with profound intellectual and multiple disabilities and meaning is produced. In turn, this meaning enables the person to produce beliefs and ideas about how the world works. These beliefs then drive the outputs which manifest as intentional behaviours. According to this model, there cannot be non-intentional behaviours since all behaviours are the result of primary sensory inputs which all people receive and process, except those in severely comatose states (who have only brain stem functioning and no apparently functioning cerebral cortex).

3.12 How to develop intentionality

For individuals with severe and profound intellectual and multiple disabilities no less than for very young infants, the development of intentionality is important because it leads to the person achieving the initial steps in making him or herself understood and thereby it can ultimately lead to developing a capacity for self determination. In the consideration of how to develop intentionality, there is some unanimity in the literature that suggests that all behaviours emitted by (apparently) non intentional people should be considered to be intentional and to have meaning (Carter and Iacono 2002). Grove and Bunning make this point clearly, when they conclude a discussion about the difficulty of being absolutely certain that intentionality is manifest in some people's behaviours by stating, "However, if we do not act 'as if' there is a potential for communication, there will not be any communication to discuss" (Grove et al. 1999a:200). As one staff member who was discussing a man with PIMD remarked to the author long ago "There's no point talking to him, he doesn't talk back". The literature makes the point that he will never talk back unless you talk to him or her!

3.13 Identifying intentionality of the person with profound intellectual and multiple disability

For people with profound intellectual and multiple disability who mostly communicate through gesture, body posture and vocalisations and therefore rely greatly on the understanding of others of their interactions, "the key issue is the validity of (the other's) interpretation" (Grove et al. 1999a:192). The interpretation of the person's meaning is predicated on the inferences that are made by the other partner in the communication process as these inferences lead to the construction of an interpretation. In general, inference is used more in circumstances where meaning is unclear and these circumstances may occur more frequently in interaction with those with PIMD than in the interactions of people with higher levels of overt communicative ability. This is because the type of communications that are generated by people with PIMD are very limited in terms of the meanings and functions that can be expressed (Grove et al. 1999a). Inference then "must be regarded as a key feature of the process of constructing and validating interpretations in everyday practice" (Grove et al. 2001:92) These authors suggest that in order to make inferences about another's meaning, the communicative

and other behaviours of the person with PIMD should be observed and mapped and the following three elements described :

(i). The Directedness of the Behaviour, i.e.

- Positioning
- Behavioural variations across different settings.

(ii). Behavioural Indicators, i.e.

- Timing of the behaviour
- The relationship in which the behaviour takes place
- The facial expression, eye contact, contiguity between verbal and non verbal behaviours.

(iii). Indicators of Intentionality

- Directed motoric acts
- Directed vocal acts
- Eye gaze
- Persistent signaling
- Use of a conventional signal until a goal is met
- Responsive actions
- Identifiable purpose to a behaviour.

(Mohanty 1972; Wetherby and Prizant 1989)

Consistency and independence of communicative generation are regarded as important elements to be identified as part of the communication behaviours by the authors. They also note that for the very young or those at the earliest stages of communication “it is inappropriate to look for the source of meanings which emerge in a mutual interaction” (Grove et al. 2001:104). They suggest four sources of evidence that may be used to develop theoretical understandings of an individual’s behaviours and communications. These are:

- Personal intuitions as to the meaning of the communication.
- Third party reports and interviews.
- Observations either in real time or using video. One point they note in relation to this is that communication partner should also be observed.
- Formal assessments, although they do note that these are only really useful with those who can respond verbally (Grove et al. 2001)

Lastly, Grove et al. (1999a) take the view that strictly dividing behaviour into discrete intentional and unintentional parts may be misleading. They note that the individual may display different layers of consciousness which can indicate that intentionality is not an all or nothing concept (Grove et al. 1999a). They also note that intentional

behaviours may be emitted in different and quite idiosyncratic ways by different people, leading to the conclusion that the use of multiple data sources can increase the validity of the inferences that are drawn, enabling as accurate as possible an interpretation of the behaviour that is produced by the other person.

3.14 Conclusion

The many facets of intentionality have been reviewed in this section. In particular, the philosophical ideas that explain the concept have been considered. The applied understandings of those who work with people with profound intellectual and multiple disability have also been examined. People with PIMD are pivotal to understanding of intentionality because they spend their lives on what might be termed the ‘intentionality crux’, that is, the point at which intentionality can be said to exist or not to exist. Unlike the non disabled infant and child who passes through this point once only, the person with PIMD is for ever in the vicinity of the intentionality crux. The identification of the elements that apply to the understanding of intentionality and the detection of its presence has been the subject of this chapter. In short these are: belief, aboutness and the relation between self and the external world.

Thus intentionality is concerned with those behaviours of an individual that may be said to have an identifiable content that reflects that person’s beliefs about some aspect of the world. Secondly because intentionality is acknowledged as being an emergent quality, there is an assumption that it is not an all or nothing concept. Instead it may be said to exist where it is detected, even at the most basic level as Lyons’s theory would suggest and that it becomes more apparent as the person progresses up the developmental ladder. Lastly it is important to emphasise that the way in which a person views intentionality implies that there is always an interpretive element in identifying intentionality.

To conclude, it would seem that intentionality may be detected at the very early stages of infant development and as such its presence may be sought in persons with even the most profound degrees of intellectual and multiple disability. When intentionality is located in the communications of the person with PIMD or indeed any person, a key element is added to the understanding and interpretation of those communications.

CHAPTER 4

Communications of people with profound intellectual and multiple disability

4.1 Intellectual disability: Definitions and description

Intellectual disability is the term that has achieved international currency over the past 10 years as the recognised descriptor for people who have intellectual impairments. It has had many synonyms during the previous century, some of which are still used in certain countries. These include learning disability, developmental disability, mental subnormality, mental retardation, mental deficiency, mental handicap and mental disability (Saxena et al. 2007). The definition of intellectual disability that is set out below both defines the main elements of the condition and the caveats which must accompany any attempt to medicalise and categorise what is by its nature a diverse concept. The American Association on Intellectual and Developmental Disabilities is the oldest organisation in the world for professionals concerned with people with intellectual disability. It has revised its definition of mental retardation (intellectual disability) ten times since 1908. It offers the most comprehensive definition that this researcher has found and as such deserves to be cited in full:

“Intellectual disability is a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior, which covers many everyday social and practical skills. This disability originates before the age of 18.

Intellectual functioning—also called intelligence—refers to general mental capacity, such as learning, reasoning, problem solving, and so on. One criterion to measure intellectual functioning is an IQ test. Generally, an IQ test score of around 70 or as high as 75 indicates a limitation in intellectual functioning. Standardised tests can also determine limitations in adaptive behavior, which comprises three skill types:

- Conceptual skills—language and literacy; money, time, and number concepts; and self-direction.
- Social skills—interpersonal skills, social responsibility, self-esteem, gullibility, naïveté (i.e., wariness), social problem solving, and the ability to follow rules/obey laws and to avoid being victimized.
- Practical skills—activities of daily living (personal care), occupational skills, healthcare, travel/transportation, schedules/routines, safety, use of money, use of the telephone.

On the basis of such many-sided evaluations, professionals can determine whether an individual has an intellectual disability and can tailor a support plan for each individual. But in defining and assessing intellectual disability, the American Association on Intellectual and Developmental Disabilities (AAIDD) stresses that professionals must take additional factors into account, such as the community environment typical of the individual’s peers and culture. Professionals should also consider linguistic diversity and cultural differences in the way people communicate, move, and behave.

Finally, assessments must also assume that limitations in individuals often coexist with strengths, and that a person's level of life functioning will improve if appropriate personalized supports are provided over a sustained period" (American Association on Intellectual and Developmental Disabilities 2009).

Until recently intellectual disability was primarily diagnosed on the basis of the person's intellectual functioning which was assessed through the use of standardised intelligence tests such as the Wechsler Adult Intelligence Scale (WAIS) or the Stanford Binet Intelligence Scales. These tests measure an intelligence quotient (IQ) and classify intellectual disability accordingly:

Mild Intellectual Disability / General Learning Difficulties: IQ 50-70.

Moderate Intellectual Disability: IQ 35-49.

Severe Intellectual Disability: IQ 20-34.

Profound Intellectual Disability: IQ Under 20.

(World Health Organisation 1993)

These levels broadly offer guidance as to the degree of intellectual impairment that a person has and accordingly some indication regarding the amount of support he or she may require. However, other factors such as concomitant disabilities, social circumstances and cultural influences have to be considered in determining the exact nature of such support.

4.1.1 Intelligence tests: A caution

Measures of intelligence which have in general been carried out by the use of standardised intelligence quotient or IQ tests may be interpreted with caution. While IQ tests have been generally accepted as measures of scholastic ability, there are some questions regarding the validity of these tests as general measures of intelligence that may be used to classify people into educational subgroups (Lawler 1978). Furthermore the deterministic nature of IQ scores has also been seriously questioned (Fischer et al. 1996). Three issues are raised here. The first criticism derives from understandings of the distribution of power and authority in society. This is the Marxist concept that as well as controlling the means of material production the ruling classes control the means of intellectual production with the effect that intelligence tests reflect that situation. This critique of the use of IQ as a measure of intelligence suggests that children from business and professional families score higher on tests that measure scholastic ability than children from working class families, and they in turn score better than those of unskilled workers (Lawler 1978). The implication is that IQ tests are socially referenced and this factor impacts on the scores of equal ability children who come from different social backgrounds. Such an implication may derive from the origin of IQ tests in the early 20th century, which were originally devised in order to diagnose children with intellectual disabilities, but subsequently became embroiled in controversies such as the impact of genetic—as opposed to environmental—influences on intelligence and in the eugenics

controversy of the 1920s (Lawler 1978). The second issue is that the use of formal IQ testing has been criticised as capturing only a certain range of skills within the domain of intelligence. Howard Gardner views intelligence as a broader, multi-factorial concept in which seven 'intelligences' are embedded. These include the conventionally understood logical-mathematical and linguistic intelligences but also add spatial, musical, kinesthetic and inter and intra-personal intelligences (Gardner and Hatch 1989). Brody (1997) takes a similar stance and notes that the relevance of IQ scores could be increased if the tests adopted a wider measure of intelligence by including measures of mechanical and spatial ability as well as taking account of personality and temperament, an approach which might have a strong impact on the performance of people with intellectual disability on such tests. Thirdly, account should be taken of the so called Flynn effect which suggests that mean IQ scores have risen by 0.33 points per year over the last century (Rowe and Rodgers 2002). Some suggestions have been put forward to explain this effect, notably that environmental factors are important in explaining IQ change (Rowe and Rodgers 2002). However, these authors also conclude that ultimately it is not possible to explain the effect at this time. Flynn, in an earlier paper, however, suggests that IQ tests do not actually measure intelligence but measure a correlate that demonstrates a weak causal link to intelligence (Flynn 1987). To conclude; the concept of IQ as a measure of all-round cognitive and adaptive ability is imperfect, a point that needs to be acknowledged as such in evaluating the concept itself, and particularly in considering the influence that such tests may have on the lives of people with intellectual disability.

4.2 The person with a profound intellectual and multiple disability: Definitions and description

People with profound intellectual and multiple disability are often perceived as very different to people without disabilities. In many ways they are very different from others with less severe intellectual disability. As Charles Cleland puts it, they are those people who barely made it into life (Cleland 1979). Reductionistic approaches to diagnosis suggest that people in this group have an IQ below 25 points (American Psychiatric Association 2000) or five standard deviations below the norm (Hogg and Sebba 1986). Such approaches to diagnosis do little to enhance understanding of this group of people. Indeed Nakken and Vlaskamp (2007) regard people in this group as having such pervasive disability that currently existing standardised tests do not assess their capacities in a meaningful manner, a view that identifies a further imperfection of IQ tests as referred to in Section 4.1.1. People with PIMD require virtually total care in terms of assistance in carrying out their self help skills and support to engage in community life (Casella 2005). They frequently have accompanying secondary disabilities such as auditory disability, physical disability and mental health difficulties (Nakken and Vlaskamp 2007). Other concomitant disabilities are frequently found also. A survey of 53 children with this diagnosis in the Netherlands revealed that 85% had epilepsy,

81% a visual disability, 31% an auditory problem, while most of the people surveyed had some other form of sensory disability (Zijlstra and Vlaskamp 2005). The authors also found that people in this group were diagnosed as having high levels of physical disease, in particular conditions of the gastro intestinal tract and respiratory difficulties. In psychological terms people in this group have many communication difficulties (Forster and Iacono 2008) and generally do not have the abilities to engage in the same way that people without an intellectual disability may have. Specific communication difficulties may be exacerbated by the presence of challenging behaviours, most notably stereotypical behaviours such as rocking, hand flapping (Bunning 2009) and echolalic utterances. Self injurious behaviours are also regarded by Bunning as being common in this group.

4.3 The person with a profound intellectual and multiple disability: Verbal communication

The ability to communicate functionally using speech is not a characteristic that people with profound intellectual and multiple disability usually demonstrate (Hogg et al. 2001). Furthermore the absence of functional receptive language and the presence of non symbolic communication is regarded as one of the indicative characteristics of people with PIMD (Nakken and Vlaskamp 2007). In parallel, service users who communicate solely through non verbal means and who do not have single or multi word utterances are more likely to be classified as having severe intellectual disability (McLean et al. 1999).

In general terms, only the non disabled person uses speech in the dyad involving a person with PIMD and staff. Indeed there is evidence to suggest that staff working with this group of people make plentiful use of verbal communications and complex language in their interactions (Bradshaw 2001a). Consequently one aspect of the interaction process between service users and staff is that a mismatch in terms of language use appears to exist. Staff tend to focus on and use verbal language whereas service users do not. However, the nature of the communication process is that it is multi modal (Light et al. 1985) and verbal language is but one constituent part of a multiplicity of communication methods.

4.4 The importance of non verbal communications for people with profound and intellectual and multiple disability

Non verbal communications are the primary communication form of people with PIMD. Surveys of the communication status of those with PIMD are not common. McLean et al. (1996) examined the communication abilities of 211 children and adults with severe and profound intellectual disability who lived in group homes, in large residential centres and also with their families. They found that 41% of the sample were non verbal communicators; of those, half were reported to use intentional communications and half were not (McLean et al. 1996). In discussing their results the authors make the

point that most non symbolic communicators tend to be classified as having a profound disability. It must be said that a limitation of the study was that staff were the informants and no observation was used. The same authors proceeded to examine the interaction abilities of 84 children and adults from the same sample. In this follow up study, they used video tape to observe the interactions of the subjects. They were looking for the highest level of communication that was observed from each person. In order to do this they classified the participants into symbolic interactants (of whom there were 39) and non symbolic interactants (of whom there were 45). This latter group consisted of those individuals who did not use symbolic communications (such as representational systems) appropriately in order to meet their communication needs. This latter group comprised 38 participants who intentionally used both contact and distal gestures and 7 who were non intentional. In all, 54% of participants were defined as being non symbolic communicators (McLean et al. 1999) but the majority of these participants (84%) displayed evidence of intentional behaviours.

The communication profiles of a similar client group were examined in McLean et al's (1991) earlier study which looked at 8 people with severe / profound intellectual disability four of whom used contact gestures to communicate and four of whom used both contact and distal gestures. The authors found that those who used contact and distal gestures communicated more frequently, initiated more interactions, were better able to repair communications and were more likely to vocalise as well as gesture (McLean et al. 1991). These findings are reported by the authors as suggesting that in terms of the use of contact or distal gestures people with severe and profound intellectual disability are heterogeneous and the differing capability is not related to measured intelligence levels.

An important piece of work in this field developed by researchers in the UK was Grove et al's article (1999a) and workbook (Grove et al. 1999b) both of which are entitled 'See what I mean'. The workbook provides an assessment framework to enable staff to get as much understanding as possible of this client group and how they make themselves understood. One point that the authors make in the accompanying article is that this group of people have a "limited independent ability to use a formal linguistic code in any modality" (Grove et al. 1999a:190). They may have a few words, utterances or signs but in general their communicative capabilities and manifestations are idiosyncratic and non verbal in nature. In brief, the forms of expressive communications of this group, as described in these studies, may be summed up as consisting of facial expressions, body movements and vocalisations (Stephenson and Dowrick 2005), gestures (McLean et al. 1999), body direction, eye gaze and actions (Bradshaw 2001a).

The pattern of communications that emerges from these studies suggests that in terms of expressive communications, people with profound intellectual and multiple disability primarily use non or pre-symbolic communications. In terms of receptive

communication, an examination of the communication skills of ten adults with severe intellectual disability and four with profound intellectual and multiple disability showed that they are more likely to understand simple concrete directions such as one step instructions given in context or through using tangible objects (Cascella 2004). In order to understand the comprehension abilities of people in this group and also in order for them to understand the other person in the communication dyad it follows that these types of non verbal communication forms are recognised as the primary forms that are useful in communicating with people with PIMD.

4.5 The importance of constructing communication as dyadic in nature

Wilder and Granlund (2003) note that the dyadic communication process is most successful when communication partners engage in joint attention and the participation is built upon mutual understanding. It is, however, important to also note that social processes are the context where interaction takes place and that they operate to impact on the style and patterns by which the members of the dyad communicate (Harvey 1999). Indeed the recognition that the dyad provides a responsive environment that operates to regulate communication processes may in itself assist the development of dyadic communication for people with profound intellectual and multiple disability (Stephenson and Dowrick 2005).

4.6 The interpretation of communication.

“While it is not necessarily the case that a communication partner will attribute correctly the meaning of a behaviour by another person, it is the case that most communicators tend to assume there is meaning for the behaviour of another person” (Kaiser and Goetz. 1993:138) and it is this assumption that drives the perlocutionary stage of communication development in young infants, as described in Chapter 2. Assuming that the communication partner is ‘making a meaning’ implies that an interpretation has to be made of what that person conceives the meaning to be. In the process of discerning the meaning of a communication between people with severe and profound intellectual and multiple disability in interactions with non disabled communication partners, three important difficulties present themselves. The first occurs if the non disabled person does not allow the person with PIMD time to initiate or respond in their own way (Kaiser and Goetz. 1993). The second difficulty occurs if the non disabled person overestimates the ability of people with intellectual disability to communicate (Bradshaw 2001a), a point also noted by Purcell et al. (1999). These authors note that some staff talk to the person with intellectual disability but overestimate that person’s cognitive capacity to understand what is said (Purcell et al. 1999). A third difficulty arises if the person without disability under-estimates the ability of the person with PIMD and has no expectation of communication. These three difficulties suggest that in fact there is a common problem, which is how to identify a communication and make an accurate interpretation of it. In order to understand what is happening to cause these difficulties, it may be useful to

examine patterns of mutual responding between people with intellectual disability and people without disabilities. This was the subject of Clegg et al's (1991a) study which made observations of 20 people with a profound intellectual disability and 16 caregivers in the UK. The researchers found that the people with PIMD did not respond to the staffs' behaviours. However, they found that staff responded to the changes in behaviours of the clients (Clegg et al. 1991a). That study implies that staffs' understanding of the other person is very limited and the person with intellectual disability has a better chance of getting his/her message across than the staff have of communicating theirs.

Some approaches to the interpretation of communication rely on the understanding of a person who is close to the person with intellectual disability. Historically there have been some questions regarding the validity of such an approach, as happened during the facilitated communication controversy of the 1990s (Szempruch and Jacobson 1993). However, the use of proxy reports in a systematic way was demonstrated in one case study in the UK by Porter et al. (2001) who interviewed the family and the therapeutic team members in a systematic cross-comparison of their views regarding the communicative behaviours of the disabled person. The authors concluded that the interpretation of the meaning of the person's communications was influenced by which communications were noticed. They suggested that it is important to try to be sensitive to the subtle communications that persons with PIMD may make and then to check to see if the interpretations are accurate. In a separate study 24 service providers rated videotapes of four adult service users with PIMD, who were presented with differing stimuli to assess if the service users liked them. The researchers reported that observer ratings that service users liked positive stimuli (praise, a sweet) were generally in agreement but this was not the case for other stimuli. The researchers noted the problems inherent in interpreting positive or negative affect on the basis of conventional understandings of how people communicate emotion. They concluded that it was difficult to interpret the affective communications of others but did suggest that repeated observations by different individuals would enhance the validity of staff's interpretations (Hogg et al. 2001). It would seem reasonable to suggest that such an approach to the interpretation of individual's affect might also be useful in the interpretation of individual communications.

4.6.1 The interpretation of communication: The role of the responsive environment.

Understanding by professionals of the communications of people with profound communication difficulties has hitherto been problematic (Regnard et al. 2007) as was noted in Section 4.6. This is to a great extent because students with severe intellectual disability communicate less frequently than their non disabled counterparts and their communicative attempts are picked up and reacted to infrequently both in school and in residential settings (Goldbart 1988). Although Goldbart's assertions are based on research

carried out in school and in a residential setting some 30 years ago, the problem that they highlight remains a pressing one. It suggests that the identification of communicative behaviours must precede the development of an understanding of them. Goldbart makes the fundamental point that “if we want impaired communicators to develop truly effective communication skills they will need to have the opportunity to communicate” (Goldbart 1988:71). Coia and Handley (2008) also consider this situation and comment that if neither communicator recognises that the other is saying something, then not only does no dialogue take place but each will consider that the other has a communication problem.

An examination of the question of how increased understanding of communications of service users by staff and carers might be brought about suggests various strategies are of use. Firstly, carers should be aware of and alert to potential communications. Secondly, they need to develop a comprehension of how each person with PIMD construes the communication by developing a sensitivity to the needs of each person (Bradshaw 2001b). The development of approaches such as sensitive responsiveness (Petry et al. 2007) indicates the importance of each individual’s sensitivity to the other’s behaviours. There are two elements to the sensitivity in question. One is the element of emotional support to the individual. Forster and Iacono (2008) illustrate this point; they examined the perspectives of three disability support workers (DSW) in Australia. They noted that the DSWs modulated their interaction style to be meaningful to the service user by changing the way they used touch to demonstrate social closeness, the way they played together, and by allowing themselves to develop an attachment to the service user. The second element is creating an environment that is responsive to (sensitive to) the person with PIMD. Jean Ware, who has written in some depth on this topic (Ware 2003), suggests that allowing the person with PIMD time to respond in the interaction process is a critical skill that parents and carers must learn. Ware also suggests that allowing the person with ID to take the lead in dyadic interaction is important. However a key skill is establishing a sensitivity to the other. Ware (2003) acknowledges the difficulties that are presented to the non disabled communication partner, she notes that people with PIMD may do things slowly, may pause at unexpected moments or may produce very few behaviours. She suggests non disabled communicators should be “alert to any behaviour that can be interpreted as (that) response” (Ware 2003:70) and she emphasises the need to be alert to small changes in behaviour, a point also made by Mitchell and Van der Gaag (2002). A precursor state of relaxed mutuality appears to be conducive to the evolution of such skills for the carer. Ware (2003) suggests being with an individual and allowing them or the situation to lead the interaction to a “state of mutually pleasurable and symmetrical sociability” (Ware 2003:58) is the goal. Such a goal may be more easily attained by a mindful approach to interaction as advanced by Firth et al. (2010) in their commentary on Intensive Interaction. They recommend that the carer should be fully present in the moment and attending fully to the other (Firth et al. 2010) during

interaction, a state of mind that would go a long way to addressing the issues that Goldbart raised at the start of this section.

To conclude: the validity of staff interpretations of the meaning of communications in dyads where people with severe or profound intellectual disabilities communicate with staff or caregivers is somewhat questionable. However, it is clear that while caution must be exercised in interpreting what the other is communicating, the interpretation process may be assisted by close observation and a sensitive and analytic approach to the interpretation of communications.

4.6.2 The interpretation of communication: stereotypical behaviours.

Stereotypical behaviours are highly prevalent in people with profound intellectual and multiple disabilities (Dura et al. 1987). Such behaviours have in the past been characterised as undesirable because they ‘interfere with habilitation efforts’ (Dura et al. 1987:549). Indeed, less than twenty years ago Kobe et al. (1994) regarded them as problem behaviours and it was in the same era that Bunning (1996) categorised them as not being purposeful behaviours. More recently, views regarding stereotypical behaviours have begun to change.

Intensive Interaction is an interactive approach to developing communication and sociability in people with profound intellectual and multiple disability that models the caregiver-student/client relationship on the mother-infant model (Firth et al. 2008). Intensive Interaction approaches to educational therapeutic intervention start out from the premise that everybody has something to say and include the premise that stereotypical behaviours are something worth saying. Intensive Interaction regards these as “organised self involvement” (Nind and Hewett 2005:163) and suggests that because they are important to the individual who displays them, they should be regarded as an access point to the individual and not as problem behaviours. Stereotypical behaviours which can be defined as “rocking, hand-flapping, playing with pieces of string, head weaving, light gazing and other behaviours” (Murdoch 1997:71) are potentially understood in differing ways. Some see them as functional behaviours that modulate sensory input enabling the individual to achieve a balanced homeostasis (Nind and Kellett 2002). Others see them as ‘functionally equivalent behaviours’, that is, behaviours which differ in their manifestation from those behaviours of people without disability, but which serve the same function as unremarkable behaviours displayed by persons without disabilities (Murdoch 1997). Examples of such functionally equivalent behaviours that are cited include that they serve as a means for communication (Arthur 2004), compensatory mechanisms for sensory loss, or simply repetitive infantile behaviours that have been retained and developed by the individual (Murdoch 1997). However, the strong assumption referred to in Section 2.7.1, that all behaviour is communicative, suggests very clearly that stereotypical behaviours are saying something important about the

individual who displays them. In short, current understandings suggest that stereotypical behaviours should be regarded as firstly a fact of life for the individual, secondly as a useful clue to the person, and thirdly as a cue to engaging with the person.

4.7 Interaction rates

Communication is a fundamental aspect of interaction, as noted in Chapter 2. The patterns of interaction displayed by people with profound intellectual and multiple disabilities have been looked at from various different points of view by researchers. The aspect of most interest to researchers has been the frequencies of interaction in differing settings, the effect of increasing staff numbers on interaction rates and the impact of staff training programmes. Interaction rates have been seen as being of interest because an environment in which high levels of social contact occur is a prerequisite for the establishment of a therapeutic and educational culture (Clegg et al. 1991b) and more generally because high quality interaction is seen as a predictor of quality care (Markova et al. 1992) and therefore a good quality of life. Petry and Maes (2009) reinforce this concept; they summarise the state of play regarding quality of life for people with profound and multiple intellectual disabilities when they state that one of the indicators for quality of life is an interpersonal relationship that is characterised “by a strong affective involvement, interdependency and mutual respect and appreciation” (Petry and Maes 2009:27).

4.7.1 Incidental interaction rates in naturalistic settings

There is evidence that people with profound intellectual and multiple disability rarely initiate interactions. A previous study by this author in Ireland (Griffiths 1999) examined 2,880 interactions of 8 adults with PIMD across different settings and found only 1 interaction which was initiated by the person with PIMD. This conclusion is supported by Hughes et al. (1999) who observed 12 students with mild intellectual disability who were integrated into a large urban high school. The interactions of these students were compared with those of a matched group of students who did not have a disability. The researchers found that the non disabled students initiated interactions at the rate of 3.2 per minute, whereas the students with ID initiated at 0.9 per minute. This finding suggests that while higher ability students initiate interactions, they do so at a significantly lower rate than their non disabled peers (Hughes et al. 1999). It is possible to speculate that a continuum of interaction initiation may exist, whereby a very low level of initiations is characteristic of those with profound ID. Higher levels of initiation may occur with those who have less severe disabilities. However, their initiation levels may never attain equality with those who do not have a disability. The consequence of such studies implies that the onus to understand the communication process and the initiative to bring about meaningful interaction lies primarily with the person who does not have a disability.

4.7.2 The effect of different settings on interaction rates

Many researchers in Europe have looked at the effect of different settings on interaction rates (Cullen et al. 1983; Markova et al. 1992; Griffiths 1999; Vlaskamp et al. 2003). Some have tried to find out if people who live in large institutional residential units have less interaction than those who live in houses with smaller numbers. Cullen et al. (1983) looked at the interactions of staff with 10 men who had varying levels of intellectual disability and who lived in a residential institution. They found that interaction occurred only 7% of the time and note that “the overwhelming effect of the residents’ behaviour was little attention from staff and virtually no attention from other residents” (Cullen et al. 1983:581). Markova et al. (1992) examined interaction patterns of 24 people who had moderate to severe intellectual disability and who lived in hostels and hospital settings. This study examined the nature of the interactions and reported that 62% of these interactions were initiated by staff and only 37% by residents. Most interactions were fleeting (greetings). However, 10% of interactions in the hospital setting and 15% in the hostel were concerned with leisure and work matters. They also found that 30% of hospital and 15% hostel interactions were related to the person’s physical needs. Griffiths and Cowman (1999) looked at the interactions of adults with profound intellectual disability in residential and activational settings and found that the interactions patterns were very situation specific. High intensity structured settings in the day activity centre elicited interaction rates of up to 27%. However, unstructured settings where the person was in the dayroom of his or her living accommodation elicited rates of less than 2% (Griffiths and Cowman 1999). This study defined interaction according to whether the person was observed to be making a meaningful engagement with an object or with a person. Ritualistic or stereotypical behaviours were not determined as being purposeful by Bunning’s (1996) definition. The precise definitions were formulated on the basis of a check sheet of interactive behaviours (Bunning 1996). A study of behaviour state and communications of students with severe intellectual disability in special schools observed 10 students in their school settings across the whole school day (Arthur 2003). The author found that the students were engaged in some form of communication for 24% of the school day and that no communication occurred for 76% of the day (Arthur 2003). This figure is in the same range as that reported by Griffiths and Cowman (1999). To summarise the literature the lesson seems to be that unless interaction is well structured, staff-client interaction rates remain very low (Oswin 1978; Wood 1989; Clegg et al. 1991b), as do peer interaction rates (Hughes et al. 1999). Such findings are not surprising, but they do emphasise the need for interaction to be structured by staff, if it is to occur at all.

4.7.3 The relationship of staff numbers to client interaction rates

There is some uncertainty regarding the relationship between high levels of staffing and high interaction rates of people with severe and profound intellectual disability. Golden and Reese (1996) cite studies that suggest that increasing staff levels brings about very

little difference in interaction rates (Bricker et al. 1972; Dailey et al. 1974). Admittedly these studies were carried out many years ago and perhaps reflect attitudes amongst staff that are no longer prevalent. Felce et al. (1991) looked at 90 adults with severe and profound intellectual disability across nine settings, of which four were in institutions and the others were community-based. Staff-client ratios were observed across the settings, as were staff-client interaction rates. The results showed that apart from in the small house settings, there was no increase in interaction rates when staff numbers were increased. The researchers note “the intent is to better services and the supposition is that with additional staff there will be an increase in the number of interactions between staff and clients” (1991:316). The researchers also found that the highest interaction rates occurred when one member of staff worked with a group of between one and four service users (Felce et al. 1991). They suggest that adding in extra staff in an unplanned manner led to very small changes in interaction rates and they hypothesise that this is due to increased staff-staff interaction. In other words, where staff work with service users who are difficult to communicate with, staff seem to naturally talk to other staff rather than make the effort to engage with the service user. They conclude that the “most efficient staffing arrangement... was the deployment of one member of staff” (1991:328) (with one to four service users). Similarly, Felce et al. (1995) looked at the staff interaction rates of 16 people with severe intellectual disability and challenging behaviour across community and institutional residential settings. They concluded that “the availability of about twice as many staff per resident in the community settings did not translate into significant increases in staff resident interaction” (Felce et al. 1995:290). Clearly the provision of additional staff is only a limited part of the solution; the focus must shift to what the staff do. One approach to this is developing innovative ways of room management.

The literature on the use of room management techniques develops the understanding of the relationship between staff numbers and interaction by suggesting that the way in which staff are deployed has a strong influence on engagement rates. Room management divides the labour of staff in a classroom or an activity setting so that they each carry out different roles. In general, three staff take on roles of 1) the room manager, who makes sure that all those in the room have material to engage in an activity and who rotates around the students briefly engaging each one; 2) the mover who deals with support issues: toileting, changing student positions; and 3) the individual worker who carries out one-to-one programmes (McBrien and Weightman 1980, Ware and Evans 1987). Analysis of the impact of room management approaches to classroom teaching suggests that it can improve engagement rates by up to 50% (McBrien and Weightman 1980). Ware and Evans (1987) examined the engagement rates of students in two classrooms that both used room management approaches but which used different educational approaches at other times. They found that in one class engagement rates for students increased from 18.4 to 34 % when room management was utilised, however in the other class rates declined from 28.8.% to 18.8 %. They attribute this differing result to the

second class using high engagement techniques when room management was not used. The authors also found that in both classes students were engaged for approximately 50% of the time when they received adult attention. Ware and Evans (1987) conclude that using a structured approach such as room management ensures that staff do not give up on teaching students with profound intellectual disability who are difficult to engage. To conclude: a synopsis of the research would seem to suggest that promoting interaction between staff and persons with profound intellectual and multiple disability is best achieved not necessarily by increasing staff numbers but by examining the nature of staff/student interactions and deploying staff to maximise these (Mc Brien and Weightman 1980).

4.7.4 The effects of staff training on interaction rates

In attempting to understand why interaction rates are so low, Markova et al. (1992) note that the impairment of the person with intellectual disability often means that s/he cannot communicate his or her needs effectively. They also comment that “many recipients of their (person with intellectual disability) communicative messages rarely have the skills and sensitivity necessary to interact with someone who has little or no speech at all” (1992:116). It has been noted that people with intellectual disability in many places spend their time with care staff who receive the lowest pay, have the least training and have the lowest status (Golden and Reese 1996). These staff tend to lack the necessary skills for front line service delivery. Several studies have attempted to address the educational and training implications of this state of affairs. In one study in the US, Golden and Reese trained 12 staff members who were drawn from both a large institution and a small community-based residential facility. Each staff member worked with a person with PIMD. Outcome measures looked at staff and client interaction rates. They found that staff interaction rates improved and there were some improvements in staffs’ positive verbal and non verbal behaviour (Golden and Reese 1996). However, similar improvements in client behaviours were not observed, so the hoped for accompanying effect (whereby clients would interact more) was not found. In a different study carried out in the UK by Dobson et al. (2002), a communication training package was provided to 9 care staff who each worked with an adult with PIMD. The package was taught by a speech and language therapist to each staff member. The training focused on the use of non verbal interactions by the care staff. The researchers found that there were significant changes in the number of utterances of the care staff group, both after training and at 6 month follow-up. Indeed, the staff requested less from the service users, but offered more information and acknowledgements. Dobson et al. comment on the changes in interaction style that staff deployed, that “most of the observed success related to increased expectancy that the service users could and would respond and do so as equal partners in the interactions” (2002:53). This study did not look at how the training affected service users, which is a pity, because if one half of the dyadic input alters, then there would be an expectation that there would be a knock-on effect on the other half. The value of

staff training in communication is questioned in an Australian study that examined the nature of interaction between Disability Support Workers and one person with profound intellectual disability (Forster and Iacono 2008). Three support workers (DSWs) were interviewed regarding their communications with one adult. The authors concluded that formal communication training had been of little use in enabling the support workers to communicate; instead the workers contended that they had learnt this skill from the person with intellectual disability while working with her. The authors suggest that the support workers were more expert in individual communication with the one particular client and that staff education could teach them little (Forster and Iacono 2008). Although this was a small scale qualitative study and caution should be observed in generalising on the basis of the findings, it does suggest that further exploration of the detailed impact of staff training in communication with such a special group is required.

Two lessons emerge from these studies: that staff frequently do not have the necessary skills and sensitivity to interact effectively (Markova et al. 1992) and that change occurs when staff possess attitudes and expectations that services users will interact (Dobson et al. 2002). Such a situation begs the question: does interaction occur more frequently or differently where staff have the requisite skills and attitude combined? As noted earlier in this chapter, Intensive Interaction is an interactive approach to developing communication (Firth et al. 2008). The approach values mutuality and aims to make the interaction process enjoyable. A central plank of the practice is that mutually interactive games are developed that are based on the behaviours of the student/client and s/he takes the lead in the interaction (Nind and Hewett 2005). This approach to people with PIMD has been developed over the past two decades by Nind and Hewett and is based on the concept of augmented mothering. It has achieved widespread currency in the UK. Many studies have suggested that application of the principles and practice of Intensive Interaction can have important effects on the interactive behaviours of service users with severe and profound intellectual disabilities (Firth et al. 2010). A thorough understanding of Intensive Interaction implies the acquisition of a different skill set as well as a reworking of attitudes and approaches to interaction by staff. Intensive Interaction training can impact on staff behaviour with a concomitant effect on service user behaviour. Firth et al. (2008) report on a study where 29 care staff were taught to practice this approach over a 6-month period with people with severe and profound intellectual disability. Staff reported that they developed a greater understanding of the intentional aspect of service-user behaviours, that they developed improved knowledge of service users, that interaction improved as 'behavioural mirroring' became better understood. Staff reported that service users became more involved, their social passivity lessened and that episodes of joint attention increased. One limitation accompanies this study, which was that grounded theory was used to analyse the interview data with the result that a thematic description was achieved but a theory to explain the data was not established. However, this limitation did not appear to invalidate the findings of the

study. An earlier study evaluated two small-scale Intensive Interaction interventions for school children with PIMD. This study found that enhanced cognitive development, active participation and enhanced levels of engagement and perceived quality of life were the outcomes for the students of the Intensive Interaction intervention (Watson and Fisher 1997).

To sum up, the literature suggests that staff training can have an important effect on interaction rates and also on the general quality of the interaction between staff and service users. In particular, evidence is growing that approaches that emphasise interactive styles and structures such as Intensive Interaction can be both pleasurable and fun for caregivers and people with PIMD alike (Nind and Hewett 2005). This conclusion comes with the rider that proper planning and supervision are necessary supports for successful staff training in this area (Samuel and Nind 2008). Therefore a cautious conclusion can be advanced that if caregivers are equipped with the necessary skills, are enabled to develop the requisite sensitivity, and, by implication, are facilitated to develop positive attitudes to those they care for and support, they can generate what Fogel and Garvey (2007) term ‘alive communication’--surely an opening to many possibilities?

4.8 Conclusion: The dyadic interaction process and the person with PIMD

Several conclusions may be drawn from this examination of the research literature on communication. These illustrate some pertinent points that inform considerations of the basis for a study of the ways in which people with profound intellectual and multiple disabilities communicate. Three points in particular are important:

- The interaction process is dyadic; nothing happens in a vacuum; one person sending a message implies an effect on the other member of the dyad, even if the effect is not readily apparent.
- All communications occur within an environment and the interactants within that environment, together with all else in it, constitute a whole, so that if an understanding of the communication is to be built up, the setting must also be taken into account.
- Communications of people with PIMD are often hidden or not easy to discern; by way of balance it may be that communications of people who do not have a disability are also not readily apparent to the person with PIMD. This means that a mutual emphasis must be placed on the search for micro-communications which may be primarily analogic and non verbal.

The literature is not replete with studies that examine these three understandings. Still less is there a body of research that has researched these issues using a qualitative methodology with the aim of developing an understanding of how the dyadic process works for people with profound intellectual and multiple disability and their interlocutors.

Finally, it would appear that appropriate responding to the communicative efforts of the person with a disability is best promoted for the non disabled person by an understanding of the setting in which the interaction takes place, allied with a close observation of the behaviours that the person with intellectual disability makes. This is a two way process. For the person with a PIMD there is little evidence as yet to suggest what exactly are optimal conditions to enable them to interpret staff behaviours. However, from the viewpoint of the non disabled person in the dyad, the injunction of Clegg et al. (1991a:399) that staff may need to “fine tune their attempts at interaction” in the direction of the person with disability would seem to be a good starting place.

4.9 Finale: The case for the research study

Kaiser and Goetz commented nearly 20 years ago that there is a “lack of ethnographic and other intensive descriptive analyses of how persons with severe disabilities communicate in everyday settings” (Kaiser and Goetz 1993:141). While there has been some progress in developing mechanisms and structures for the interpretation of the communications of persons in this group, there have been few descriptive studies and as far as the I am aware, there have been no attempts to understand the processes that operate as persons with profound intellectual and multiple disability struggle to communicate with their interlocutors. Equally, there appears to be a paucity of research that considers the counterpoint, that is, how non disabled persons struggle to communicate with those with PIMD?

Contemporary thinking suggests that emancipatory research should be a priority in the studies of persons with intellectual disability and that its aim should be to allow the voices of people with disability to be heard (Dennis 2002). Emancipation implies that the emancipated person is freed to express themselves and to realise their choices in the world. For the person with PIMD, the first step to achieving this is to identify the way in which he or she expresses himself and how that voice can be heard? The research presented in this dissertation assumes that the person’s voice is not expressed in isolation, but that it may be identified and understood in the context in which it is manifest, that is, in communication with others.

The literature that explores how this group of people give voice to their lives is modest and is still in a very exploratory state. Seminal papers that identify communicative behaviours and explore ways of interpreting them (Grove et al. 1999a; Grove et al. 2001) have set an agenda for the field. This research study attempts to progress and develop that agenda by identifying a theoretical framework that is built upon analyses of the communications of people with profound intellectual and multiple disability in naturalistic settings in order to enable their voices to be heard more clearly.

CHAPTER 5

The development of and justification for the methodology

5.1 Introduction

This methodology chapter comprises several sub-sections. In the initial section the principles that underpinned the data collection method are explained and ethical considerations that applied to the study are examined. Secondly, the methods of data collection and transcription are explored. Subsequently the philosophical and theoretical principles that underlie the methodology are considered, following this, the data analysis method is explained.

5.2 Aims of the study

The nature of dyadic communications between people with profound intellectual and multiple disability and their carers is opaque; much that happens in the dyads is not evident and is difficult to understand. The study aimed to develop a theoretical framework to explain the interaction between people with profound intellectual and multiple disability and others with whom they interact. In order to do this, the study also aimed to develop appropriate data-gathering and analysis methods. A secondary aim was to examine the presence of dyadic micro communicative processes.

5.2.1 Objectives of the study

The following objectives of the study were identified as constituting the essential pillars of the research. Each pillar was regarded as necessary for the delivery of the complete study. These objectives were to:

- Establish a viable technique for the video recording of dyadic interactions of people with profound intellectual and multiple disability and staff.
- Develop mechanisms to transcribe the video data in quasi-narrative format,
- Explore approaches to data analysis that enabled the development of a theoretical framework that reflects and explains the main concerns of the participants in the study,
- Uncover the main concern of the participants in the dyadic interaction process,
- Discover a core category that would address the main concern of the participants,
- Identify and map the dyadic interaction patterns of the participants and generate a theoretical framework that accounts for these patterns, and
- Inform intellectual disability practice of the theoretical framework that was developed in the research.

5.3 The nature of the data and the mechanisms that enabled its collection

5.3.1 The need for a new methodology (rationale for the study)

This study originated in my clinical experience which consisted of working for 25 years as a nurse in a variety of settings with children and adults with profound intellectual and multiple disability. Working with people closely over a protracted period of time led me to engage very intensely with them in an attempt to try to understand their lives. However, this engagement was only ever partially satisfactory. This was because of the communication gulf between the person with the intellectual disability and myself. While it was obvious from their constantly changing behaviours that there was a stream of consciousness running through the minds of the service users with profound intellectual disability, it was not often possible to discern what it meant. Equally, others who came into close contact with the service users, primarily staff and relatives, seemed often to react to these behaviours in a way that demonstrated they did not understand them and often there was little substance or engagement in their social interactions with the person with PIMD. In short, mutual understanding between carer and service user seemed to be a rare occurrence.

If one accepts that social interaction is a process which forms human conduct (Blumer 1969:12), then examination of this process is necessary in order to understand human conduct, in this case, the interactions of people with PIMD and those others who interact with them. I, therefore, considered it necessary to develop a research method that would allow detailed observations of the interaction process. It was assumed that these observations might give voice and meaning to the behaviours of those in the dyad and through the development of a theory that was grounded in this data it might be possible to develop an understanding of this particular human conduct.

The origins of the method came about through watching communication difficulties that were experienced by people with PIMD. These experiences led to questions about how persons with profound intellectual and multiple disabilities saw and constructed the world in which they lived and how the people with whom they interacted construed their world. After some reflection it became clear that it might be possible to come near to accessing this if I could understand how they interacted. Most interactions that I had observed were one-to-one dyadic interactions. I reasoned that each person in the dyad must construct meaning from the interactions as the communication process unfolded. Therefore it appeared that an understanding of how the dyadic process worked would shed light on the way in which both the person with the disability and the non disabled person constructed their worlds. This in turn would reveal something of the thoughts and feelings of the participants in the dyad.

Most people can verbalise their understandings of the world around them. However, there

are two important groups of people who cannot do this: those with severe and profound intellectual or physical disabilities and newborn babies. This means that it can be difficult to obtain valid data to inform understanding of individuals in these groups. Differing approaches have been tried. Some studies have obtained their information about what people in this group do, think and feel from proxies (Wilder and Granlund 2003; Wilder et al. 2004). There is some debate in the literature regarding the validity of proxy interview data as a means of investigating communications of people with profound intellectual and multiple disability. Purcell et al. (1999) examined the communicative competence of staff who worked with people with an intellectual disability and concluded that residential and day care staff did not easily identify non verbal behaviours of people with intellectual disability (Purcell et al. 1999). Granlund and Olsson compared the validity of interview data that they obtained from staff who worked with 16 adolescents and adults with profound intellectual disability with observations of staff member client interactions. They concluded that there were commonalities between the interview and observational data. This lends some support for the use of interviews of proxies to obtain information on communication by this group (Granlund and Olsson 1993). By contrast, Hickey and Bourgeois suggest that, in identifying specific symptoms of people with dementia who suffer from depression, patients' reports of their symptoms do not correlate with the symptoms identified by nursing assistants who worked with them (Hickey and Bourgeois 2000). This researcher felt that the reduction of the number of interpretive stages to a minimum was a necessary basis for this study, due to the somewhat inconclusive evidence regarding the validity of proxy reports in identifying non verbal and communicative behaviours. Depressive symptoms and non verbal behaviours and communications are subtle by nature and I concluded that this subtlety is more accurately identified by utilising direct observation. The use of video observation of interactions is also commonly used in research with people with PIMD (McConkey et al. 1999; Bradshaw 2001b). For the purposes of this study, direct observation of interactions through the use of video recordings provided me with a record that could be observed as frequently as required in order to obtain valid, accurate descriptions of what was happening in the interactions. As a result, I designed the study with the aim of getting as close to the raw information that described the interaction as possible, by focusing on observation of this information. I felt that the raw data could be obtained by conceptualising non verbal behaviours and vocalisations of people in the dyad as constituent parts of a dialogue. It seemed reasonable to view the non verbal behaviours of people with profound intellectual disability as the primary expression of their communication, i.e. their words and thoughts. However, such people also vocalise on occasion so these vocalisations needed to be taken into account also. Secondly, their communication partners display the full range of verbal and non verbal behaviours. Therefore the totality of verbal and non verbal behaviours of both individuals in the dyad was deemed to be the primary source that would constitute the data for the study.

5.4 Situating the study

In searching for a theoretical framework from which the study might be considered to stem, symbolic interactionism was chosen, because its tradition best situates the study and also because of its fit with the study aims. In choosing one framework as opposed to another, the question that should be considered is which tradition might best situate the study? In this case ethnomethodology is the primary competing framework. Such an approach shares common ground with the topic, as it is concerned with the way in which reality is understood, organised and interpreted (Gubrium and Holstein 2003). Ethnomethodology, while influential on this study because it is concerned with how individuals conceive and comprehend their reality, was nonetheless discounted as a location for the research, largely because ethnomethodology had essential phenomenological roots (Gubrium and Holstein 2003). Such roots would point the study in the direction of uncovering the experiences of the individual in the dyad. This researcher felt that such a task was beyond the scope of this study, largely because of the difficulty in precisely interpreting data that consisted primarily of non verbal behaviours as being indicative of particular states of consciousness. It seemed more reasonable to situate the study in the symbolic interactionist tradition because the interaction in the dyad would form the data from which the resulting theoretical framework would be derived and that interaction would be directly observable. The theory would thus explain interaction processes not intra personal processes.

5.5 The utility of a theoretical framework

When commencing a qualitative study, the question needs to be asked whether a theoretical framework should be used to inform and delineate the research? Various opinions are advanced on this topic. For instance, Macaulay et al. (2000) take the view that a theoretical framework encourages greater reflection by the researcher on how the aims of ethnographic studies are attained. They also suggest that such frameworks keep the researcher focused on the relevant data in the study. The idea that the use of a theoretical framework to guide and inform a qualitative study strengthens the research is widespread, some suggesting that through the use of theory, the rigour of the study may be improved (Goetz and Lecompte 1984). Others such as Henstrand (2006) propose that using theory to inform and justify research enhances the stature of that research in the eyes of other disciplines. It is also the case that the use of a guiding theoretical framework can render the study more intelligible, as it situates the research. It can provide a theoretical understanding of the intentions and aims of the researcher, as well as defining key concepts behind the research and therefore provide a direction for the research (Leshem and Trafford 2007).

The use of theoretical frameworks in qualitative studies is somewhat controversial. The use of symbolic interactionism to frame a grounded theory study is even more controversial because of the relationship between the two. Grounded theory (GT)

was jointly developed by Barney Glaser and Anselm Strauss as a systematic method of developing theory from data (Glaser and Strauss 1967). It has its roots in the methodological training and viewpoints of the two sociologists. While Glaser's background was in quantitative research, he was taught by the great sociologists Paul Lazarsfeld and Robert Merton, Strauss came from the Chicago School of Sociology and was taught by Herbert Blumer amongst others. Blumer developed the work of George Herbert Mead and is best known for his work on symbolic interactionism which was published in his book *'Symbolic Interactionism; Perspective and method'* (Blumer 1969). Glaser makes the point that symbolic interactionism identified that the way that people construct their social reality and this was an important issue in the development of grounded theory (Glaser 1998). Glaser comments that the notion that "man was a meaning-making animal" (ibid:32) and that he makes meanings by making indications to himself and to others, was central to his thought in the development of grounded theory. He then notes that the key element of GT is to listen to the meanings that the participant makes in the interaction process.

The primary concepts that underpin symbolic interactionism are that "human beings act towards things on the basis of the meanings which these things have for them" (Blumer 1969:3). Blumer contends that meaning arises in the interaction process that happens between people, that is "the meaning of a thing for a person grows out of the ways in which other persons act towards the thing" (Blumer 1969:4). Lastly symbolic interactionism suggests that "the meaning of things is formed in the context of social interaction and is derived by the person from that interaction" (Blumer 1969:5). In short, symbolic interactionism is concerned with the way people "take account of others' acts, interpret them and reorganize their own behaviour" (Holloway and Wheeler 2002:153). Such considerations underlie this research study which examines in detail the interaction process between two people, what they do, how they construe the other's interactions and how they respond with their own. Much of this study is concerned with the attribution of meaning by the participants to events in the interaction process. Symbolic interactionism therefore appears to be congruent with the aims and objectives of this study, which are primarily to uncover the structures that underpin how people act in their interaction with others. The second aim of the research study is to look for a theoretical explanation of these structures. In the final analysis, symbolic interactionism offers a theoretical framework to underpin and to guide the study, because the search for the ways in which participants in the dyadic interaction process establish mutual meaning is a key theme of the research.

5.6 The relationship between symbolic interaction and grounded theory

Glaser suggests that symbolic interactionism (SI) can dominate grounded theory to the detriment of the latter. He notes that this happens because symbolic interactionism tends to take over grounded theory; he has particularly observed this in nursing research. The

cause of this is that nursing research is generally highly interactional (Glaser 2005a). He suggests that symbolic interactionism provides a source of many theoretical codes that are especially derived from interview data and notes that concentrating solely on these codes limits the researcher from using the “fullest range of theoretical codes that could be emergent” (Glaser 2005a:147). This is the heart of Glaser’s concern regarding SI; that it constrains theoretical sampling in the research process. However, Glaser also notes that he learnt from Anselm Strauss that people construct their social realities by symbolic interaction; they make meanings through making indications to themselves and others. He emphasises that there is a need “to listen to his (the participant’s) genuine meanings, to grasp his perspective, to study his concerns and to study his motivational drivers” (Glaser 1998:32). It is this spirit that informs and guides the application of symbolic interactionism in this study.

One further caveat merits consideration: is it appropriate to use a theoretical framework to inform, guide and provide a context for a study that aims to develop a theory from a tabula rasa? Herein lies the crux of the argument of both Glaser and others, that the blank sheet is not so blank if it starts out with a frame around it. Henstrand (2006) defends the use of theoretical frameworks in the interpretation of observational data, by stating that “I needed a lens that would help me filter the input and develop a defensible interpretation (of the data). Theory provided me with that lens and influenced nearly every aspect of my work” (Henstrand 2006:12). The application of such an approach to this study was something that I was somewhat wary of. I felt that utilising a theoretical framework in such a manner might limit the understandings that could be generated by the research and possibly constrain the important process of the emergence of the findings because it implied that the theory was pervasive in the research, something which I did not feel would assist the research process. Furthermore, I had spent much of the past 20 years working with people with profound intellectual and multiple disabilities and trying to understand what meanings they had constructed in their lives and how and what they were communicating. Now if I was to enter the field with no acknowledgment that this experience had been a large influence on the conception of the study, I considered that this would be dishonest. A thorough reading of the literature led me to believe that the concepts that underlay symbolic interactionism which were mainly concerned with the making of meaning in the interaction process were congruent with those that I had developed in my own practice. The resolution of this dilemma was to acknowledge the role of symbolic interactionism in the evolution of the study and note that its role was that of a signpost on the road, not the lens that framed the view of the road.

5.7 Introduction: Observation as the basis for a fieldwork methodology

5.7.1 The constituent parts of the data

The aim of the methodology section is to explain the data collection and data analysis

approaches that were used in this research study. This involves two aspects: namely the collection and transcription of the data and secondly, the analysis of the data. The primary data form that was collected was observational data of the dyadic interactions between people with profound intellectual and multiple disability and their keyworkers. This was obtained through the use of video recording. The initial data set consisted of a one hour video tape of each of two dyads. This was recorded, transcribed and analysed. A third videotape was made later of another dyad, which was not transcribed, but field notes were made of observations of the interaction on the tape.

Interviews were also conducted with the staff member of each dyad. The interviews took place as selected episodes of the videotapes were being observed by myself and the staff participant. The interviews were recorded on a digital audio recorder, transcribed and key issues were incorporated into the comments sections on the dyadic data transcription forms. Some contextual information was also recorded in diary format. This was located in a research diary that documented every step of the process. Lastly a reflective diary was kept that was concerned with the recording and reflections that were generated by critical incidents that occurred during the study. This data too was available for mining in the second phase of the data collection. Very little of the contents of the diaries was actually included although some contextual information was used during the analysis phase to situate certain incidents.

After prolonged analysis of the initial data, further theoretical sampling was carried out. This consisted of making field notes based on the following sources:

- The third videotape of a dyad,
- Field observations of classroom sessions in the developmental disability centre, and
- Two focus group interviews that were conducted with the staff members of the centre.

Addendum: The primary data upon which the theory is founded was the two hours of videotape of two communicative dyads. Of the 120 minutes of tape just 25 minutes were selected. This video consisted of games, motor movement activity, table top activities, group songs, and eating and drinking. These purposefully selected episodes were those in which optimum interaction was observable. These sessions were typical of much of the omitted 95 minutes, however, there was also much material filmed where little or no action or interaction took place. The rationale for selecting those particular sections was that the research study sought to examine the mechanics of the communicative process and these were the maximally communicative sections. Twenty five minutes of data may be considered a short time upon which to develop a theory. There are several reasons for using such an approach. The use of video enabled a thorough record to be made of the interaction process as is detailed in Section 5.12.2. This record was examined and transcribed thoroughly such that every action and interaction that took place observable in terms of its origin, manifestation and consequence. Furthermore, it

was possible to chronicle the interactive process whereby there was an interplay between the manifold actions, communications, engagements and stimuli. This was achieved through observing the recording at normal speed, slow speed and frame-by-frame. The approach yielded 36,000 data points which were observed in this process. The effect of such an approach was to offer a very detailed picture of the process of how people with PIMD and their carers interact. It was my intuitive feeling that much of what happens in the communicative process is missed in normal interaction. This approach enabled that assumption to be tested and it showed that the ebb and flow of the interactive process proceeded in a rule-bound fashion. Those rules eventually turned out to be the framework of theory.

Phase one of the data analysis consisted of coding the transcribed videotapes and adding the relevant findings from the interview transcripts. The second phase involved examining the third dyadic video recording, the diary material and, most importantly, returning to the field. The aim of the second phase was to look for evidence of certain theoretical codes that had been identified in the initial phase, but which appeared to require more evidence to ascertain their nature. This process (known as theoretical sampling) is integral to the grounded theory method used (Glaser 1998).

The first part of this chapter explains how the data was collected and transcribed. The second part detailed in 5.20 onwards provides a rationale for and examines the data analysis method. Grounded theory was chosen as the data analysis approach that most suits the data and the aims of the study. The different approaches to grounded theory are explained and the particular method that is used is examined and fitted in the context of the study. The detailed nature of the data analysis is then enunciated.

5.7.2 Fieldwork

Fieldwork is generally construed as taking place when the researcher participates in a setting where human interaction occurs with a view to developing an understanding of what people do in their normal day to day life (Polit and Hungler 1999). Fieldwork is commonly used in ethnographic studies in order to obtain information which is generally recorded as field notes. Field notes contain information which describes events that concern people, as well as the setting in which these events occur. The researcher records in the notes what he / she sees and experiences. However, what the researcher finds out is greatly determined by how he finds it out (Emerson et al. 1995). In this study, the main data record was obtained through video recording of the events that were researched. The selection of a method for the recording of the data and that would also enable me to be present in the field, required thought.

Participant and non-participant observation are the two recognised approaches to collecting data in the field (Pole 2005). Both the fields of education and nursing regard

participant observation as an appropriate research method for the investigation of the point of view of participants (Speziale and Carpenter 2007), which was a main concern of the current study. These authors have developed a four point classification that situates the observer somewhere on the continuum between complete participant or detached observer. Each of these levels employs a differing mixture of participation in the action and in the observation process. A researcher can be a 'complete observer' where s/he plays no part in the action; s/he can participate only tangentially in the action as 'observer as participant'; or s/he can be a 'participant as observer', or 'complete participant'. According to Speziale and Carpenter's (2007) classification the researcher in this study would be classified as 'observer as participant'. They describe this stance by noting that "the predominant activity of the researcher is to observe... The majority of the observer's time is spent in observation rather than participation. To fit into the setting the researcher may engage in some activities with the participant." (2007:42). For the purposes of this study, the observer used filmed videotape observations as the primary data source; thus the observer was present with the camera, which was fixed to a tripod in the room in which the action was taking place. I did not take an active part in the action. However, as well as being behind the camera, I was present in the room. The role of observer as participant led to a minimal interaction in the process, although there were initially some incidents where questions or comments were addressed to me by staff and occasionally vocalisations or gestures came from service users. These required a response out of politeness and also to nurture relationships within the research setting. On a few occasions I was obliged to respond to a stimulus from one or other of the participants, for example, when one looked at and smiled at me. It seemed to me that at such times I was unable to resist participating in the interaction, quite simply because the boundary of the dialogue occasionally expanded to include him. Lastly, I was immersed in the field, a process which, as well as producing videotaped observation, generated field notes about what happened and the setting in which it occurred, that augmented the detailed recordings.

5.7.3 Observation as method

The main purpose of engaging in field research is to collect observations which enable the researcher "to understand the behaviours and experiences of people as they actually occur in naturalistic settings" (Polit and Hungler 1991:332). Previous studies have utilised unstructured and participant observations as a method to investigate the nature of interactions between individuals (Jezewski 1990) and to look for behavioural patterns of individuals (Katzman and Roberts 1988). These two elements were integral to the design of this study. Indeed, the former was a core aim of the study and the latter (the naming of patterns of behaviour) constitutes the process of generation of categories which is at the heart of the grounded theory approach (Glaser 2001).

According to Mulhall, observation enables data to be collected about how people move,

dress, interact and use space (Mulhall 2003:307). This process means that the observer can gain insight into how dyads and groups operate. It enables a comprehensive view of the setting to be obtained. Such a view would encompass the physical environment and the complex social settings in which the action takes place (Mulhall 2003). However, two cautions are noted by Mulhall: the Hawthorne effect and the fact that observational data is open to interpretation by the observer.

The Hawthorne effect, Mulhall suggests, may in the initial stage of the research affect the behaviours of the participants. The Hawthorne effect derives from research into the productivity of workers on a production line conducted in the Hawthorne plant of the Western Electric Corporation in the 1920s. Researchers were exploring the conditions that increased worker productivity. However, they found that their being in the workplace affected the performance of the workers, so that there was increased production simply because of their presence. The implication of this effect is that the presence of the researcher affects the people being observed (Polit and Hungler 1999). However, Mulhall takes the view that this effect wears off as the researcher becomes accepted into the research setting and that participants soon 'revert to type' (2003:308). Not all commentators accept this view. Some, such as Lomax and Casey (1998) consider that while participants may appear to be unaware of the presence of the camera, they may in fact be actively ignoring it and thus very aware of its presence (Lomax and Casey 1998). This effect is explicitly demonstrated in Heath's work, which looked at medical interactions. Heath found that non verbal interactions of participants were specifically aimed at the video camera (Heath 1986). In order to offset this effect, it is useful for the researcher to spend time in the research environment prior to collecting data and this was a strategy that was used in this study. However, this strategy of its own is acknowledged as being insufficient. It is undeniable that participants will be aware of the presence of the camera as an unusual object in the room, as well as the researcher who accompanies it. It may be that the impact of this was different upon the service users with intellectual disability and the staff who were present. The presence of the camera and researcher needs to be acknowledged and noted where it appears to impact on the action that is observed, and this must be factored into the final data analysis in a reflexive manner (Lomax and Casey 1998). In this study I undertook two basic strategies to account for the Hawthorne effect. As noted above, I met with the staff members and students of the developmental disability centre and discussed the research with them and spent time with them prior to undertaking data collection. Secondly, on filming days I arrived early at the centre so that the camera was set up on its tripod before most people arrived and it became to some extent, a part of the furniture. Also all interactions between myself and the participants were video- and audio-recorded (because I was out of view) and explicitly described in the narrative transcriptions of the tape. Thus, it was possible to gauge some of the impact that the observer as participant made on the interaction.

The second caution is that observational data is subject to interpretation by the researcher. This very important aspect of the method is vitiated to some extent by the use of videotaped data. The data transcription method was to examine all apparent aspects of the videotape through frame-by-frame analysis, combined with fitting the narrative into a grid that recorded all aspects of the behaviours that occurred. The grid also contained descriptions of the environment in which the interaction took place, as well as tentative interpretations of the interaction by both myself and the staff member. As the final element suggests, it is impossible to completely objectify the researcher's writings that are derived from the video tapes. This needed to be acknowledged as both a limitation of the methodology, and as a factor that should be reflexively factored into the findings. One method of validating the video data that was used in the study was to view the completed film with the key worker in the dyad, in order to obtain deeper understanding of that person's interpretation of the events portrayed, and also to ascertain if my interpretations fitted with those of the key worker. This process enabled a second interpretation to be added to the transcription, which clarified the meaning of some of the incidents that had occurred. This second interpretation was, in effect, in part a negotiated one, based on a mutual interpretation of the particular events that were noted as being difficult to comprehend. This double analysis happened only in very few instances. For the most part the data transcriptions contain simply a record of the observed behaviour as seen by myself—and in certain instances comments that the key worker added in the second interview which generally expanded upon, but did not contradict, my interpretations.

5.7.4 Observation and the interpretive model

The focus of the interpretivist model is how humans create their subjective reality and give that reality meaning (Holloway and Wheeler 2002). This study acknowledged that it was located in the vicinity of the interpretivist tradition, but sought to minimise the degree of interpretation that was inherent in the data transcription and analysis process. The study used two strategies designed to reduce the amount of interpretation. The first strategy was the observational approach that used video to garner data that was subsequently transcribed in great detail. While it was accepted that a total description of the scenario in which the interaction was set was not attainable, nevertheless the approach of this study was congruent with Geertz's (1973) concept of thick description, which it is suggested should be composed of detailed descriptions of the interaction patterns and the settings in which they occur. The aim was to develop a thick description of the data that rendered sufficient information to most accurately clarify the meanings and interpretations that each participant put on the other's interactions (Holloway and Wheeler 2002). The second strategy was the use of grounded theory itself, which by its nature (if it is carried out appropriately) roots the analytic process and findings that emerge in the data, providing a strategy that is inimical to excessive interpretivism. Indeed the insistence of the GT methodology that the categories of grounded theory are generated directly from the data (Glaser 1978) and constantly compared and referred

back to the data to ensure a fit between both, implies that the degree of interpretation of the data is minimised.

However, a different view is expressed by Kathy Charmaz, who suggests that engaging with the research data implies that the researcher must “make sense of situations, appraise what occurs in them and draw on (his own) language and culture to create meanings and frame actions. In short, interaction (with the data) is interpretive” (Charmaz 2006:179). Such a view cautions those researchers who take a realist approach to fieldwork (Van-Maanen 1988) and makes it clear that no uninterpreted data can exist. However, Glaser’s stricture to constantly refer back to the data can be reconciled with Charmaz’s warning of the impossibility of eliminating interpretation of the data completely, by acknowledging this point and at the same time attempting to achieve data categorisation that is loyal to the data sources at each point in the constant comparative process.

5.8 Ethical considerations

Ethical considerations are important for all participants in a research process (Kearon 1995). Three main ethical principles should be considered when planning and carrying out a research study: respect for the person, justice and beneficence.

5.8.1 The principle of respect

The principle of respect for persons is vindicated in this study through the autonomy of the individual to choose to participate and thereby to give his or her consent.

Informed consent implies that full information regarding the study is given to the potential participants. This should include information on the aim of the study, participants’ roles in the study, its duration, what happens during the study, any risks or potential costs to participation in the study, the benefits of the study and how the person may vindicate his or her right to withdraw (Polit and Hungler 1999). It is important that those from whom consent is being sought have time to consider their decision and that they fully understand it. The question of full comprehension of the study was thoroughly explored with the staff participants during the pre-research meeting detailed below, the question of consent by the parents of the participants was somewhat more complex and is explained later.

Ethical permission for the study was sought from two bodies: The Faculty of Health Sciences of the University of Dublin, Trinity College and from the research ethics committee of the health service provider where the fieldwork was carried out. Permission was granted by the university on completion of a lengthy ethics form, (see Appendix 6). After submission of the form some questions posed by the ethics committee were answered, and subsequently permission was received in autumn 2005. Simultaneously, application was made to the research ethics committee of the health service provider

using a specific framework that had been developed locally. I met with the ethics committee of the health service provider in May 2005 and subsequently received permission to carry out the study (see Appendix 5). Consent forms to obtain the participation of staff members and persons with intellectual disability were incorporated as part of the ethics committee applications, as were information sheets that described the research, how the data would be gathered, the safeguards for the participants and the benefits of the research, see Appendices 1, 2, 3 and 4.

I met with staff members in the developmental disability centre of the health service provider in the autumn of 2005, explained the research to them and identified potential people with intellectual disability who might participate in the study and their keyworkers. Consent forms were left with the keyworkers who agreed to participate. This cleared the way to contact the parents of the potential participants with intellectual disability. Consent was sought only for those service users who were to be videotaped. This was done by phone, as none of the parents wished to meet face to face. Each telephone conversation involved a lengthy discussion of the research aims, the method and the outcomes, as well as the safeguards that were built into the design. After the phone contact, the consent forms were sent to the parents in late 2005, written permission being received before the end of that year for JM and TK to participate. Subsequently, a similar process was undertaken with SW's parents who agreed to her participation in May 2006.

This procedure was framed within the constraints of Irish law. No specific Irish law applies to offer guidance regarding the mental capacity of people with intellectual disability, except the presumption that adults are competent to make decisions for themselves and that those with intellectual disability have the same rights of self-determination as all citizens (O'Shea 2010). The question of who should exercise those rights where the person is mentally incapacitated was considered in the Ward of Court case (1995). This case was concerned with the termination of artificial feeding for a 40-year-old woman who had minimal capacity to recognise others and displayed minimal reactions to stimuli as a result of anoxic brain damage suffered during an operation some 20 years earlier. The Irish Supreme Court did not decide who should exercise the right to make such decisions definitively, but it suggested that the family had a strong right in this matter and upheld their request that artificial feeding be terminated. In the light of this somewhat uncertain situation, it was felt that familial consent was the primary consent that should be obtained, subject to the ongoing consent of the individual that is considered in Section 5.8.3.

Specific permission was not sought for other service users to participate, as they were not filmed and appeared as subjects in the study because they were referred to by staff members or if they happened to stray into the field of vision or auditory field of the

camera which occurred only rarely. This level of participation was felt to be covered by the blanket permission that had been obtained from the health service provider.

5.8.2 Researching members of a vulnerable group: the question of consent

People with profound intellectual and multiple disability are classified as belonging to a vulnerable group (Polit and Hungler 1999; Iacono 2006) who cannot consent fully themselves. For this was the reason proxy permission was sought from the parents of the prospective participants who were to be videotaped. Such an approach rests on the assumption that (under law) the legal guardian of a person may give consent by proxy (Iacono 2006) as noted in the previous paragraph. This approach relies on the assumption that the legal guardian of the person holds his or her best interests as the primary consideration in making any judgment regarding the benefits or harm that may result from their participation in the research project. People with profound intellectual and multiple disability may be regarded as belonging to a vulnerable group by virtue of their intrinsic intellectual disability (Smith 2007) and that vulnerability may be exploited by recruiting them into research projects in the absence of their being capable of understanding that which they may appear to agree to. The Belmont report which was issued in 1979 by the National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research in the USA provides guidelines for research involving humans. It suggests that humans may 1) provide informed consent, 2) be unable to consent but be able to assent, 3) not object to participating, or 4) object to participation (Iacono and Murray 2003). Each participant who was filmed in the study did not object to participation but the divide between states three and four was where the focus for the ongoing obtaining of process consent was located.

5.8.3 Process consent

Polit and Hungler (1999) recommend that in the case of children (and I felt that such strictures apply also to people with PIMD) permission should be sought from the individual on an ongoing basis, where possible. The difficulty that this presents is that it is not possible to be certain that individuals with profound intellectual and multiple disability actually wish or are able to participate through a dialogue (Kellett and Nind 2001). In order to maximise the possibility of participants exercising their right to offer and to withdraw consent and to resolve this difficulty the principle of process consent was utilized. It was carried out by observing the participants during the filming process and stopping it if the participant appeared distressed or upset, these emotional states being construed as implying a withdrawal of consent. Apart from the preparatory visits to the centre and the visits where interviews were conducted, filming took place for three hours across several days and fieldwork took place on one other day. At no time during filming did participant behaviour suggest that ongoing distress was evident.

Process consent suggests that the capacity to consent, to engage in what is happening in

a situation, is derived from that situation and it changes constantly as the situation alters, furthermore process consent is by its nature person-centred, that is it takes the welfare of the participant as being of paramount concern (Dewing 2007). The data collection method used in the study, namely close observation of participants' interaction implies that I was at all times attentive to the state of mind of the individual participants. As a result, it was possible to stop filming should any participants become distressed. Two events did occur, where on examination of the videotape, it appeared that TK was indeed distressed. These two events occurred where TK was involved in a dance/singing game with M and others in the class. When the videotape was examined in detail frame-by-frame it appeared that TK was very distressed by the activity in which he was engaged. However, at the time the distress that TK showed was not noticed by either by myself or M, had the level of distress been noticed both the staff and I would have terminated not only the filming but also the stimuli that were upsetting TK. It should be noted that each event lasted under 3 seconds and as such the trajectory and depth of the distress only became evident when the tape was micro-analysed, in itself this is perhaps a vindication of the utility of the method to identify important behavioural sequences that may otherwise go unnoticed. Apart from these two events, there were no occurrences when participants displayed behaviourally observable withdrawal of consent to engage in the study.

5.8.4 The principle of justice

The principle of justice was vindicated in this study through the right to fair treatment which is operationalised in the study by the rights to anonymity and confidentiality (Kearon 1995). All participants were given pseudonyms which were applied to all data in the transcribed tapes and in the findings and discussion sections. Pseudonyms were applied comprehensively across all verbal comments that were made in the tapes. References to the health service provider were not only anonymous but fashioned in order to ensure that locating the HSP was not possible. Regarding the safety and security of the data, hard copies of the written records and the video tapes were stored in a locked room to which only I had the key. Written computerised records were stored on a password protected computer, the films were downloaded to and stored on a different password protected computer. Both computers were stored in a secure space. Access to the raw written and videotaped data was only possible for myself and the supervisor of the research.

5.8.5 The principles of non maleficence and of beneficence

These interlinked principles are based on the maxim that defines non maleficence: 'above all do no harm' which sits as the foundation of health care ethics (Purtillo 2005). While non-maleficence implies that detrimental acts should be avoided, beneficence is concerned with bringing about good in a positive manner. The former principle implies that no participant should suffer as a result of taking part in the research, the latter

principle is operationalised by the benefits that would accrue from the research to the participants. Strong safeguards were put in place to ensure that the participants took full part in decisions that related to their participation at all times as has previously been documented. As a result, freedom from harm and exploitation was built into the ethical design of the study. Regarding the benefits to the participants, these did not extend beyond the fun to be had during the sessions that were filmed, fun which they would probably have had in any event as the developmental disability centre had a very positive atmosphere and the games and activities were part of the usual routine. However, the main benefit from the research is the potential to understand much more deeply the operating processes of the dyadic interactions of the participants and by implication, to develop an understanding of how others with profound intellectual and multiple disability communicate. Such understanding would be of benefit both to the study participants as their staff would be amongst the first to hear of the results, but also to those in the wider community in Ireland and elsewhere.

5.8.6 The ethics of power relations in the research process

The concept of power is a variable that helps to explain how social interactions work (Dreyfuss and Rabinow 1982); it exists at the point at which individuals act on the world and interact with others (Giddens 1984). The concept is evident in this research study and it is discussed in Section 7.2.10, where it is suggested that attuning is a requirement for the imposition of power. However, power in the researcher-researched relationship is different. In this research study the effect of the research setting was such that it exerted a great deal of control on the way in which all individuals exerted their personal agency, and by implication, the personal power that goes with it. Nevertheless I clearly exercised more power than the research participants. Entering the research setting and observing the activities that took place is in itself an imposition of power. The power that I exercised was chiefly wielded at the points of setting up the research project, entering the field and making the observations. However, the events that were observed would have taken place anyway, so the manifestation of that power was the research, the camera and the capacity to film. In examining the ethical utility of these actions the net good that may come from them is that there will be improved understanding of how people with profound and multiple intellectual disability communicate. Such an understanding may lead to the development of more insightful ways of interacting with people with PIMD in the future. Foucault throws an interesting light on this (Dreyfuss and Rabinow 1982). If one accepts that research to a greater or lesser extent seeks to further human knowledge and by implication further the truth of discourse, then Foucault suggests such an endeavor works to oppose the application of repressive power. He contends that “when the truth is spoken, when the transgressive voice of liberation is raised, then.... repressive power is challenged” (Dreyfuss and Rabinow 1982:129). If that premise is accepted then power may be opposed by research that is ethically based because it seeks to establish truths. This research project takes as its primary aim the development of

communicative understanding. Such an aim may lead to a closer approximation of the truth and a consequent reduction of repressive power as exercised upon people with intellectual disability.

5.9 Fieldwork: The setting and the observer's role

5.9.1 The location of the study

The data collected for the study was obtained in a developmental disability centre (DDC) that was located in a city suburb in Ireland. DDCs were first proposed in 1982 in the so called Blue Book, the report entitled *The Education and Training of Severely and Profoundly Mentally Handicapped Children in Ireland* (MacGlennan 1983). This report suggested that educational facilities for children with severe and profound intellectual disability should be established in Ireland. A roll-out of this programme occurred over the following decade. Some freestanding DDCs were established, while others were allied to special schools. Still others were established by service providers in the field of intellectual disability, but were set up on the campuses of mainstream schools. The center in the study reported here was one such developmental disability centre. It provided schooling for 7 students who ranged in age from 12 to 26. Although theoretically the upper age limit was 18, some students remained on after 18 as users of the service, on the basis that this was considered the best placement for them in the short term.

The centre was located in a complex of portacabins built beside a mainstream primary and secondary school. Although the two educational services were juxtaposed, they were separately-run services that had very little connection other than the DDC serving as a placement for transition year students from the mainstream secondary school. Each of the portacabins that constituted the DDC was well maintained and equipped. The fieldwork took place mainly in the winter and heating and ventilation of the buildings were acceptable. The facilities comprised a large classroom in which most of the activities took place, a well equipped toileting and changing area, an office, a smaller classroom where computer work and art classes took place and a kitchen cum dining room. Observations took place in the two classrooms and also in the dining room area. The buildings were all bright, well lit and well maintained and decorated. The furnishings reflected the needs of the student population—desks, chairs, hoists and changing beds. The walls were hung with appropriate educational pictures, as well as recent examples of students' work and photos of their outings. In short, the environment in which the fieldwork took place was a positive one. The sense derived from the physical environment in the DDC was that the student was the central concern.

Staffing in the centre consisted of teachers, nurses, care assistants and a cleaner. The services of a physiotherapist and psychologist were also available to the students on a sessional basis.

5.9.2 Sampling

The particular location was chosen largely because this was where adolescents and young adults with severe / profound intellectual and multiple disability were placed in a setting where meaningful, structured interaction could be observed. The particular participants were selected because they reflected differing aspects of the profile of people with such a diagnosis.

5.9.3 Inclusion criteria

The person with intellectual disability: Each participant with intellectual disability met the following inclusion criteria:

- Classified by the staff members in the service which they attended as having severe / profound intellectual and multiple disability.
- This classification was attributed to the individual by multiple staff members' assessment: psychologist, nurse and others (in the case of TK a psychological report dated from 1991, in the case of JM the National Intellectual Disability database entry for December 1998, in the case of SW a psychological report dated 1994).
- The person was over 12 years of age.
- The person was a full time attendee at the centre.
- The person had a full time keyworker.

The staff member: Each staff member met the following inclusion criteria:

- Full time member of staff.
- Keyworker to the service user.

Participants

NB. All participants are referred to by pseudonyms or by their pseudonymic initials.

Table 5.1. The participants in the video recordings

Name	Initial	Details
John Moore	JM	JM was an 18 year old young man who had a severe / profound intellectual disability. He was classified as requiring a high level of supervision. He had a PEG feed in place but was also fed by mouth. He had epilepsy but this was well controlled. He was ambulant but would walk only when keenly motivated to do so. His gait was somewhat unsteady.
Tony Kent	TK	TK was a 26 year old man. He had cerebral palsy, was quadriplegic and had severe / profound borderline intellectual disability. He normally spent his day in a wheelchair.
Sarah Wall	SW	SW was a 19 year old woman with a diagnosis of profound intellectual disability. Sarah was quadriplegic, she had a few spoken words, required assistance in all self care functions but presented as a happy person.
Kate Mooney	KM	KM was qualified as a child care worker, had worked for a couple of years in the DDC and was JM's keyworker.
Mary Deane	M	M was a nurse who had commenced work in the DDC some years prior to the fieldwork being undertaken. She was the keyworker for TK.
Jane	JM	JM was a care staff and was SW's keyworker.

Table 5. 2. The participants in the focus groups and those who were observed in the field.

Al Byrne	AB	AB was a teacher who was attached to the staff of the unit.
Joan	JP	JP was a relief staff nurse and was seconded from another unit when required for cover.
Mona	MP	MP was a nurse and also the unit head.
Sorcha	SG	SG was a care staff who was based in the unit.
Ellen	EW	EW was a care staff who was based in the unit.
Minnie	MG	MG was a care staff who was based in the unit.
Andrew Neill	AN	AN was a young man with severe / profound borderline intellectual disability. He was partially ambulant, and had challenging behaviour.
Maurice Johnson	MJ	MJ was quadriplegic and had a profound intellectual disability. Maurice was a quiet, but interested man.

5.9.4 Fieldwork in this location: Details of the dyads

Initial data collection consisted of the filming of one hour of interaction for each of two dyads.

Dyad 1 consisted of Mary Deane (M) and Tony Kent (TK).

Dyad 2 consisted of Kate Mooney (KM) and John Moore (JM).

A variety of activities was observed during the data-gathering process. These consisted of practical actions, such as being fed or receiving a drink, but mostly of educational activities. These latter involved painting, motor games, play actions, group games and stories, as well as one-to-one games. Some incidental interactions were filmed where there was no apparent goal to the interaction.

5.9.5 The role of the observer in the location

The observer's role was to record the dyadic interaction in as unobtrusive a way as possible. As noted in Section 5.7.2, the role of the researcher could be classified as 'observer as participant'.

5.10 Observation of naturalistic behaviour

Although unstructured observation is not fettered by the fitting of what is witnessed into structured categories, direct observation by its nature should be rigorous in terms of the method that is used. The method should be both valid and reliable in terms of how the observation is carried out, how the findings are confirmed and how the process is amenable to research audit. Accordingly, each aspect of the observation process should be examined and made explicit. The trustworthiness, credibility and auditability of the

study are fully examined in Section 5.22, where the reliability and validity of the data collection and analysis methods are put under the microscope.

5.10.1 The stance of the observer

According to Pole (2005), the observer should take a rigorous approach to the collection of observational data. The observer needs to:

- Be aware of what he / she is attending to and how he/she is reacting to it and should note any value judgments that are made regarding what is going on.
- The observer should ask, why am I looking at this? S/he should review constantly what it is that s/he is looking for.
- S/he should be aware that s/he cannot be constantly vigilant, watching what is happening.

S/he should:

- report exactly what is happening with as little interpretation as possible.
- Keep the data entries up to date.
- Track all entries-date, time place etc... Pole 2005: 110-112.)

This stance informed my general approach in that a reflective element was inherent to the approach that I took in the field. However, in terms of accurately recording the data that was observed, the latter points were followed precisely.

5.10.2 The categories of data that were observed

I was seeking a detailed description of the events that were to be observed; in fact obtaining a ‘thick description’ was the aim. The description consisted of both macro and micro communications. The former are detailed below, whereas the latter are described in Section 2.14 and are defined as “subtle micro-movements, postures, gestures and eye behaviours” (Buck and VanLear 2002:536). The actual data that was recorded was primarily the videotaped observational data. The approach to macro data collection was informed by two main sources, those of Avigitidou (2001) and also Mulhall (2003).

According to Avigitidou (2001), observations should contain the following :

- Description of the setting,
- Description of the interaction (verbal, and non verbal behaviour) which includes a judgment of the child’s (adult’s) intent and a description of the process: (interaction-initiation, course and termination), and
- Timing of the duration of the episode (Avigitidou 2001).

Mulhall (2003) suggests that the researcher should include the following :

- Description of the environment,
- Description of people, what they do, how they behave, interact, dress and move,
- Description of the daily process of the activities, and
- Description of special events (2003:307).

In order to create field notes, Mulhall states that the descriptions should include four elements:

- A transcription of the dialogue,
- A diary that explains what happens in what sequence,
- A personal reflective diary that explains how the researcher feels about what is happening, and also what s/he is learning and what intuitive understandings arise, and
- An audit of the sequence of the data-gathering and the subsequent analysis (2003:311).

In determining exactly what information should be sought, it was noted that the context and the aims of Avigitidou's research were similar to those of this study. Her methodology was much influenced by ethnographic research approaches, which she used to research the form and meaning of children's social behaviour in the classroom. By contrast, Mulhall's fieldwork was concerned with looking at the lives of older people living in residential settings. Both researchers recommend full description of the setting and detailed description of individual and dyadic interaction patterns, which are subsequently incorporated in the transcript. However, Mulhall also suggests keeping a research diary (Mulhall 2003).

I took account of these approaches and designed the data collection method so that it would include the following:

- Descriptions of the context in which the events took place.
- Detailed descriptions of the behaviours (gestures, movements, the position of the participants' bodies in space in relation to each other, postures, facial expressions and eye contact) of each participant in the dyad, as well as similar descriptions of others who might come within interaction range of the participants. Exact timing of the duration of episodes was also recorded.
- Two diaries; one that would preserve a detailed record of what happened and of the contexts that surrounded the research events. This was a factual diary that would also function as a source of information for a putative audit trail. Secondly, I wrote a reflective diary in which I looked back at key events in the process and reflected on their meaning. This diary was less detailed, but contained much more in the way of individual musing on particular events that had occurred.

5.11 Transcription mechanisms

5.11.1 Behaviours that should be observed

A structure was developed that allowed the transcription of sufficient detail of the interactive behaviours of the participants that would provide a thick description of the events. I acknowledged the impossibility of recording all events that took place at any one time, and indeed, noted that this was not desirable as it was important to avoid

drowning in the data. The following behaviours represent a tentative list that provided a reference framework which informed, but did not constrain, the transcription process.

In the absence of set conventions regarding the capturing of non verbal behaviours, the multiple target behaviours that were observed were derived from the following sources: the research literature (Lomax and Casey 1998, Grove et al. 1999a, Sanger et al. 1999, Wilder and Granlund 2003, Goldbart 2006) and also the author's practice. Many of the target behaviours were sourced from the observational work of Jenny Wilder (2005). Furthermore, information was recorded that described the setting in which the interaction took place. This involved primarily macro-descriptors of the physical and personal context. This information illuminated the nature of the setting in which the observations took place. These contexts were influenced by in the literature on 'niche' theory, which was detailed in Section 2.3.1.

Table 5.3: Target behaviours

Vocalisation	Eye expression	Facial expression	Body activity	Gestures
Loud breathing	Gaze towards a person	Smile	Stretches	Lifts arms
Cry	Gaze towards activity	Chew	Collapses / Slumps	Stretches out arms
Laughter	Gaze towards object	Mouth open	Turns head away	Nods
Clears throat	Turns gaze away	Forms mouth	Collects body before activity	Pulls away hands
Cough	Focuses using joint attention	Frown	Body upright and alert	Gives hands
Spits	Blank stare	Purses lips	Stillness	Shakes head
Smacks mouth	Winks			Makes minor hand movement
Scream	Eyes closed			Makes arm movement
Normal breathing				Scratches
Babbles				Rubs
Moans				Points to object / person.
Silent				Gestures to ask for help.

5.12 The observation process: The use of video

5.12.1 Indirect observation: The use of video

Video was used as the primary data-gathering tool in the study, in order to achieve as thorough and complete an observation as possible. Many researchers believe that video allows for a comprehensive record of the interaction to be made. It allows for the recording of every action and utterance that the subject(s) under study make (Schonfeld 1992); it can provide a “faithful record of the ... interaction process” (Lomax and Casey 1998:1), so much so that it then becomes possible to follow the whole of the visible interaction. Indeed the recording of a comprehensive record of the action is important if a theoretical framework that is based on the totality of the interaction is to be developed from the data. Schonfeld makes this point tellingly, where he states that the goal of the record is to

“explain at a particular grain size, every action and utterance that (n)makes...we are not allowed to pick a subset of her actions and tell a story about them only; we must account for all detail especially actions that seem anomalous” (Schonfeld 1992: 205).

Therefore the derivation of systematic and orderly properties of the interaction process is only feasible if the analysis of the communication is based on the specific details of the data (Heritage 1984).

The recording of the explicit detail of behaviour is made possible through the use of video. Examples of the use of video for detailed behavioural observations are Roberts et al's (2005) work examining blink rates, the measurement of indicators of concentration and enjoyment levels (Lindsay et al. 1997) and the measurement of staff-client verbal and non verbal communications (McConkey et al. 1999). Video recording of observed events is generally thought of as the best way to capture what is going on (Grove et al. 2001). Indeed, it is regarded as “ideal because it can provide a record of context, facial expressions and body movement as well as speech” (Lahey 1988:296). The use of recorded data also permits the researcher to return to the video as frequently as is necessary, in order to elucidate sequences and fine-grained detail that may not be apparent on first examination of the tape (Heacock et al. 1996). The capacity to rerun the tape was crucial to the conversion of the data from video-to-narrative transcript in this study. Indeed, providing appropriate ethical safeguards are in place, video is regarded as the optimum method of observation of how people with severe and multiple impairments communicate (Finlay et al. 2008a).

5.12.2 Video recording process

I visited the fieldwork site on two occasions prior to the first data-gathering event, in order to meet with staff members and service users to enable a mutual acquaintance and

also to inform them of the aims of the study and to obtain consent (see ethics Section 5.8.). On video recording days I arrived early at the centre before most staff and service users had arrived. The video camera and tripod were set up discreetly in an advantageous viewing point in the room. As noted previously, I was an observer as participant. The filming process commenced as soon as the members of the dyad were comfortable with it and they were engaging together. In general, filming continued uninterrupted unless events occurred that should not be filmed (such as if there were a danger of the person's privacy being compromised). The observational data was recorded using a JVC GR-D240 digital video camera. Observations were recorded on to standard 60 minute JVC videotapes. Subsequently data was transferred to my Packard Bell Easynote laptop computer for analysis via a cable attached to the video camera and linked to the laptop's USB port. I was positioned behind the camera observing the action. Occasionally I observed the interaction through the viewfinder of the camera. Frequent changes of perspective and alterations in the location of the action meant that I had to be constantly vigilant, in order to ensure that the camera was capturing the essential interaction at all times. This particularly required that the breadth of the view of the picture was at all times of the appropriate size. A balance had to be achieved whereby the totality of the interaction was filmed and at the same time the fine behaviours that constituted the interaction were filmed in sufficient detail.

5.13 Rationale for selection of observed episodes.

The videotapes were filmed during the morning activities in the developmental disability centre. Service users would typically arrive between 9 and 10 am. They would meet, have a drink and then start the day's educational and activational sessions. These mainly (though not exclusively) involved one-to-one dyadic interactions. Typical activities were having a drink and a light meal, playing group or individual music or story based games. Some sessions were explicitly designed to advance activities in certain areas such as gross motor movement (mat-based games) or fine motor movement (painting).

There was a clear choice made to film structured activity session because it was intended to explore the nature of dyadic interaction and it was in these sessions that it occurred. Little unstructured, informal interaction took place and when it did take place it was not possible to predict its occurrence and therefore to be present to film it. However field notes were made of some unstructured general interactions when secondary theoretical sampling was carried out.

5.14 Data transcription process

Data was converted from video format to a transcribed narrative using the framework detailed in Section 5.11. I carried out all the transcriptions. I considered this an important part of the process of immersion in the data. The process operated as follows: Ulead Video studio 7 is video editing software that enables film that is captured on videotape

to be downloaded to the computer hard disk. Subsequently, the programme enables the film to be edited in various ways. As a data analysis tool it has several advantages: once film is downloaded it can be played back at any speed down to a detail of frame-by-frame analysis. Thus, each segment of video was analysed by playing the video at normal speed, at slow speeds and finally frame-by-frame. Each frame constitutes the action of 1/24th second which meant that fine detailed analysis of each movement in the action was possible. Furthermore, this meant that the objects of attention of the participants could be tracked very closely through observation of the saccades of each individual. Saccades are rapid ballistic changes in eye position that occur three to four times per second (Paschler 1998). Such changes in eye movements and the focus of participants' gaze could be tracked thoroughly by analysing data at this level of detail. The framework provided a home in which the data could be located, as well as indicators that suggested aspects of the interaction that I should look for within the data.

The fine detail of all observable behaviours was recorded. Typical examples of such behaviours included inflexions of the person's posture, pauses and tentative utterances. Fine motor movements and changes of eye gaze were also typical behaviours that were observed. The data was transcribed naturalistically, in that each action that each participant displayed was recorded as it occurred and in the environmental context in which the actions took place. Furthermore, the actions were recorded in such a manner that the sequence of events was clear.

This comprehensive approach to data transcription meant that very little behaviour, action and interaction that was observable was not captured and that the data that was made available through the video recording was capable of providing the raw material for the construction of a 'thick description' (Geertz 1973). As a result, the analysis of the data rested firmly on the evidence of the interactions. Such an approach reduced but did not eliminate the possibility of misinterpretation of the data. The observations were "less filtered" (West 1996:345), not unfiltered, for two reasons: first because the transcription convention framed the information that was transcribed and to a very limited extent filtered it; and secondly because the intervention of a researcher by definition implies a filtering process will occur.

The implication of adopting a comprehensive and detailed approach to data transcription is that the process took a long period of time, as is detailed in Section 5.23.

5.15 The production of narrative data

5.15.1 Transcription conventions: What transcription should consist of

The aim of the transcription was to provide fine-grained data that captured the micro and macro behaviours of the participants, with a view to distinguishing the very

precise features of the participants' interactions as well as the structures underlying the interactions. As noted above, the central aim of the narrative data was to capture and explain every action, speech act and vocalisation that was made by the participants in the interaction and with this information to construct a 'thick description' of the interaction.

5.15.2 Thick description

'Thick description' (Geertz 1973; Ryle 1971) is a method that may be used in developing theory, the purpose of which is to interpret culture (West 1996). It assists in sorting out what is important in the interaction process and how inherent structures are rooted in the social ground of the situation. Thick description is an ethnographic tool that can enable the researcher to ascertain the significant structures in the behaviours that are observed (West 1996). These behaviours are concerned with thoroughly describing the setting in which the research takes place and particularly the interactions and processes that occur in the setting.

Representation of visual data and the links between audio and visual data is made possible by the use of video recordings and is regarded as a mechanism for development of thick description (Flewitt 2006). Thick description starts with a transcription of what is said and done in an interaction in meticulous detail (West 1996). This is done through transcribing the totality of the events that take place in the interaction. The purpose of the transcription is to "capture events (and) illuminate possible features of the data which are not yet known to be features" (Jefferson 1971:1) cited by (West 1996:345). An assumption underpinning the study was that many micro-communications went unnoticed by participants in interactions. It was hoped that the construction of such a detailed description of the observed events would uncover these micro-communications.

In short, thick description of the data in this study comprised a narrative that described the interaction, at the core of which was a record of the micro-behaviours of the participants. This narrative provided detailed data for the construction of an explanatory theory of the events that were portrayed. Some conflict exists between the construction of a detailed description of the interactions and the development of a grounded theory based upon the description. As noted above, thick description of data is recognised as a mechanism that can underpin theory development. By contrast Glaser tends to the view that full descriptive coverage hinders the generation of theory. Glaser also states that in "grounded theory theoretical completeness with parsimony is the goal, not descriptive coverage" (Glaser 2001:34). I opted to obtain a complete description of the interactions in order to provide the basic data from which the theory might be developed. This was done, not in order to develop a theory that explains everything that happens in the data, but in order to ensure that the fine detail of each participant's interactions was explicit, for it was from this detail that the theoretical framework was to emerge. It was felt that the use of such methods best achieved Glaser's aim of completeness balanced with theoretical parsimony.

5.16 Presentation of the transcription

5.16.1 Observational data

The transcription presented all observable data as rigorously as possible. The transcription aimed to make explicit the relationships between different (communicative) behaviours and verbal utterances and words (Ochs 1979). Furthermore, while the transcription aimed to ensure that the chronological relationships between the different events were clear, it also aimed to ensure that the integration between them was evident, most notably between the verbal and non verbal behaviours. As Flewitt notes, “visual and audio data representations often need to portray co-occurrence, yet juxtaposing multisensory, dynamic spatial events in two-dimensional written research reports can result in cumbersome formats that text readers struggle to interpret” (Flewitt 2006: 35). The format that was developed to present the data aimed to be as comprehensive as possible, while still retaining clarity in terms of identifying the nature of each behaviour, its source and its location in the interlocking sequences. The mechanism for recording the transcribed data recording is presented in Table 5.4. The narrative of the transcribed data included the following information:

- (i). The date of the recording, the pseudonym of each participant and the start /end numbers which record the minutes/ seconds since the beginning of the tape.
- (ii). The initials of the pseudonym of the participants.
- (iii). The recording number which located the incident in the tape.

Into this framework, words and sentences that participants uttered were recorded verbatim. Sounds that were vocalisations but not words were written down as an orthographic approximation. Basic punctuation was used in the text where it did not vary from normal usage. Descriptors of the context in which the actions took place were also included in the transcription (Eggins and Slade 1997; West 1996). Non verbal behaviours were described as they happened and in sequence with the verbal behaviours.

Table 5.4: Video transcription record

Name.....Date.....Tape numbers [start / finish].....

	Participant	JM	Participant	MD	
Recording Number	Non verbal	Verbal	Non Verbal	Verbal	Comments.

Table 5.5 Example of video transcription record

Name...John Moore. Date.....4 th May..... Tape numbers [start / finish]....7.20-7.40.						
Event---Knocking down the bricks						
Recording Number	Participant	JM	Verbal	Participant	AI	Comments.
	Non verbal			Non Verbal	Verbal	
7.20	Eye Gaze	Looking at AI		Off screen-but approaching	<i>You didn't move</i>	
	Facial Expression					
	Head Movement					
	Arm movement					
	Leg movement					
	Other	JM is sitting cross-legged on the mat in the classroom. In front of him is a large plastic triangle it is as high as he is (sitting) and has an arch in it that he could crawl through. He recoils slightly.				
7.21	Eye Gaze			-----	<i>that bum</i>	JM looks serene but wary.
	Facial Expression					
	Head Movement					
	Arm movement	Hands in lap.				
	Leg movement					
	Other	Leans forward a little				
7.22	Eye Gaze	Looks up at approaching AI		-----	<i>Move that</i>	
	Facial Expression					
	Head Movement					
	Arm movement	Hands come up a little				
	Leg movement					
	Other	Body stiffens slightly				
7.23	Eye Gaze			At (l) edge of screen	<i>Bum</i>	
	Facial Expression					
	Head Movement	Drops, so he is looking down				
	Arm movement	Hands in lap.				
	Leg movement					
	Other					

Following the initial data collection of videotaped observations, the interviews were conducted.

5.16.2 Interview data

Interviews were carried out with the non disabled participants of each dyad, that is Kate Mooney (KM) and Mary Deane (M) and subsequently Jane (J). Two interviews were conducted with each participant. The first interview was conducted by examining the videotape of the dyadic interaction which had been downloaded to the laptop computer. These interviews used an approach termed (video) stimulated recall (Lyle 2003). They explored the staff participant's interpretation of the communications and interactions that took place. Key excerpts from this tape were examined, and discussed by myself and the staff participants although all comments from the staff were solely generated by them. The excerpts were chosen by me on the basis that they were of the incidents that contained the most intensive interaction, the least intensive interaction, unusual patterns of interaction, or typical patterns of interaction. The excerpts were also chosen on the basis that they were representative of what happened in a typical day. . The interview also enabled me to explore my interpretation of the events and to see how they matched the participants' understanding of the same events. It served to add important new information regarding the action that was observed on the tapes. It also acted as a means of member checking. That is, my interpretations of the findings were checked with one of the respondents in each dyad and this provided evidence to support the validity of the findings. New information was added to the data sheet under the comments section where applicable.

The use of video stimulated recall is regarded as a valuable tool for investigating cognitive processes (Lyle 2003) and caregivers' understanding of interactions (Skovdahl et al. 2003). Some limitations are thought to attach to stimulated recall particularly that the subject might react to the event on the tape rather than recall his / her feelings during the actual event. However in reviewing the literature Lyle concludes that stimulated recall has 'considerable potential' for understanding "particularly complex, interactive contexts characterised by novelty, uncertainty and non-deliberative behaviour" (Lyle 2003:861-2), behaviour in fact which was similar to that filmed in these videotapes.

The second interview was a semi-structured interview, the subject of which was communication and the staff member's knowledge, views and understandings of the topic. The audiotaped recordings were transcribed and evaluated, but not used as the dataset did not fit with the emergent research design. Therefore the interview data was not used for the purpose of this research. The reasons for this were that the decision to carry out these second interviews with the three staff members of the dyad was taken before the research had commenced. This was based upon a design that used selective sampling (Glaser 1978). Such an approach identified the data sample on the basis of preconceived dimensions such as "time, space, identity or power" (Glaser 1978: 37). However this approach runs directly counter to theoretical sampling which is the key sampling process in grounded theory. Effectively the process of secondary theoretical

sampling is controlled by the emerging theory (Glaser and Strauss 1967). The core concept (in this case: attuning) simultaneously identified areas for further theoretical sampling and delimited these areas. The data in the second interviews was not identified as being relevant to the core concept of attuning and therefore was not included in the secondary theoretical sampling. Accordingly this dataset will not be referred to further in this report.

The audio tapes of the interviews were made using an Olympus DSS digital audio recorder. The audio data was downloaded to a file on the PC and subsequently played through the sound system of the PC. DSS version 6 software enabled the audio file to be played, stopped, re-run as required in order to make the typed version of the transcript. The transcript of the audio tapes was subsequently made by a third party.

5.16.3 Theoretical sampling

“Theories run thin when the same data is collected over and over. By responding to the need for theoretical completeness, theoretical sampling directs the researcher to new data sources” (Glaser 1998:158). These data sources enable the researcher to develop the scope and parsimony of the theory. Glaser suggests that theoretical sampling is that part of the research process where the data that has been obtained so far generates an emerging framework and this is then verified or developed through the purposeful sampling of areas of the theory that are thin, or areas of the theory that require “the discovery of more ideas and connections” (Glaser 1978:40). After the initial two dyads had been filmed and the data from these sources had been analysed, it became clear where further theoretical sampling would be required.

5.17 Triangulation or everything is data? A comparison

The compilation of these varying data sources may be viewed as constituting triangulation of method. Triangulation can be defined as “the use of multiple methods or perspectives to collect and interpret data about some phenomenon, to converge on an accurate representation of reality” (Polit and Hungler 1999:717). Triangulation is a method of enhancing the validity of the data and therefore of the findings that are produced from a study. Polit and Hungler (1999) note that in qualitative studies “the researcher may use a combination of unstructured data collection methods such as interviews, observations and diaries” (1999:428). They proceed to remark that such an approach to data collection facilitates the evaluation of the internal consistency of the picture that is constructed of the phenomenon of interest. However, grounded theory takes a somewhat different view of the use of multiple data sources. The focus in GT is to identify the main concern of the participants in the research and to ascertain how they resolve it. This latter process generally results in the emergence of a core category to which all the other categories of data relate. There is a central difference between grounded theory and qualitative data analysis, which is that GT aims to uncover the

relationships between the categories in the data whereas qualitative data analysis aims to fully describe what is in the data. This study aimed to uncover the participants' main concern and the relevant core category that addressed this concern through capturing the interaction of the participants. However, although much of that process was understood as a result of deep analysis of the observational data, a triangulated approach to data collection was not attempted because it is not part of a grounded theory methodology. Nevertheless other data sources were sought. Subsequent to the initial analysis of the observational data, these other data sources were examined to ascertain if they could generate information that would shed light on the areas of the emerging theory that were thin and were based on insufficient data. This process is termed theoretical sampling and it aims to sample data that adds to the completeness of the emerging theory (Glaser 1998). Thus interviews, observations, diaries and reports all comprise the bases for sources of information from which the theory may be generated (Glaser 1998). That approach was applied in this study, in that initial data analysis was confined to the observational data. This led to the generation of multiple memos which constituted the pieces from which the theory was formed. Subsequent theoretical sampling led me to carry out interviews, focus groups with staff members and to carry out further observations in the field. Analysis of these secondary data sources added to the depth and richness of the theory and confirmed or amended the emerging theoretical structures.

5.18 The construction of theory

This study is a problem based study (Schonfeld 1992). It is not a study that is based on an already extant theory. The problem that the research seeks to illuminate is the poorly understood interaction process that takes place between people with profound intellectual and multiple disability who communicate primarily by non verbal means and others who work with them.

As with all people, those with profound intellectual and multiple disability display behaviours, some of which emanate from internal sources and some of which are externally driven. These behaviours may be regarded as actual or potential communications that are made manifest in interactions with others. My 27 years in intellectual disability practice led me to the belief that most non disabled and disabled participants in the interaction process do not fully understand the communications of the other partner. While this is not unique to the communication of people with profound intellectual and multiple disabilities, it is perhaps more evident. Part of this misunderstanding arises from the apparent observation that many communications from both partners are often undetected and not understood. This then is the problem: that the communication process that takes place between people with PIMD and the staff who work with them needs to be elucidated. Taking a problem-driven approach to research "carries a dual set of obligations: to method and to theory" (Schonfeld 1992:181). Thus the study aimed to develop a method that enabled the emergence of a theory that could

explain the phenomenon in question. The starting point for these activities was the transcribed narrative data.

Theories are abstractions that propose relationships between observed phenomena (Craig 1980). Craig takes the view that theories explain the facts as they are perceived by the theorist; so theories are imperfect. By necessity theories are only ever partial explanations of the phenomenon that they purport to explain as there are more observations about a given phenomenon than can be accounted for in any one theory. Theories may be exploratory, descriptive, explanatory or experimental (Riddlesperger et al. 1996). There are four stages to the development of theory according to Craig. Initially the phenomena in the field are described; then the concepts that define these phenomena are named and classified; thirdly the relationships between them are explored in a tentative manner. This leads to the final stage which is the defining and ordering of the relationships between the phenomena in a systematic way (Craig 1980). However, one most important aspect of the methodology used in this research is that the theory is grounded in the data. It is not the product of conjecture, deduction or logical abstraction. Instead the theory emerges from the data through the process of constant comparison of the categories of data and their properties (Glaser and Strauss 1967). The key aspect of the development of a theory that is grounded in the data is that “it is not logical, it is empirical, that is it seeks to find out what is going on” (in the data) (Glaser 1998:91). The key to achieving an emergent theory is to continually defer to the data as the theory is developed. Induction is the process that informs theory construction. Glaser sums it up as the researcher having to go into the field to find out what is going on, to conceptualise what he finds and to generate hypotheses to explain how the concepts that he has developed are related (Glaser 1998). Such an approach implies that this study is an inductive study that aimed to develop an explanatory theory for the substantive area. Explanatory theory “seeks to explain a relationship between two or more variables” or “searches for causal relationships” (Riddlesperger et al. 1996:603). In this study grounded theory enabled the emergence of variables (categories) and provided a method that facilitated the generation of hypotheses (explanation of the causal relationships) that explained what was going on in the data.

5.19 Summary of data collection methods

The methods of data collection used in this study were:

- Video tapes of the interactions of three dyads; Transcriptions of the detail of the main interactions of two of the dyads; and field notes taken from the third.
- A diary that explained what happened and in what sequence it happened, which constituted an audit of the research process.
- A personal reflective diary that explained how I felt about what was happening and also what he learned from the process.
- Interviews with staff members regarding the contents of the videotape.
- Two focus groups with staff members which followed-up specific leads suggested by the emerging findings.
- Field notes taken from observations of interactions in the DDC.

Thus the observational sources were combined with interviews and diary records which provided multiple data sources that could be examined for the development of the theory. In conclusion these approaches were the framework that informed the data gathering phases of the study.

5.20 The analysis of the data: Underlying principles

5.20.1 Introduction

The different types of qualitative data that were gathered in this study offered the possibility of complementing each other in the overall data set. However, it was vital that the analysis of this data should fit within the one framework. The primary data source was the videotapes of the interactions and these formed the core of the study. Of itself, this type of data presents an analytic challenge. While the literature is replete with studies of interactions, there are few instances in the literature of this type of data analysis i.e. qualitative transcriptions of observed dyadic verbal and non verbal interactions being used as the basis for the construction of a theory. Grounded theory offers a possibility to achieve such an objective (Glaser 2007) but the literature suggests that it can be difficult to derive meaningful conclusions from the micro analysis of dyadic interaction patterns (Urquhart 2000). In a small videotaped study of the interactions of information technology managers Urquhart found that it was possible to generate rich concepts from the data by using GT. Urquhart (2000) remarks that “analysis of dialogue (at) the word and sentence level”(2000:10) allowed rich concepts to emerge that were completely grounded in the data. She had difficulty organising the concepts, a difficulty she attributes primarily to the nature of the phenomena and the aims of the study. However, Urquhart also comments on the difficulty of making inferences based on such analysis of speech. There are some similarities and differences between Urquhart’s work and the study described in this thesis. Microanalysis of dyadic data and the centrality of the role of the core category in the emergence process represent the similarities, whereas there

are considerable differences in the volume of data collected and the methodological approaches, as this study did not attempt to coalesce Straussian and Glaserian approaches to grounded theory but rather utilised classic GT only.

The initial intention of this researcher had been to triangulate the data so that the interviews with the non disabled member of the dyad and the diary records would augment the observational material by adding another dimension to the study. This did not work out. As the study developed and as my understanding of Glaserian ‘classic’ grounded theory developed, it became clear that traditional triangulated approaches to data do not apply with grounded theory. In grounded theory all is data. Glaser notes that “whatever is going on in the research scene is the data, whatever the source, whether interview, observations, documents” (Glaser 2005a:145). The emergence of substantive and theoretical codes follows from the development of codes and concepts that are based in the data, whatever its nature. The combining of different data forms is quite legitimate, provided that the emergent categories are continually refashioned so that they reflect the multiple forms of data from which they have emerged. As a result, the initial codes and categories in this study were derived primarily from memos that were based on detailed analysis of the videotapes of the first two dyads. Interviews with the non disabled staff member did augment and illuminate the videotaped data and did make a contribution to the theory as it first emerged. The diary material was little used in the formulation of the theory. Secondary theoretical sampling took place when I returned both to the data and to the field, in order to examine in greater detail sections of the theory that were thin. The memos that were written at this point assisted in developing one specific category and also sharpening understanding of some of the categories and the relationships between them.

5.20.2 Rationale for the use of grounded theory

The goal of grounded theory is the construction of a conceptual theory that explains the data (Glaser 1998). Glaser and Strauss note that the theory has differing functions in sociology:

- “To be useful in (the) theoretical advance in sociology,
- To guide and provide a style for research on particular areas of behaviour,
- To provide a perspective on behaviour,
- To enable prediction and explanation of behaviour,
- To be usable in practical applications.” (Glaser and Strauss 1967:3).

The latter three goals fit with the aims of this study. Glaser and Strauss emphasise the role of theory in providing prediction, explanation and understanding of the field of inquiry for the practitioner. Grounded theory tries to understand and account for the action in a substantive area. Accordingly, the understanding that is arrived at is of the “main concern of the participants” (Glaser 1998:115) in the research study. Grounded theory was

chosen as the preferred data analysis method because it seeks an understanding of the social behaviours of individuals and the aims and objectives of this study are to seek an understanding of the social behaviours of people with profound intellectual and multiple disability and others with whom they interact. Grounded theory offered the possibility of developing an understanding of the interaction process that focused on how the participants perceive, understand and act within it.

5.20.3 Examining the utility of Glaser's approach to grounded theory

5.20.3.1 Introduction-history of the development of grounded theory

'The Discovery of Grounded Theory' (Glaser and Strauss 1967) and the method that it described reflected the differing backgrounds and experiences of the two authors. Grounded theory was and is rooted in different research paradigms and incorporates influences from both qualitative and quantitative research methods. Although Glaser and Strauss continued to work together for a while, since the early 1970's they have taken different paths. Anselm Strauss collaborated with and published with Juliet Corbin until his death in 1996. Their (Strauss and Corbin's) work has developed a more structured approach to the grounded theory method, whereas Glaser contends that he has remained true to the original concept that the findings of a grounded theory study should be emergent and always rooted in and return to the data. If the divide between the two approaches can be summed up, it resides in two specific areas: the emergence of the theory and resistance to forcing of the data. These processes take centre stage in Glaser's thinking on grounded theory. Glaser insists on the absence of the researcher's ego from the research process. He notes that "the grounded theory researcher is seeking how the participants socially organise their area of action, not how the researcher would prefer to see it organised" (Glaser 1998:102). Recently Kathy Charmaz has added yet another approach to grounded theory, one that is based on constructivism (Charmaz 2006). Thus there are now three views of grounded theory: Glaser's emphasis on staying true to the data; Strauss and Corbin's toleration of interpretation of the data through the use of a structured approaches to data analysis; and Charmaz's view that people construct their theories based on their experiences in life. Three differing approaches to a research method that emphasise different aspects of the method will perhaps inevitably produce differing research outcomes. The following sections of this chapter describe each approach and discuss the rationale for selecting the methodology that was used in the study.

5.20.3.2 Glaserian GT

As noted above, a brief synopsis of Glaserian Grounded Theory suggests that its goal is the construction of a conceptual theory that explains the data (Glaser 1998). The grounded theorist's primary interest is to ask the question: what is going on here? At the very heart of Glaser's view of grounded theory is the requirement that it tells the story that is going

on in the substantive area by constantly returning to the data that the researcher collects. Moreover, it tells the story not through complete description, but through selective and theoretical sampling of the data from which categories emerge. In due course, a category is identified that is at the core of the data. This category subsumes and accounts for most of the other categories in the data. It is named the core category. The interrelationships of the categories and codes to each other are subsequently identified through the use of memos. The key concept that underpins this process is emergence; the codes that are derived from the data directly emerge from and reflect it. The categories that subsume the codes are directly traceable to the data. The researcher's role is one of identifying the action into codes and categories and conceptualising the categories and their relationships into a cohesive theory. This is done through the writing of memos which surface and describe ideas regarding the interrelationship of categories. This process is described as the researcher advancing "a symbiotic relationship between data and theorising" (Duchscher and Morgan 2004:607). Strong emphasis is placed on not forcing the data, that is, not bringing pre-conceived frameworks or models to drive data collection or analysis. Rather the researcher should let the data speak. Glaser describes this process when he states that the "goal (of grounded theory) is not to tell people what to find or to force, but what to do to allow the emergence of what is going on" (Glaser 1998:41).

Criticisms of Glaser's approach to grounded theory vary. Constructivists view the lack of attention to the process of social interaction as being flawed. Collins (1998) cited by (Mills et al. 2006) suggested that Glaser's approach is a 'smash and grab' one, that took the data of interest from the participant. Both Charmaz and Strauss and Corbin place a degree of emphasis on incorporating the researcher-participant interaction into the analysis. They emphasise that meaning is co-constructed and account should be taken of this. Such a view is particularly held by Kathy Charmaz. In contrast, Glaser pays scant attention to such matters, preferring to regard everything that happens as data which should be analysed. This distinction is highlighted by Duchscher and Morgan who comment that there is a tension between an understanding of the research process that keeps it simple and grounded in the data with one that acknowledges the interaction between participants and the researcher (Duchscher and Morgan 2004). Glaser's position is criticised with some vigour by Bryant (2003) who suggests that his refusal to acknowledge the impact of the researcher on the research setting and participants is "severely discredited" (Bryant 2003:2). Bryant identifies the crux of the argument between Glaser (whom he terms an Objectivist) and the Constructivists (in this case Kathy Charmaz) as relating to the nature of the data. Constructivists view it as emerging from the dialogue between researcher and participant, the former views it as being composed of whatever it is and this would include the setting in which it occurs. Bryant finds Glaser's unwillingness to acknowledge the Constructivist viewpoint frustrating. In the end Bryant concludes that Glaser's view of grounded theory is "not the only game in town" (Bryant 2003:5).

To conclude, Glaser's view of grounded theory is a purist one. It is simple, direct and unembellished. Glaser has spent much of the past forty years in his writings and teachings defending this standpoint from other approaches that he considers as forcing the data and not allowing it to speak for itself. Some of his writings are characterised by strongly expressed, personalised argument. An example is the chapter in 'The Grounded Theory Perspective 3' where he defends GT at length from being conceived as an offshoot of symbolic interactionism (Glaser 2005a). Glaser is at pains to locate grounded theory in the pantheon of research methods. He states that GT can encompass both qualitative and quantitative paradigms. He also is at pains to distinguish grounded theory from qualitative data analysis (QDA) which is concerned with comprehensive description whereas grounded theory is interested in uncovering patterns in social settings, often patterns that the participants are not aware of. Glaserian GT leads to the development of a parsimonious, yet complex, theoretical framework (Glaser 2001). Glaser supports the validity of other data analysis approaches for scientific inquiry, but is adamant that they are not grounded theory.

5.20.3.3 Strauss and Corbin's approach

This more structured approach to grounded theory arose in the 1970s and 1980s as a result of the collaboration of Juliet Corbin with Anselm Strauss. The definitive statement of Strauss and Corbin's approach to grounded theory was published in 1990 in the first edition of *Basics of Qualitative Research* (Strauss and Corbin 1990). They note that "although many of the essentials of the original grounded theory were maintained, there were some differences" (Strauss and Corbin 1998:10). These differences arose as a result of Strauss's differing background and approach to research. According to the authors the differences were not conceived intentionally, but evolved over time. In many ways, the approaches to the development of theory of Strauss and Corbin are very similar to that of Glaser. Both root their analysis firmly in the data, both code their data into categories and develop them through systematic comparison (Strauss and Corbin 1998) or constant comparison (Glaser and Strauss 1967). The properties and dimensions of categories are brought out and defined through the comparison process, which is an aspect of open coding (the process that names and categorises the data). Strauss and Corbin also look to discover what is going on in the data. In practical terms their approach differs from that of Glaser in developing the theoretical framework. Rather than solely relying on analytic memos that postulate and define the relationships between substantive categories, Strauss and Corbin have developed a process called 'axial coding' which links categories around their axes, through explaining the relationships of their properties and dimensions. They also emphasise the requirement that the analytic process should not be carried out in too rigid a manner. They too are concerned with answering the question "what is going on here"? (Strauss and Corbin 1998:130). As with Glaser, they emphasise the search for patterns of behaviour that should be identified in the axial codes. As the theory is developing, Strauss and Corbin also note that the researcher

must identify the core category (their term is central category). However, their approach differs from that of Glaser in the way the theory is built. They identify the use of the 'conditional / consequential matrix' (Strauss and Corbin 1998) which they define as "an analytic device to stimulate analysts' thinking about the relationships between macro and micro conditions /consequences both to each other and to process" (1988:181). The matrix guides the researcher in examining the interplay between structure and process within the data. It enables a full analysis of the relationship between the interactions and the conditions that precipitate and surround the interactions (Strauss and Corbin 1998). Because the conditional consequential matrix pushes the researcher to ask specific questions of the data in order to facilitate the development of theory, in effect it may push the researcher to develop a theory in certain ways. Herein lies the major difference between Strauss and Corbin's and Glaser's approach. Glaser suggests that this part of the process should be developed through the documenting of ideas regarding the relationships between categories and their dimensions and between categories in memos of differing levels of complexity as well as through continually referring back to the data to see if the developing relationships have a foundation in it. The two approaches differ with regard to one essential question: does the conditional / consequential matrix force the theory in directions that may not be congruent with the data?

Strauss and Corbin's approach has been criticised as being too reductionistic and complex, pushing the research to adhere to the method, rather than to the data (Duchscher and Morgan 2004). Some other differences relate to the use of diagrams as an aide to theorising and also the theoretical sampling process. According to Glaser, Strauss and Corbin's approach offers the possibility of engaging in verification rather than theory construction (Duchscher and Morgan 2004). However, the great advantage of their approach is that the theory is likely to be thoroughly developed, as very many possible relationships are examined as a result of using the matrix. An advantage of Strauss and Corbin's teaching on data analysis is that it is more explicit in terms of what the researcher actually does than is Glaser's approach. Furthermore the explanations are detailed and follow a distinct logical flow and are all to be found in just one publication (Strauss and Corbin 1998). This makes learning the process much easier to follow for the novice grounded theorist. By contrast, Glaser's approach to classic grounded theory has developed over the years and is copiously documented in several of his publications since 1978. In the final analysis questions of structured analytic techniques and forcing of the data are the main lynchpins upon which the difference between the two approaches hinges. Neither appears to be 'better' or more valid than the other. However, they do appear to be different in the way that they enable the eventual theory to emerge.

5.20.3.4 Charmaz's version: Constructivism

Kathy Charmaz was a pupil of Glaser; she subsequently developed a version of grounded theory methodology that eschews the positivist roots that Glaser emphasised. Instead

she developed a more interpretivist and constructivist model. Charmaz contends that GT is paradigm-neutral and that the basic approaches such as coding, memo writing, theoretical sampling and the constant comparative method may be used by the researcher in different, but equally valid, ways (Charmaz 2006). She views grounded theory as “a set of principles and practices, not as prescriptions or packages”....she emphasises “flexible guidelines, not methodological rules, recipes and requirements” (Charmaz 2006:9). Constructivists’ theories acknowledge the role of the individual in interpreting the meaning of events and of the researcher in interpreting the meaning of the data that is observed and which forms the basis for the theory. Charmaz explicitly states that the constructivist theory is an interpretation that cannot stand outside the researcher’s view. She contends that the time of the data gathering process, the location, the situation where the research occurs and the culture that prevails in the setting all contribute towards the data that is eventually obtained (Charmaz 2006). Glaser contends that these variables are all part of the data that the theory aims to explain, whereas Charmaz views these as part of the mix which impact on the central process, which is the reciprocity between the researcher and the participants. Indeed constructivism implies that the meanings that are made explicit in the research, as well as the eventual theory, are co-constructed by both researcher and participant (Mills et al. 2006).

The relationship between the researcher and the research participants is, according to constructivists, impossible to separate. However, that assumption is based upon the premise that the data is gathered through face to face interviews. This is an open exchange where meaning is created between the researcher and the participant through a process of mutual sense making (Mischler 1991) and is characteristic of the interview process. In contrast, so called objectivist grounded theories regard the data as the sole source of the theory and through constantly returning to it the role of the researcher can to some extent be negated. However, even classic grounded theory contains some interpretivist elements, as illustrated by the view that “when the researcher is convinced that his analytic framework forms a substantive theory, that it is a reasonably accurate statement of the matters studied...then he can publish” (Glaser and Strauss 1967:113). Clearly even Glaser and Strauss’s foundational work acknowledges the role of the researcher in filtering the research. Ultimately Charmaz’s constructionist approach is more explicit about acknowledging that it sits in the interpretivist tradition. It also regards interpretivism as a strength, whereas Glaser’s approach attempts always to tie the theory and the categories which comprise it as closely as possible to the data, in line with the positivist tradition in which he trained.

5.20.4 Rationale for the use of Glaserian GT in this study

Grounded Theory has been chosen as the preferred data analysis method for the study reported here because of its fit with the aims and objectives of the study. This is a research project that seeks to understand dyadic social interaction between a person with

profound intellectual and multiple disability and his or her carer. In considering which approach to grounded theory would best suit the research, all three were considered. A constructivist critique of the Glaserian position makes the point that data is co-constructed by the interviewer and interviewee. However, the majority of the data in this research study was derived by observation of settings in which I played only a small walk on part. As a result my role as researcher as observer was much more removed from the setting than would be the case in an interview situation to which a constructivist approach might be more applicable. Consequently, it seemed untenable to argue that the constructivist approach was necessarily useful in this study. It seemed to me that a clear choice of method should be made. Method slurring was to be avoided and a precise approach to the data should be the aim (Cutcliffe 2000). This principle informed the design of the study.

Glaser's approach to GT, rather than that of Strauss and Corbin or Charmaz, was selected because the aim of the research was to develop an explanatory theory that relates directly to the substantive area of study. Glaser contends that a theory should have (i) fit—that its categories arise directly from the data; (ii) modifiability—that is, it can change to accommodate new data; and (iii) that it works—it is relevant to and explains what is happening in the substantive area (Glaser 1978). Various other aspects of the development of Glaserian grounded theory seemed to fit with my approach to the substantive area and to the research process. My aim was to develop theory from a blank sheet, to enter the field with no preconceptions regarding what might be found. Glaser notes that grounded theory requires a tolerance for feeling out of control at the start of the project when the initial categories are being generated (Glaser 1998). I was aware of this feeling; it seemed to be related to the uncertainties that accompanied a conscious 'not knowing'. This uncertainty was a feature of the initial stages of the research and is a characteristic and a requirement for Glaserian GT. Another aspect of this approach to theory building is the heavy emphasis on 'not forcing the data'. This emphasis fits with an initial stance of 'not knowing' but it also facilitated the development of the theory by continually forcing me to return to the data, with the result that my actions were driven by what was found in the data, rather than by imposed methodological strictures.

All these issues were influential in the decision that I came to regarding which approach to use. Finally, in his discussion of the roots of grounded theory, Glaser notes the influence of symbolic interactionism on Strauss's and his own thought as GT was being developed. In describing the initial study on the 'Awareness of Dying', which was the vehicle for the development of GT, he outlines the process of how the theory developed from the data:

“there was it seemed to me, no need to force meaning on a participant, but rather a need to listen to his genuine meanings, to grasp his perspectives, to study his

concerns and to study his motivational drivers”(Glaser 1998:32).

Such an approach seemed to me to be exactly where the research should be situated. Furthermore I felt there would be a cognitive fit between the observational approach that gathered the data and the analytic approach that fractured and eventually reconstructed it.

5.21 The analysis of the data using the grounded theory method.

Two discrete aspects of the data presented me with a mass of written information that had to be organised and understood. The initial filming produced two hours of videotape, selected sections of which were transcribed as detailed in Sections 5.10, 5.11 and 5.16. These transcriptions covered 309 pages. Additionally the audio-taped interviews that had been collected and transcribed (as detailed in Section 5.16.) added an additional element to be incorporated into the data analysis process. The purpose of this chapter is to explain how this was done.

There are two essential steps that comprise the method of grounded theory. The first is the initial fracturing and description of the data by the generation of substantive codes and then categories from it. The codes describe the data. The second step consists of the weaving together of the substantive codes and categories into a coherent theoretical framework. This latter step is achieved through the generation of theoretical memos that delimit and define the relationships between the substantive codes and categories. As this process proceeds, the researcher seeks to identify the main concern of the participants in the study and also to identify a core category that explains “how the participants resolve their main concern” (Glaser 1998:117). The core category names a basic social process or social psychological process around which the theoretical framework is conceptualised. It accounts for most of the variables that are named as concepts within the data. Most of the categories in the theory are related to it and it functions to integrate them within the theory (Glaser 1978).

5.21.1 Initial coding of the data

At the start of the data analysis process I was confronted by a large volume of transcribed videotaped data. It was my task to make sense of it. Selected episodes were chosen for analysis from the two hours of data. The episodes were chosen on the basis that they offered the most compelling examples of dyadic interaction to be found in the videotapes.

The first step in the coding process was that I read through the data and identified discreet passages within it. This was a line by line analysis where single words, phrases, sentences or (sometimes) paragraphs were examined (Glaser 1998; Strauss and Corbin 1998). Glaser and Strauss suggest that initially the researcher should code each incident into as many categories as it is possible to do (Glaser and Strauss 1967). Coding is defined by Glaser as “the generating of categories by constant comparison of incidents

and categories” (Glaser 1998:137). Coding consisted of writing categories on the margins of the data. As I read over the data I asked questions such as “what category does this incident indicate? What property of what category does this incident indicate?” (Glaser 1998:140). In effect I took a detailed approach to the coding process. Each line of each section of the transcript was examined both as a separate entity in itself and also as a component part of that incident in the transcript. In certain cases, the lines of action of both participants were coded as a whole. However, these occasions were rare. Line by line coding was a vital part of the data analysis process as it named the initial incidents that subsequently formed the codes to which each new incident was compared. This constant comparison process was at the heart of the formation of codes that described and defined the data and that subsequently comprise the substance of the categories. Prior to examining the transcripts, the dictum that the researcher “codes for everything he can as he goes through the data” (Glaser 1998:138) was very much in the forefront of my mind.

The transcribed data was examined line by line, each line in each column was scrutinised in order to ascribe a name to the incident and also in order to be sure that the named code directly reflected the position of the incident in the dyadic flow. Each subsequent coded incident was compared with the previous incidents that had been coded in order to ascertain if its properties (that is the underlying process that was inherent in the incident) were similar to or different from the incident to which it was being compared. If the properties were similar to those of the previous code then the incident was entered under the same code; if they were different then a new code was named. In some cases the contents of the code were reconstituted as more data was coded and as the picture expanded, but some of the incidents were seen to belong elsewhere, either in other pre-existing codes or in a newly named code. Codes were mostly named descriptively, that is each code name directly described the action to which it applied. A typical example was ‘gaze response to incidental stimulus’. A very few codes were named after some degree of interpretation, for example, ‘engagement promiscuous’ because the name most accurately identified the concept in question.

This process is concerned with forming a cohesive meaning for the codes and ultimately the categories into which the codes were grouped. This ongoing re-evaluation of codes and categories is termed the constant comparative method, which is the cornerstone of grounded theory data analysis. Each decision to name an incident, to give it a category and to enumerate its properties was recorded in a detailed descriptor for that code. This descriptor named the code, its properties, the incident(s) upon which it was based and the location of these incidents in the text. As these descriptors were written they were compiled into a long list of 242 initial substantive codes. Some codes remained based upon just one incident. However, most codes were based upon multiple incidents. Some descriptors contained several different but related codes that were categorised under the one name. In many cases the codes became saturated, as no further meaning properties

could be added to them. At that point the code was said to have “earned its place in the theory” (Glaser 1998:141).

As the bank of codes were built up and reconstituted, ideas as to why the changes in the code names were applied. These ideas were noted down and recorded as memos. The memos constituted the start of the memo bank.

5.21.2 Handling the coded data

A Word file was opened for each new code that was generated in the coding process. There were two aims: One was to print off a hard copy of the coded data, the second was to retain a computer based record of each code. The question arose as to whether a computerised software package should be used to hold the coded information and to enable the data analysis process. There is one widely used package: INVIVO 7. The advantage of using this package would be that data management and retrieval would be easily facilitated. The disadvantage is that Glaser has firmly set his face against using computerized data analysis packages. Glaser suggests that unless the researcher hand sorts the memos, the process of emergence will not occur in its fullness. Anything other than this produces a superficial, focused, but less rich piece of work (Glaser 1998). Other grounded theorists take a differing view of the utility of qualitative data analysis packages. Strauss and Corbin neither recommend nor inveigh against their use, although they do include a lengthy memo from one of their students on how computers can facilitate qualitative data handling. Interestingly the memo which explained the actual analytic process involved concluded that using computer software packages to actively analyse data may change the theory that is developed and also enable a less creative analysis to take place (Strauss and Corbin 1998). As a result, this researcher concluded that no qualitative data analysis computer package would be used and that all records of substantive codes and also of memos would be kept as hard copy data. However, a copy of the data for each code and also for each memo was also retained as a Word file. There were two reasons for this, firstly as a back up should the hard copies go missing and secondly in order to facilitate searches of the codes and the memos. It was my experience in previously using NUDIST 6 that a primary advantage of the package was its ability to find information embedded in the data quickly. The possibility of using a computer search to locate coded data, specific incidents or memos relating to a certain topic is important, in that it saves much time spent hand searching for information. This advantage could still be retained through the recording of all codes and memos in their own Word files and retaining the hard copy data in files that were identical to the computer record. This meant that a computerised search facility was retained as was the advantage of hand sorting the coded data. The result was that the creativity and intuitive understanding that leads to theory generation would not be impaired. Ultimately I tried to balance the requirement to be able to keep track of data by using computer records and at the same time not fall into the trap of getting hung up on description and the superficialities of the data (Glaser 1998).

5.21.3 The grouping of codes into categories

The generation of categories in this project was a process that did not get seriously under way until much of the coding had been carried out. This occurred for two reasons. Firstly I wished to examine a large amount of interaction (which in the end amounted to 25 minutes) before coming to any tentative conclusions. Also it seemed that coming to a premature conclusion might foreclose thinking on categories of data that had not been considered and thereby force the data in ways that might not reflect a sufficient breadth of data. Such an approach would be viewed with some skepticism by Glaser, who would suggest that no matter where the researcher starts from, and what partial conclusions he may reach, the addition of new data modifies the theory in any event. However, it was my view that the strategy that was used worked well. Secondly, my understanding of how grounded theory works was developing and it was not until I attended a GT seminar with Glaser that it became clear that the large number of codes that had been identified should now be grouped into categories to enable the next stage of the data analysis process to proceed. Glaser's choice was stark: do you want full descriptive coverage or do you wish to develop a theoretical framework to explain what is happening in the data (Glaser 2007)?

The process of sorting the codes into categories that reflected the action was relatively quick. As the sorting proceeded, it generated a large number of theoretical ideas about relationships within the codes, which were documented as memos. Memos are essentially ideas about the relationships that might exist between codes and categories that are generated during the coding process (Glaser 1978). These were subsequently the source for a developing understanding of the theoretical codes that might emerge in the data. The sorting of codes into categories fits within Glaser's schema as the final stage of the coding process. This sorting process grouped the 242 codes into eight categories. One other file was compiled which contained those codes that did not fit into any of the eight categories. This file contained 22 codes. Therefore the majority of the data was subsumed into these basic categories.

Grounded theory has differing levels of data:

- Sub-core categories are composed of emergent grouped codes that are based on the comparison of micro incidents in the data, they comprise some of the pattern of activity that the core category accounts for (Glaser 1998). Initially there were eight basic categories identified. These were subsequently reduced to seven as it became clear that one category was in fact a property of another.
- At the highest conceptual level the core category was identified. This is the inclusive category that relates to "most other categories and their properties ...and accounts for most of the ongoing behaviour in the substantive area being researched" (Glaser 1998:135).

As the coding and categorising proceeded, the development of the theoretical codes continued. The codes were written in the form of memos.

The process of sorting the initial substantive codes took place more than two years into the study and it happened quite quickly. Codes were grouped and then formed into clusters, which were reformed as additional codes were added to each cluster. Eventually prospective names emerged for each cluster. These developed to become the initial categories of the theory, of which there were initially nine.

All the subcore categories retained their status as the theory developed with some refinements and reconfiguration.

5.21.4 Handling the interview transcripts

The interview transcripts were not coded. The data from the interviews that were conducted with the staff member of each dyad (KM and M) concerning the video was directly inputted into the video transcript. These interviews were conducted after the initial video tapes had been made but before they had been fully transcribed and analysed. Selected interaction sequences had been chosen for transcription and analysis. These were examined in conjunction with the staff member. The audio taped interview of M and KM was subsequently linked to each particular incident to which the conversation on tape referred. The comments of the interviewee were added to the transcript, where they illuminated the interaction. The third interview with Jane was conducted in a similar manner at a much later date.

The data derived from the diaries was kept separate. It was not analysed but used to illustrate and illuminate the categories, concepts and related theory that emerged from the other data sources in certain instances.

5.21.5 Writing memos

Memos do not record the initial fracturing and coding of the raw data, rather they record ideas about the codes, their nature and how they might interrelate. Thus they illuminate the fractured, coded data and provide ideas and hypotheses that might apply to the subsequent binding together of the fractured data into a comprehensive theory. Memos are defined as “the theorising write-up of ideas about codes and their relationships as they strike the analyst while coding” (Glaser 1978:83).

Memos are ideas that are written down during the course of the initial coding of the data, as it is being organised into substantive codes. Memos are written that hold captured thoughts concerning the substantive codes, what they are and how they might relate to each other. Memos are a product of the coding and constant comparative process. They offer cues as to where and what data to look for in further theoretical sampling. They

also offer tentative ideas about hypotheses and how substantive codes may relate to each other in the context of the developing theory (Glaser 1998). A memo, according to Glaser is “for moment capture” (ibid:178) that is, it is written spontaneously to record intuitively emergent ideas. Memos are written on the spot to record what the researcher thinks about the information s/he is working with as the researcher is staying open to the data. They are therefore also emergent, in that the data brings forth the memos via the researcher, rather than the researcher imposing a preconceived structure on them. Memos can be written that cover any topic. However, they frequently identify theoretical codes. These are the codes that are written about interconnections between the substantive codes. There are numerous theoretical codes. Glaser notes that they may cover processes, degrees of a phenomenon, dimensions of a phenomenon, types, strategies, cutting points and many other aspects of the way that phenomena are patterned (Glaser 1978). Foremost amongst the memos that Glaser lists are what he terms the 6C’s. These theoretical codes explain the conditions, causes, context, consequences, co-variances and contingencies of a phenomenon, that is, they locate the phenomenon in the theoretical structure.

In the study reported in this thesis, two different types of memos have been written. The first type of (analytic) memo records thoughts and ideas that I developed about the codes, the categories and their properties during the coding process. These analytic memos recorded any form of relevant idea about the data. Many of them specifically recorded ideas regarding the possible relationships between the codes that were being generated. The relationships between the memos also generated some ideas for further memos, so memos generated memos. However, by far the majority of the memos generated in the first phase of the study were theoretical memos, that recorded theoretical codes. These also emerged during the sorting process. Theoretical codes, as described by Glaser, “conceptualise how the substantive codes...relate to each other as a modeled interrelated, multivariate set of hypotheses” (Glaser 2005a:11). They explain how the participants in the research resolve their main concern. As with substantive codes, they emerge from the data. However, they take the form of memos that are written about the substantive codes as the coding process proceeds and as the categories emerge in the data. Theoretical codes identify the patterns that are implicit in the data and specify hypotheses that tell of the relationships between the substantive concepts (Glaser 2005a). They also identify the boundaries of the code, the criteria that define it and the conditions in which it occurs, as well as the part that it plays in the overall data set and eventually within the theory. Memos raise the level of thinking within the theory formation process from pure description of the substantive codes and categories, through conceptualisation of the patterns within the data to a tying together of the patterns into a comprehensive theoretical explanation.

Each memo that was written contained a reference point to the source in that data. It also contained a reference to the substantive code(s) to which it referred. Analytic

memos tended to highlight some aspect of the substantive code that was referred to—for example, the limits of the code. In contrast, theoretical memos generally explored possible relationships within the data or between the substantive codes. The process of compiling the theoretical memos took place partially during the actual coding of the substantive data, but mostly subsequent to it, as the conceptualisation and categorisation process was taking place. At times, memos flowed very smoothly and at other times, they were written following examination, consideration and reflection on the codes and categories within the data. Glaser notes that “sometimes the analyst can bring on a memo by starting to write on a code” (Glaser 1978:90). Such an approach worked well for me as at times it unlocked ideas where it seemed that a relationship was underlying or relevant to the code that needed to be expressed, but it had not done so up until that time. Both Glaser (Glaser 1998) and Charmaz (Charmaz 2006) note that there is a strong intuitive aspect to memoing and this aspect to writing needed to be kept both to the front of the researcher’s thinking and also in its proper place. Intuitive ideas about relationships tended to occur quickly, when the codes in the data set were in focus. This process enabled memos to emerge spontaneously, rather than be forced through conjectural thinking. Such a process was very much in line with Glaser’s approach to memo generation. One aspect to this which helped me in the analysis was Glaser’s injunction that it is important ‘not to know’ until the theory has emerged (Glaser 1998:92). This implies a capacity to blank out, or forget the specific frameworks that were emerging so far. I attempted to achieve this with some success, largely due to the fact that the structures of the theory did not emerge until late in the process. Ultimately, after the substantive codes had been compiled I found myself in possession of a large bank of over 200 analytic and theoretical memos which had emerged both during and after that process. These were the jigsaw pieces of the theory.

5.21.6 Memo sorting

The process of sorting the memos is one of the closing stages in the grounded theory approach. I was looking for a theory that was empirically integrated and rooted in the data. When the memo bank had been built up so that memos had been written around many of the codes and multiple memos had been written on the categories that had emerged, there was still no preconceived structure apparent. This situation presented both a positive and a negative aspect. It fits precisely with Glaser’s injunction that the integration from the sorting process should not be preconceived (Glaser 1998). However, it also meant that at a point where much work had been done there was no guarantee that anything concrete would emerge. Therefore I was in the position of having to trust that the process would prove fruitful and trust that the relationships between the ideas expressed in the theoretically coded memos would eventually form a coherent whole.

Sorting enables several important aspects of the theory development to be completed. It forces and drives links between the categories and their properties and codes. Indeed,

it enables these links to be established at differing levels, so that the relationships between individual codes can be understood at the micro level of theory (Glaser 1978). The sorting process enables the theory to be developed at a sufficient level of density, which emphasises the detailed relationships within the theory. Sorting also pushes the development of the theory towards a complete stage, where data saturation has occurred across and within categories. One final aspect is that sorting maintains the level of the data at a conceptual level and is inimical to a regression to pure description.

The actual sorting process was straightforward. All the memos were printed off the Word files in which they were stored. The pile of memos was placed on a large table. The first two memos were picked up and compared with each other. The relationship between the memos was considered and the memos were then placed physically apart. Memos which were based on similar substantive areas were grouped together. Each memo was compared with the others to ascertain how it fitted with the others that had been examined. At times, the contents of the groupings changed and at other times the positions of the groupings in relation to each other changed. The theoretical codes naturally formed in particular ways and analytic rules were developed that explained how this happened. These too were recorded as memos. In general, the memos were sorted according to the categories and codes to which they referred. Many memos by their nature referred to multiple categories, because they indicated relationships between categories. There were many discrepancies identified between memos that had been written at early stages of the research and those of a later date. In some cases this led to new memos being written that documented or articulated the changed relationships within the theory that resulted.

5.21.7 Theoretical sampling

As the sorting process progressed, it became clear that some areas of the theory were based upon multiple incidents and could be relied upon as being thoroughly grounded in the data, whereas others were based upon single or few incidents appeared to be thinly grounded. They required more data. The initial data collection had taken place in the first half of 2006. This was followed by a long period of data analysis. It was not until the spring of 2008 that I was ready to conduct further theoretical sampling. In May and June of 2008 I returned to the field. While there had been some staff changes in the DDC much was unchanged. Sampling was as follows:

- An informal focus group of the staff members (Jane, Ellen, Minnie and Mona).
- A further interview with Jane on the back of her being keyworker for SW.
- A second focus group with Jane, Mona, Ellen, Minnie and Joan.
- Field observations of general interactions in the classroom (23rd May).
- Further field notes taken from SW and Jane's videotape.

Secondary sampling was completed by the start of July 2008. The theoretical sampling

process enabled clarification of the patterns of meaning that arose from some memos. It was also important that some particular issues that had been noted in the memos might be clarified. In short, the theoretical sampling process enabled the possibility of filling out aspects of the theory that were as yet insufficiently developed, as well as making the relationships within the theory explicit.

5.21.8 Grounded theory construction

This process of theory construction is dependent upon an effective memo sorting process. The process was concerned with linking the substantive codes to each other via tentative hypotheses and suggested relationships that were generated from the data and noted down in the memos. Glaser notes that these may be formulated into theoretical codes that do not constitute the theory but “model the integration of substantive categories (codes)” (Glaser 2005a:17). This aspect of the process is dependent upon the second type of memo, the theoretical memo.

The theory must crucially specify relationships amongst categories and concepts, in order to explain what is going on in the substantive area. The development of the theory occurred as the sorted piles of memos were compared. Theoretical codes that had been noted down in the memos were examined and offered mechanisms for the emergence of the theoretical framework. Further theoretical codes were written during the memo sorting process.

As the theory emerged, it was all the time framed against the main concern of the participants. This process, which is termed funneling down (Glaser 1998; Glaser 1978) ensures that the theory is tightly delimited so that the core category, which explains how the participants deal with the main concern, remains at the centre of the emerging theoretical framework. Finally the emergence of the theory was signaled by a tight interweaving of the substantive categories, such that the relationships between them in terms of time, cause, conditions and so on became explicit.

The theory was based on the theoretical memos and was constructed over the space of two weeks in September 2008. The initial phase was to look at the key memos that had been sorted for each category. These memos detailed the specific relationships between the categories. A central element of the initial theory construction process was to be clear about how the core category fitted with the other categories. I spent several days exploring the relationships between categories by listing out the categories and detailing which influenced which and the direction of flow of the influence. There were multiple attempts to develop a two dimensional flow chart type diagram that would explain and summarise the relationships in question. Such attempts proved to be fruitless. Ultimately a three dimensional construct facilitated the diagrammatic presentation of the theory. The sequel to the construction of the diagram was the explanation of the theory, which

eventually emerged very quickly at the culmination of the process. Thereafter the specific relationships both within the categories and between the categories were enunciated as they elaborated on the detail of the theory.

5.22 Trustworthiness, credibility and auditability

The fundamental assumption of grounded theory is that “the theory should fit the data” (Glaser and Strauss 1967:261). This means that the categories in the theory emerge from the data readily, that they reflect the incidents in the data and that they explain and account for the interactions that are being studied. Grounded theory is contrasted with other approaches to theory construction which use speculation, and deduction from grand theory or conjecture to derive the theory, in that the data is the constant reference point for the emerging theory. In grounded theory, if doubts exist regarding the form of the theory, the theory is compared to the data and amended accordingly.

There are two keys to this process: staying open and using constant comparative analysis. Staying open to the data implies that the researcher is always listening to what the data is telling him which applies to the initial development of substantive codes and categories and to the secondary process which is the emergence of theoretical codes. Glaser emphasises that for the expert in the substantive area, the requirement to stay open is founded upon an ability to suspend his knowledge of the literature, on the basis that identifying preconceptions is more possible because one knows so much about the field (Glaser 2005a). I had many years’ experience of working with people with profound intellectual and multiple disabilities. Indeed, it was this practice that gave rise to the research question. However, it did prove possible as a researcher to draw a veil over much prior knowledge of the substantive area. This was particularly required during the theory formation process, when the concepts of the theory and their relationships started to become clear. The reason was that I had no preconceptions about whether an explanatory theory might emerge or what the concepts in it might be, so that when they did take shape, the nature of the concepts and their relationship was unexpected.

Constant comparison requires that the researcher should continually compare incidents that he has coded with the incident that he is currently coding. This process has the effect that the code (be it substantive or theoretical) is continually molded to reflect the data upon which it is based. Categories cannot be based solely on one or a few incidents. They are based on multiple incidents. Each one impacts on the category by confirming its name and properties or altering them. Glaser notes that categories “must be carefully generated from the patterns of meaning coming from constant comparison of micro-incidents” (Glaser 1998:143). This sentence encapsulates the painstaking process of data analysis that has been described in this chapter. The net effect is that the categories in the data emerge from it and fit with it.

There are four criteria that operate as sources of trust in grounded theory (Glaser 1998). The categories should *fit*, have *relevance*, *work* and demonstrate *modifiability*.

Fit is the grounded theoretical equivalent of validity or trustworthiness. It implies that the categories in the theory have earned their place in it on the basis that they directly reflect the data. Conventional qualitative concepts such as trustworthiness and credibility are subsumed into the grounded theoretical concepts of emergence and fit. Glaser states that “fit is another word for validity, which means does the concept represent the pattern of data it purports to denote?” (Glaser 1998:236). *Fit* is achieved as a product of the process of constant comparison which continually drives the researcher to remodel categories so that they fit with the data. Grounded theories also possess *relevance*, that is the theory and its concepts are relevant and fit with the area of investigation, by virtue of the fact that they are rooted in the data that is gathered in that area. Section 5.21.1 details how the constant comparative method was applied to the analysis of the data to ensure that the theory that resulted would fit closely with that data and also to ensure its relevance. *Relevance* is achieved if the theory is demonstrated to apply to the true issues of the participants. Glaser contends that this criterion is achieved automatically if the constant comparative process is followed (Glaser 1998). Evidence to support the criteria of both *fit* and *relevance* is advanced by the engagement and agreement of the non disabled staff member with the data during the interview process.

Further criteria apply to grounded theories, one being that they *work*. A theory may be said to *work* if it has fit and relevance to a substantive area and if the theory explains how an area of interest or concern is resolved in a practical way. Grounded theories should also demonstrate *modifiability*. *Modifiability* means that the theory can be constantly updated and added to if new information relevant to the area comes to light. This information is compared with the concepts in the theory and these can then be altered to take account of it. *Modifiability* is a product of the constant comparative process and is demonstrated in this study by the application of this principle in terms of the development of both substantive and theoretical codes. The latter two concepts are post theoretical tests that can be examined in the first instance by consulting experts in the field about how the theory works to explain the substantive area. This has not been done as the theory is as yet not in the public domain.

5.22.1 Generality and control

Two other properties are necessary to support the credibility of a grounded theory. These are *generality* and *control* (Cutcliffe 2005). The former implies that the theory can be applied to normal situations that occur in the area under study. The latter implies that the theory enables some degree of control over the processes that occur in the substantive area (Glaser and Strauss 1967). The evidence for the generality of the theoretical framework lies in its fit with the data. However, further evidence for its *generality* and

control cannot be provided until the theory is applied to practice based situations in the future.

5.22.2 Auditability

Each step of the research process in this study was documented in a research diary. This diary commenced in the autumn of 2005 with the initial visits to potential research sites and ended in the autumn of 2009 with the completion of the research report. Every meeting, site visit and data gathering event was documented, both in terms of what happened and also where and when the event took place. The diary also recorded each detailed step of the data collection, transcription and analysis. Meetings with Dr Glaser and others who contributed to the methodological development of the research study were also recorded. Similarly the development of my thinking in the light of the progress of the study and also as a result of the supervision sessions was noted in the diary. The diary also recorded background information relating to the project. In terms of auditability the diary offered both an insight into how the research was carried out and also a tracking mechanism that would enable another researcher to replicate the project.

Taken together, these properties imply a rigorous application of the grounded theory methodology. The properties have been applied in the study in order to ensure such rigour.

5.23 Pilot study

The initial plan for the research study involved collecting data from two dyads as the pilot study. However, even at that early stage, the plan made clear that the design of the study was emergent and would most likely alter in the light of the experience of the data gathering and analysis process. This proved to be the case. It turned out that the analysis of each tape of one hour was very time consuming. For example one analysis on March 26th 2006 took 5 hours to write the transcript of 70 seconds of tape and that was not an untypical example of the length of time required for data analysis. More importantly, it became clear that an initial full description of the main categories in the data would be obtainable from the data that had been gathered in the first two dyads. Each dyad was recorded for one hour. Of the two hours videotape, 25 minutes of data was analysed. The 25 minutes of data produced 36,000 data points and yielded 242 codes based on more than 1,000 incidents. The transcription of the 25 minutes of video covered 309 pages. Subsequently, through a developing understanding of how a grounded theory is constructed, it became clear that further data should be gathered in the form of a search for theoretical codes, in order to address those parts of the theory that were conceptually thin or where relationships within the categories was unclear. As a result, it also became clear that the data from the first two dyads that had been intended to form the exploratory phase of the study was in fact the data upon which the main analysis would be built. This type of emergent design is not untypical of the way in which a GT approach to

empirical research may lead. Indeed, grounded theory is predicated upon the assumption that the researcher does not use pre-formed theoretical approaches to frame the research. In epistemological terms, GT is largely unpretentious, that is its modus operandi is to examine data for patterns within it that may explain what is happening (Glaser 2005a). The research process, therefore, has not been constructed in a tightly planned, inflexible manner. The research design has been an emergent one that has been rooted in the relationships with the data as Glaserian grounded theory suggests.

In the light of these considerations the initial plan was altered. The data from the initial two dyads proved to be sufficiently comprehensive and robust that it formed the central part of the dataset upon which the theory rests.

5.24 Conclusion

This section has considered in detail how the data in the study was collected, documented and how it was subsequently analysed. The methodology was an innovative one that combined the transcription of qualitative observational data into a framework that highlighted, but did not delimit, the structure of the data. The data was then analysed using grounded theory, with the aim of developing an explanatory theory for the area of study. The theory that emerged was based on a data set that had captured both micro-and macro-communications in the dyad; this type of data had not previously been utilised for theory construction. The method, by its nature, involved lengthy data transcription combined with intense, focused analysis of the data. The next section looks at the fruits that emerged from the application of such a methodology, that is, the findings of the study.

CHAPTER 6

Attuning: A theory of interaction of people with profound multiple intellectual disability and their carers.

6.1 Introduction: The structure of the chapter

This chapter commences with Section 6.2 which is a discussion of the proposed theory that accounts for the data in this thesis. This section outlines the component concepts (categories) and examines how those concepts are interrelated in the structure of the theory. Examples of how the theory operates illustrate the relationship of the concepts. Section 6.3 describes the core category ‘attuning’. The subsequent sections (6.4 to 6.9) detail each of the (sub-core) categories of the theory. Each category (attention, being, setting, action, stimulus and engagement) is defined and described in detail and a presentation of the evidence from which the category is derived is presented. The conceptual relationships within each category and between the categories are also identified. In all circumstances the evidence upon which the concepts are based is identified, explained and located in the dataset. Each chapter section is preceded by a table that indicates the location of the section within the chapter. The chapter concludes with a brief summing up of what has gone before.

Table: 6.1. Chapter map

Chapter section.	Chapter title.
6.1.	Introduction.
6.2.	Attuning: the theory.
6.3.	Attuning: the core category.
6.4.	Attention: the category.
6.5.	Being: the category.
6.6.	Setting: the category.
6.7.	Action: the category.
6.8.	Stimulus: the category.
6.9.	Engagement: the category.

6.2 Attuning: The theory

6.2.1 Overture

The theory of attuning offers an explanation of how people with severe or profound intellectual and multiple disability communicate with others. The theory suggests that communication is regulated by the process of attuning; furthermore, it suggests that it is a reciprocal process whereby the concepts and processes apply equally to both persons who are communicating irrespective of whether they have a disability. Attuning describes

how the communication partners move towards or away from each other cognitively and affectively. This theory chapter details the concepts of the theory, the codes that comprise the concepts and their inter-relationships.

6.2.2 Introduction

Glaser (2001) suggests that the development of a research problem for a study emerges as the study progresses. The problem is closely related to how the participants in the study resolve their main concern. Glaser emphasises that neither the researcher nor the participants properly understand the research problem at the outset, but that through data gathering the problem emerges. The problem is subsequently brought into focus by the theoretical sampling process (Glaser 2001). Glaser states that “A grounded theory problem emerges as the dependent variable in the theory. It is the variable that is varied by the core category as it resolves the problem” (Glaser 2001:101). It is necessary for the problem to become clear before the core category that resolves it can be identified. Identification of the main concern of the participants and subsequently of the core category are perhaps the pivots upon which the development of a grounded theory revolves.

This study is concerned with people who have profound intellectual and multiple disability. At the outset, my interest lay in understanding something of how such people viewed their world and how they communicated that view. After plentiful examination of the literature and some reflection on practice, it seemed to me that it was not possible to examine directly the thoughts and feelings of this group who are largely non verbal and cannot express their thoughts in words. Informal observation of this group suggested that much of how they behave is located in the domain of interaction.

The question that arose was: what exactly in this domain was the problem that people with profound intellectual and multiple disability were trying to resolve? It subsequently became clear that the problem was located in the context of the way in which people with PIMD mutually interact. It could be phrased as: How do people with profound intellectual and multiple disability and their carers organise, modulate and run their relationships, their interaction and their communication? The answer to this question is contained in the core category that is, **they attune to each other to a greater or lesser extent**. Therefore attuning is the core category that resolves the problem of how people with PIMD and their carers interact and communicate.

6.2.3 Attuning: The structure

The theory of attuning is composed of seven categories that are essentially discrete but interrelate in a dynamic manner. Not presented in an order of importance; the categories of the theory are:

1. Setting
2. Being
3. Stimulus
4. Attention
5. Action (including maneuvering)
6. Engagement
7. Attuning.

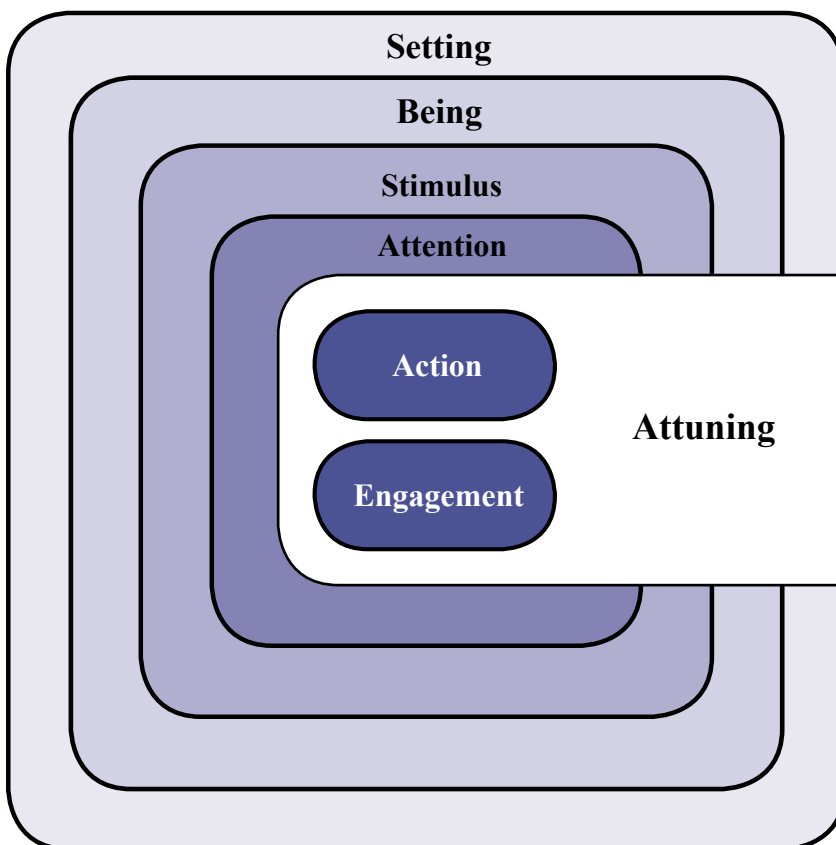
The theory of attuning (see Figure 6.1) assumes that both partners in a dyad go through the process of attuning to each other at different stages. For instance, at any one time person A can be making an action which can be a stimulus for person B, or vice-versa; equally person A might be paying attention to person B who is making an action. Thus the theory proposes a general explanatory framework for the interaction process, where the protagonists may be at different stages at any time with regard to any or all of the categories that constitute the theory.

It should be noted that maneuvering was identified as a subcore category during the initial data analysis. However, subsequent analysis revealed maneuvering to be a property of action.

Each code is property of a category. Codes emerged from and reflect the substantive data, codes earn their place in and fit within each category as result application of the constant comparative method. Each code is subsumed in a category which it, in turn, illustrates. Categories therefore also emerged from the substantive data as they are composed of codes. Codes are presented as typologies, as hierarchical lists or as independent members of a category depending on their fit within the category.

Seven categories (concepts) are proposed as comprising the theory outlined here. The core category (attuning) integrates the six subcore categories into a cohesive framework. It can be regarded as the category that is 'primus inter pares'. These categories may be situated in the theory in the following way:

Figure 6.1: The theory of attuning



6.2.4 Synopsis of the theory

All communication occurs in the context of an environment or a **setting**. The setting is the totality of the context in which the interaction is taking place. For example, it might be a room, a bus, a field, a kitchen. The setting influences the mood and state of mind of those individuals who are present (their **being**), the way in which people attend to each other (**attention**) and the nature of the interaction (the **engagement**) that follows.

The influence of the **setting**, however, primarily impacts on how the person feels (their **being**). It does this by influencing the mood of the person. It can also influence what the person can actually do, that is, their **action** (obviously you cannot move around much in a bus as much as you can in a field).

The state of mind (**being**) of the person influences how each communication partner may behave, that is the **stimuli** that one partner may offer to the other, which then impacts upon the **attention** of the other and the **action** that may follow.

When one person offers a **stimulus** to another, the second person may **attend** to it or not. The application of **attention** is influenced by the effect of the surrounding **setting** and the person's own state of **being** (how they feel). If the other person **attends** to the **stimulus** they may act (**action**) or they may become engaged (**engagement**) with the first person.

What determines whether or not an **action** or **engagement** actually occurs, is the process of **attuning**. **Attuning** affects and reflects how the communication partners feel (their state of **being**) and therefore how they deliver a **stimulus** to the other partner. Crucially, **attuning** impacts how the partners in the dyad **attend** to each other and therefore the nature of the **action** and how it is done. **Attuning** has the same effect on the nature of the **engagement** between the individuals which may result directly from the **stimulus**, or indirectly from the **action** that followed the **stimulus**. The process of **attuning** is itself influenced by what is going on, the way the partners in the dyad feel (**being**), the environment in which the interaction occurs (**setting**), the way a **stimulus** is attended to (**attention**), what happens afterwards and ultimately how the partners communicate (**engagement**). These events and processes all feed back to affect the state of mind (**being**) of both partners and therefore impact the way in which each partner in the dyad attunes to the other.

The process of attuning affects both people in the two way interaction (the dyad) and they may be at different stages of the process at any one time. If they are **attuned**, the stages that they are at will dovetail. For example where a carer is talking to a person with PIMD and smiling at him (**stimulus**) as she is about to feed him, he reacts by smiling back at her (**engagement**) and opening his mouth (**action** by him and **stimulus** for her), to which she reacts by putting the spoon in his mouth (**action**). This process works so well because both are highly **attuned** to the other.

6.2.4.1 The theory applied

A typical sequence of communicative events that illustrates the operation of the theory is as follows: One communication partner carries out an **action** which may be a **stimulus** to the second partner, who then **attunes** to the **stimulus** and offers **attention** to the **stimulus** and **engagement** or **action** result. Events that happen within the communication dyad are driven by both partners, each of whom has a state of **being** which exists in the context of an environmental **setting**. All the steps of what Glaser terms a Basic Psychological Social Process (Glaser 1998) are regulated by the process of **attuning**. Furthermore **attuning** is an integral part of the development of each concept except for **setting**. Subsequently the second partner may then proceed to carry out an **action**. The second action may then act as a further **stimulus** to the first partner to continue the process. Alternatively the second partner may respond to the stimulus by initiating an **engagement** with the first partner.

6.2.4.2 Note on presentation of tables and figures

Most tables present examples of codes and incidents that illustrate the text. The figures present typologies of codes as they are situated within the sub core category to which they belong. These are hierarchically ordered and are characterised by a twin directional arrow indicating the directions of the ranking from one point to another.

6.3 Attuning: The core category

6.3.1 Introduction

This lengthy chapter is subdivided into various sections. The first section offers a definition of the category, that is followed by a section that considers the four dimensional structure of attuning, this includes a description of an important code refusal in Section 6.3.7. That section leads naturally to Section 6.3.8 which examines the relationship between power and attuning. Sections 6.3.9-6.3.12 consider the process of attuning, indicators for attuning and the conditions for attuning. Lastly, attuning is considered as a multi-dimensional concept and its relationship with the other categories is explained.

6.3.2 Definition

Attuning may be defined as a **process (that can be bilateral or multi-dimensional) whereby communication partners move symmetrically or asymmetrically towards or away from each other mentally and emotionally**. This can be a two way process. Attuning has two bilateral dimensions: the first dimension measures the degree to which one partner demonstrates understanding of the state of mind of the other, how the other feels, and what the other wishes. Pro attuning, which is evident in interactions where both members of the dyad clearly understand and empathise with each other, defines the highest level of this dimension and anti attuning the opposite end of the continuum. The second dimension measures the degree to which one partner accedes to the understood wishes of the other. The opposite points of polarity are termed positive attuning—where one partner wishes to accede to the other’s wishes and negative attuning where the other refuses to accede to the wishes of the other.

In behavioural terms, attuning can further be identified as **a process that describes how different participants display understanding of each other, through their observable behaviours**. It describes this comprehension as being indicated by mutual empathy, where participants clearly demonstrate understanding (pro and anti attuning) and appreciation of each other’s state of mind along with demonstrable cooperation (negative-positive attuning).

Attuning appears to be a requirement for a communication or an interaction to take place. It does appear to be possible to *not* attune to the other. This state only appears to occur where no communication is evident at all.

6.3.3 The structure of attuning

Attuning represents a double two dimensional continuum. These continua run along two paired opposite theoretical codes: anti-pro attuning and negative–positive attuning. The former calibrates the degree of comprehension and harmony that each member of

the dyad achieves with the other. Thus, individuals can be very highly attuned at one end of the continuum that is, they comprehend the other's state of mind well. At the other end they achieve a low or absent level of attuning, where mutual understanding is absent. The second continuum measures the degree of cooperation between the partners in the dyad. Positive attuning is at the end of the continuum that represents one partner acceding to the wishes of the other. Negative attuning represents one partner refusing the wishes of the other. It is therefore possible for four states to exist in the communication framework. It is also possible for the dyad to exist at any point within the four state continua.

Table 6.2: The Structure of Attuning

	<u>Positive Attuning</u>	<u>Negative Attuning</u>
<u>Pro Attuning</u>	Both partners are highly attuned to each other and what they do (Action) and how they feel (Being) are similarly harmonious. Example: <i>Harmony / Delight</i> .	Both partners are empathically attuned to each other, they understand what the other wishes, however, one or both do not accede to the other's wishes. Example: <i>Defensive restraint</i> where AI tries to hold JM's hands to prevent him grabbing her gilet. Good mutual understanding is demonstrated but cooperation is absent.
<u>Anti Attuning</u>	Low level of empathy (pro attuning) is combined with a high degree of cooperation between the partners. Example: <i>Double action</i> .	A low or absent level of attuning is combined with little or no cooperation between the partners. Strong disengagement characterises the concept. Example: <i>Screaming, Disconnected</i> .

1. Pro and positive attuning.

The optimum state is a high level of positive attuning combined with a high level of pro attuning. In this state, partners are attuned in terms of comprehending each other and both partners agree as to what is happening and what should happen. Examples of this include *delight* and *harmony*. A powerful three way example of *harmony* is shown in TK8-1.00.23-00.25. Here M and AI hold TK's hand around a tube which they all three proceed to push up and down from the paint to the paper, TK's (r) hand moves in harmony with this, the seamless mental cooperation between the three participants demonstrates a high level of pro-attuning.

2. Pro- and negative attuning.

In this state, pro attuning coexists with negative attuning. The communication partners

understand each other very well (high pro-attuning). However, they do not accede to the wishes of the other so the interplay between the dyad is negative. *Refusal* is a code that describes incidents of this sort.

Table 6.3: Refusal

Data Point	Code	Description of the extract from the transcription
JM3-4.42	<i>Refusal</i>	can be verbal, as where JM says ‘Nooh’ to KM’s wish for him to move.
TK2-14.14-14.16	<i>Refusal</i>	Refusal can also be non verbal, here M brings a spoon of food near to TK’s mouth, supports his head, he pushes his tongue out and pushes the spoon away. His mouth closes. Both JM and TK clearly understand what is required of them, but they do not agree to do it.

3. Anti and positive attuning.

Two other possibilities are also evident: A low level of (pro) attuning can be combined with a high score on the positive-negative continuum. This results in poor mutual understanding combined with good cooperation between the partners. The code double action is an example of this situation.

Table 6.4: Double action

Data Point	Code	Description of the extract from the transcription
TK1-8.10	<i>Double action</i>	TK has been fed by M. He then closes his mouth after the spoon has been withdrawn and then turns away from her to look at a noise being made elsewhere in the room. TK is cooperating in the feeding process, but does not empathise with M, as demonstrated by the abrupt behaviours that he shows.

4. Anti-and negative attuning.

The fourth possibility is a low level of (pro) attuning combined with negative attuning, a state that causes little or no meaningful communication to take place.

The codes in Table 6.5 progressively illustrate this. All the incidents derive from an episode where a group song was taking place and being acted out by staff and clients. *Disinterested* implies that TK has disengaged from M and the toy snake; he has low pro attuning (empathy) and is not cooperating with her implied wish for him to interact (negative attuning). A similar, but more intense, situation is implied in *disconnected*, where neither partner in the dyad is empathising with the other or cooperating. In fact

both, while implicitly aware of each other, are not engaged at all. *Screaming* is the most emphatic example of the fourth quadrant. The code refers to two brief incidents where TK was being prompted to engage in the acting out the song ‘Down in the jungle’. M is dangling the moving snake beside TK; he is momentarily very distressed and he appears to be screaming as his mouth is wide open. There is categorically no empathy (pro attuning) between M and TK as she does not recognise his distress, and equally there is no cooperation (positive attuning) as she persists (for a moment) in dangling the snake beside him.

Table 6.5: Anti and negative attuning

Data Point	Code	Description of the extract from the transcription
TK6-52.52-53	<i>Disinterested</i>	M is dancing the toy snake in front of TK. He does not look at it (anti-attuning), but sticks out his tongue and his gaze appears to be at nothing in particular (negative attuning).
TK6-52.18-52.20	<i>Disconnected</i>	TK is looking at the camera, as M stands beside TK gently playing with the tiger.
TK6-52.00	<i>Screaming</i>	M has the toy tiger dancing in front of TK, his hand comes up to ward off the tiger and he is screaming.

6.3.3.1 Note regarding the location and direction of attuning


Attuning as a concept is located in and between the individual partners who comprise the communication dyad. Attuning is a process in which each individual engages, which in its turn has a profound effect on the course of the communication within the dyad. It may not reside in the dyad, but in either, and, more normally, both individuals. Attuning is directional in the sense that one person attunes to the second person who is in a different geographical or psychological place.

6.3.4 Pro and anti attuning

As noted above, pro to anti attuning represent a bipolar continuum.

The following codes name stages on this continuum

Figure 6.2 A typology of attuning

Pro Attuning	<i>Harmony</i>
	<i>Delight</i>
	<i>Pleased</i>
	<i>Trust</i>
	<i>Solidarity</i>
	<i>Assent</i>
	<i>Misunderstood interaction</i>
	<i>Slight irritation</i>
	<i>Hesitation</i>
	<i>Disconnected</i>
	<i>Tension.</i>
	<i>Disinterested</i>
	<i>Withdrawal</i>
	<i>Admonishment</i>
	<i>Upset</i>
<i>Distressed</i>	
Anti Attuning	<i>Screaming</i>

The ranked codes demonstrate a continuum of attuning that runs from *harmony* which is a highly (pro) attuned state to *screaming* at the other end of the spectrum which is an intensely disattuned state.

Harmony, the highest level of pro attuning, is characterised by actions and communications that are demonstrated either verbally or non verbally and that display mutual satisfaction. The observable behaviours show a particularly high level of attuning. Direct eye contact, one partner smiling at the other person, shared actions and physical contact are all manifestations of this code. As the level of attuning decreases the intensity of the attuning diminishes. *Pleased* is a code that demonstrates with smiles, grins and other visual appearances of satisfaction, a quiet contentment with what is going on. This differs from *pleasure*, which is an interim code describing a more intense satisfaction, where smiling veers towards laughter, where the communication is more intense and direct. Illustrations of the codes make the increasing intensity of the attuning experience clear.

Table 6.6: Pleased and pleasure

Data Point	Code	Description of the extract from the transcription
TK7-57.47	<i>Pleased</i>	TK is painting with M, he sees Al coming to join them and he smiles at her
JM4-5.16-5.17	<i>Pleasure</i>	JM's smile indicates this when he has walked across the room from M to KM and is welcomed by her, both smile at each other

Harmony subsumes these indicators but goes further in that the attuning reaches a point where it is palpable, but in ways less obvious. Table 6.7 illustrates this code.

Table 6.7: Harmony

Data Point	Code	Description of the extract from the transcription
TK1-9.33	<i>Harmony</i>	M is feeding TK smoothly, he opens his mouth as the spoon arrives, she inserts the spoon and he takes the food in
JM9.8.36-8.42	<i>Harmony</i>	JM and Al squatting on the mat beside each other for a period of time as she holds his hand.
TK4-22.42	<i>Harmony</i>	M singing to TK, and they both laugh at each other

Trust, *solidarity* and *assent* are three codes that clearly denote pro attuning, however, the degree or level of attuning is not as intense. *Trust* is a code that implies an acceptance of one partner that the other is working for his good; *solidarity* also has connotations of mutuality, but in this case the partners in the dyad are united against the others in the setting.

Table 6.8: Trust

Data Point	Code	Description of the extract from the transcription
TK1-8.12-8.13	<i>Trust</i>	TK is being fed by M. However, unusually, he does not focus on the interaction or indeed the exact whereabouts of the spoon. Instead he opens his mouth, looks at M and licks the food from the spoon.

In this incident TK's innate trust and acceptance of M results from his attuning to her and

concluding in his assessment of M's intentions that she will not do anything to harm him, so he opens his mouth almost automatically as she brings the spoon towards him.

Solidarity is demonstrated where TK is not being allowed his turn at a group game. This is part of a collective joke which forms an aspect of the overall group dynamic for the game that is being played. In this incident he shows his disappointment.

Table 6.9: Solidarity

Data Point	Code	Description of the extract from the transcription
TK4-22.10	<i>Solidarity</i>	TK dips his head and lets his arm fall to his lap, M lifts his arm and shouts "Poor TK". Here there is an intense level of attuning between M and TK.

Assent may be given in verbal or non verbal terms. *Assent* occurs when one partner asks an interrogative question, or puts a demand on the other and the other attunes to this request. Table 6.10 illustrates verbal assent in the first incident.

Table 6.10: Assent

Data Point	Code	Description of the extract from the transcription
TK1-11.13-11.15	<i>Assent</i>	TK says 'Ucch' when he is asked by M 'are you pullin my leg?'
TK7-58.07	<i>Assent</i>	The incident describes a painting session with TK and M, he is reluctant to participate but he assents by finally allowing M to push his hand onto the paper and start painting, he has ceased to not cooperate with previous requests for action.

Hesitation is a code that sits on the fulcrum between pro and anti attuning. In this incident a partner in the dyad is on the brink of action.

Table 6.11: Hesitation

Data Point	Code	Description of the extract from the transcription
JM 4-5.09	<i>Hesitation</i>	JM is about to walk across the room to KM, M has pulled away from him, he is ready to go, but has not moved. He is attuned to M and slightly to KM, but the emphasis of the attuning is shifting in KM's direction.

Disconnected and *disinterested* both imply a lack of connection with the other, the level of attuning is low. They differ in that *disinterested* has a higher level of intentionality about it. *Disconnected* describes a code where there is also a low level of attuning that does not involve an active turning away from the other but which dwindles to nothing. The action is rather aimless.

Table 6.12: Disconnected

Data Point	Code	Description of the extract from the transcription
TK6-52.13	<i>Disconnected</i>	M is moving a toy tiger around in front of TK who is in his wheelchair. TK is moving his hands and eyes somewhat aimlessly, both participants are disconnected from a mutual activity
TK6-51.40-51.44	<i>Disconnected</i>	TK is sitting in his chair. A group game is underway and the song 'Down in the jungle' is being played. M is continually manipulating a large toy bird around TK's face, he is initially distressed, then becomes calmer and looks away.

In the second example TK is aware of the presence of the bird because he has (pro) attuned to M's actions to some extent. However, there is negative attuning present which is demonstrated by his subsequent turning away from her action. At the point where *disconnected* occurs no attuning is evident.

Tension is a code that is just over the cutting point where pro-attuning falls to anti-attuning. The code is named where verbal or physical indicators of tension are seen. Indicators such as neck stiffness, strained eye gaze and verbal injunctions from the other member for the dyad to 'relax' are characteristic for this code.

Table 6.13: Tension

Data Point	Code	Description of the extract from the transcription
TK1-10.33	<i>Tension</i>	TK is tense at being handled by M when she supports his head during a feeding episode, this is shown as his eyes close and tongue protrudes
TK6-51.30	<i>Tension</i>	TK is avoiding looking at the toy bird which he dislikes and which M is bringing near to him; his facial features appear tense.

In the second incident TK is attuned to M in that he is aware of her and what she is doing, but her attuning to him is at a low level, as she does not pick up his dislike of the bird.

Disinterested is a code that describes an active non interest in the action. In the incident illustrated in Table 6.14, the level of attuning of the partners in the dyad is present but low and declining.

Table 6.14: Disinterested

Data Point	Code	Description of the extract from the transcription
TK5-38.20	<i>Disinterested</i>	Al is showing TK a page of a storybook, M points to the picture, and speaks about it, TK turns away (anti-attuning), he is not interested (negative attuning).

Withdrawal and *admonishment* are codes that imply a decreasing level of attuning. These codes indicate that a greater degree of separation is occurring between the partners. Table 6.15 offers an example of withdrawal.

Table 6.15: Withdrawal

Data Point	Code	Description of the extract from the transcription
TK5-39.45-39.46	<i>Withdrawal</i>	M has been sitting beside TK during a group story. In response to TK offering less engaged behaviours to M, her head and whole body pull away from TK. She sits upright in the chair, turns away to look at J.

Increasing anti attuning is demonstrated by an example of *admonishment* where KM is complaining about JM's stereotyped behaviour. (JM 4-5.23). As the continuum running from pro to anti attuning progresses those codes that indicate strong anti attuning demonstrate severe dissonance within the dyad. These codes are: *upset*, *distressed* and *screaming*. These codes are characterised by strong negative attuning as well as strong anti attuning.

Upset continues the concept that *tension* denotes, but in a more extreme form. Rather than *tension* being the manifest behaviour shown by one or other partner, a distinct sense of incipient distress is demonstrated.

Table 6.16: Upset

Data Point	Code	Description of the extract from the transcription
TK7-58.13-58.16	<i>Upset</i>	TK is being prompted to paint on paper, this he is doing in conjunction with two staff. However, he does not like it, his mouth opens wider (a sign for TK that he is upset) until he grimaces, turns away and seems to be crying.

Distressed is a code that explains an interim level of anti attuning that sits between *upset*, where one partner is showing a moderate level of distress and *screaming* where the highest level of distress is seen. These codes are characterised by one member of the dyad being slightly attuned to the other, who is wholly not attuned to her /his partner. Anti-attuning combined with negative attuning is at its highest where one partner ignores the other who is showing extreme distress by screaming at the stimulus that is presented to her/him.

Table 6.17: Distressed

Data Point	Code	Description of the extract from the transcription
TK6-52.32	<i>Distress</i>	M dancing the toy snake in front of TK's face. It is almost kissing him, his mouth opens wide, his eyes close and he turns his head away seeming to be very alarmed

Screaming is the most extreme point of anti attuning. In the incident detailed in Table 6.18, the intense emotion of one partner is not attuned to by the other.

Table 6.18: Screaming

Data Point	Code	Description of the extract from the transcription
TK6-52.00	<i>Screaming</i>	M has the toy tiger dancing in front of TK, his hand comes up to ward off the tiger and he is screaming.

6.3.4.1 The cutting point of attuning

One final point that this continuum illustrates is that even at a point such as screaming, a level of attuning is present. Indeed, most dyadic interactions demonstrate some minimal level of attuning. It is only at the conjunction of anti- and negative attuning that attuning seems to cease completely, the code *disconnected* being the prime example of this.

6.3.5 The cutting point from pro to anti attuning.

This cutting point occurs at the points named by these codes:

Double action, end of harmony and understanding. These three codes imply an intentional turning point in the interaction away from the attuned state. By its nature, attuning is a process. Processes are dynamic and, as such, cutting points mark a tipping point where the nature of the process changes. *Double action* is characteristic of this, as it describes an incident where almost at the same time one partner withdraws attention from the other and attuning ceases, whereas *understanding* marks a point where the attuning process is going in the opposite direction.

Table 6.19: Three cutting point codes

Data Point	Code	Description of the extract from the transcription
TK1-8.10	<i>Double action</i>	TK opens and then closes his mouth, at the same time he turns (r) to look at a clicking noise from behind the camera.
JM 9- 8.45-8.46	<i>End of harmony</i>	A period of peaceful mutual quiet lasting several seconds in which JM and Al were beside each other has come to an end. JM looks at then pulls at Al's gilet.
TK6-52.08	<i>Understanding</i>	TK has been very distressed by the proximity of the tiger dancing close to his face. At this point M attunes to TK and realises this, she pulls the tiger away from him.

6.3.6 Positive and negative attuning

Positive attuning

This aspect of attuning is determined by one partner tending to accede to the wishes of the other. Positive attuning is characterised by one partner being highly attuned to the wishes, the state of mind, or being of the other and willing to carry these out or to go along with them. It is this latter acceptance of the other's wishes that indicates positive attuning. Key codes for this are *attuning dual* and especially *attuning single*. Table 6.20 offers an excellent example of positive attuning.

Table 6.20: Attuning single


Data Point	Code	Description of the extract from the transcription
JM 4. 5.16- 5.21	<i>Attuning single</i>	JM has walked across the room to KM she proceeds to rub JM's head as a reward for walking-because he likes it. KM understands that JM wishes this as part of his reward for doing what she wished.

Negative attuning

The general sense of negative attuning is that it involves a refusal of the wishes of one partner by the other. Key codes for this are *refusal*, *refusal active*, *refusal passive* including *refusal passive-posture* and *happy refusal*.

Positive and negative attuning run on a continuum which is determined by the degree of cooperation between the participants, as detailed below:

Figure 6.3: A typology of positive and negative attuning

	Positive attuning	<i>Attuning dual</i>
		<i>Attuning single</i>
		<i>Disinterested</i>
		<i>Withdrawal</i>
		<i>Admonishment</i>
		<i>Unwilling acquiescence</i>
		<i>Action clash</i>
		<i>Defence</i>
		<i>Happy refusal</i>
		<i>Refusal-passive</i>
	Negative attuning	<i>Refusal-active</i>

A tabulation of the codes that determine differing levels of positive and negative attuning emphasises the role of attuning right across the codes and categories of the theory, but it also demonstrates how the mind states of a partner in the dyad may vary according to whether his or her wishes are perceived to be likely to be agreed to or carried out by the other.

6.3.7 Refusal

Refusal is the main code in the sub category negative attuning. Refusal encompasses the following codes: *refusal/ refusal active/ refusal passive* and *happy refusal*. Closely allied to these codes is *defence*, which is based on incidents that use refusal as a defence by one partner against the other. The borderline of refusal is illustrated by two codes: *hesitation before action* and *misunderstood interaction*. Both refer to uncertainty in the communication process. The former is based on incidents where one member of the dyad is waiting before committing to action; the person is not yet ready to act; refusal is, at it were, present but not absolute. In contrast, *misunderstood interaction* denotes a rare miscommunication where M scrapes food from TK's chin, he opens his mouth as he expects her to feed it to him, but she uses the spoon to scoop food off his chin (TK1-10.41). In this incident the refusal to feed TK is manifest as he has misunderstood M's behaviour in bringing the spoon towards his mouth. The action can be interpreted as indicating that he thinks that she intends to put the full spoon in his mouth. However, her aim is to scrape the food from his chin. He has misunderstood her intent largely because her behaviour was identical to what it would be were she to feed him. In this case a manifestation of refusal is due to a misunderstanding, rather than a clash of wills.

6.3.7.1 The structure of refusal

There are two elements to *refusal*. The first is a passive element that is often displayed by the person's posture or by the person doing nothing. The second is an active element that is linked to doing something positive to display the refusal (such as a verbal behaviour or movement of body or body part).

6.3.7.2 The process of refusal

Refusal is a process. It appears to involve anticipation of an event, which then develops into actual behaviour that responds to the event. The code *refusal of anticipated prompt* involves the communication partner's refusing the prompt which he sees to be on the way, and in this instance the refusal process develops into *refusal passive* which describes the partner's use of body position to indicate and vindicate his refusal to comply. The implication of these codes indicates that refusal occurs when the partners in the dyad understand the process involved. In part, this understanding appears to be based on a memory of such an event happening in the past. Tables 6.21 and 6.22 illustrate these points.

Table 6.21: Refusal of anticipated prompt

Data Point	Code	Description of the extract from the transcription
JM8-7.23-7.27	<i>Refusal of anticipated prompt</i>	JM is on the mat and Al is trying to induce him to crawl through a large plastic triangle that is in front of him. He is having none of it. He sees Al approach, hears her talk to him, she says ‘move that bum’ he is sitting cross legged on the mat, his reaction is to drop his head and put his hands in his lap and look blank. It is evident he has done this routine before and knows what Al wishes to happen.

Table 6.22: Refusal passive

Data Point	Code	Description of the extract from the transcription
JM 10-10.40-46	<i>Refusal passive</i>	Al is trying to get JM to move from his position on the mat where he is crouching. His posture is a passive defence against being moved and Al decides not to proceed
TK8-1.00.44	<i>Refusal passive</i>	M is trying to dislodge TK’s hand. He is holding a tube of paint, he just holds on and then rather mischievously seems to celebrate his victory by saying ‘Heh’.


6.3.7.3 *Refusal, negative attuning and power*

Refusal is multifaceted. It has different degrees that range from *mild refusal*, which is the least strong manifestation of the code, to *refusal to cooperate* and *refusal active*, both of which are sub codes of refusal. These are located at the other end of the continuum and are characterised by an implacable element to the behaviours.

Methodological note: Degrees is a theoretical code. Theoretical codes identify and conceptualise the patterns and hypotheses that form the framework for a theory (Glaser 1978). Glaser emphasises the centrality of the degree code in theory formulation. He notes that “since variables vary, everything we say implies a matter of degree” (1978:75). Glaser also makes the point that when discussing a range of degrees (such as positive to negative attuning) it is important to understand the location of the one point on the spectrum that is being examined (ibid). Refusal is such a point at the negative end of the positive / negative attuning range.

6.3.7.4 Refusal: A deepening continuum of negative attuning

Figure 6.4 Refusal calibrated by increasing negative attuning

Positive attuning	<i>Unwilling acquiescence</i>
	<i>Refusal of invitation</i>
	<i>Mild refusal</i>
	<i>Verbal refusal</i>
	<i>Refusal of action prompt</i>
Negative attuning	<i>Refusal to cooperate</i>

This continuum represents increasing negative attuning that manifests in its most mild form as a type of non-acquiescence and deepens to a formidable refusal to cooperate under any circumstances. *Refusal* can be calibrated by the strength of the effort that is put into it. Such a phenomenon often manifests as resistance to pressure to engage in a certain course of action. There can be a corollary between the degree of pressure exerted by one partner and the degree of refusal exerted by the other. Thus as pressure from one partner increases with an increased strength of stimulus, pressure from the other to not comply also increases. Whereas *mild refusal* simply consists of KM depositing a teddy in front of JM and he looks the other way (JM13-13.40) *refusal to cooperate* is a much stronger refusal. This code describes incidents where a physical prompt is applied by one partner to achieve compliance and this prompt is then refused.

Table 6.23: Refusal to cooperate

Data Point	Code	Description of the extract from the transcription
JM2-4.02	<i>Refusal to cooperate</i>	JM is being prompted to walk away by KM and he then bends over in order to make it very difficult for her to induce him to move.
TK2-14.14-16	<i>Refusal to cooperate</i>	M is trying to feed TK, however, he pushes his tongue out and pushes the spoon away from his mouth.

6.3.7.5 Manifestations of refusal

Refusal may appear in different ways. *Unwilling acquiescence* implies that the person refuses initially but eventually acquiesces with the wishes of the other. The refusal is simply a stalling tactic or not sufficiently strong to present serious resistance. However, a stronger refusal is where a person may refuse an invitation to action. In JM3-4.53 a physical and verbal prompt is given by KM to induce JM to walk across the room but

the other partner in the dyad (JM) makes it clear that he will not accede to the request (*refusal of action prompt*). These codes denote the key concept that underpins negative refusal: that is, that one partner in the dyad very clearly understands what the other wishes him (or her) to do, but does not wish to do it. There is a high level of pro attuning which leads to good comprehension of the other and a strong refusal (negative attuning) to do it. The attuning process has led to the stimulus being understood, however, the resulting action is passive or runs counter to the stimulus. The codes imply that **refusal to acquiesce to a request does not necessarily mean that the request has not been understood.**

Strong refusal

A strong refusal implies a refusal of a strong demand. This can be put another way: physical refusal implies refusing a physical demand. Power appears to be a key aspect of how *refusal* operates and what outcome emerges. Grounded theory's theoretical code 'symmetry-asymmetry' appears to explain this situation. Power is applied and achieves its goal if the balance between the applied power and the resistance power is asymmetrical. So *unwilling acquiescence* may occur and the other partner eventually carries out the desired action. However, if the power is insufficient, then the other refuses to cooperate and non action occurs. This is quite compatible with a high degree of (pro) attuning, as it is necessary for the refuser to understand the action being required of him or her. Equally, it does not necessarily mean that a state of anger or irritation occurs. *Refusal* does not need to be a cause of interpersonal aggravation as evidenced in Table 6.24.

Table 6.24: Happy refusal

Data Point	Code	Description of the extract from the transcription
JM1-3.21	<i>Happy refusal</i>	M is holding JM and he is wriggling in her grip, he makes an utterance and grins, he remains quite happy.
TK7-57.57	<i>Happy refusal</i>	TK is smiling as M tries to get him to paint with his hand, he smiles, pushes out his tongue playfully and his hand simply wobbles above the paper as he does not wish to comply.

6.3.8 The power and attuning relationship

The question of how power and attuning interrelate is of importance. It is not clear if, as the level of attuning increases, attuning attenuates the use of power or whether power may be applied by one partner to the interaction irrespective of the level of attuning. The code *unwilling acquiescence* demonstrates this point.

Table 6.25: Power and attuning

Data Point	Code	Description of the extract from the transcription
JM2-4.18	<i>Unwilling acquiescence</i>	JM does not wish to walk across the room to M. KM, however, is prompting him to do so. She puts her arm around JM, who previously has not been keen to move. He then rotates towards the position that KM wishes him to be in before he starts to walk. JM attunes to KM and knows what she wants him to do. He does not want to move from KM but his resistance to the stimulus is insufficient and as a result action occurs

Again pro attuning is allied with negative attuning in a rather complex balance. There is an interplay of two driving forces at work. Other examples of how this interplay of power, resistance and compliance play out are the codes that name different types of refusal: *verbal refusal*, *refusal of action prompt* and *refusal to cooperate* In these codes the incidents refer to insufficient power being applied to overcome the resistance of the partner in the dyad. In contrast *acceptance of stimulus* (a code that comes under the stimulus category) demonstrates a power relationship that is quite different.

Table 6.26: Acceptance of stimulus

Data Point	Code	Description of the extract from the transcription
JM1-3.24-3.25.	<i>Acceptance of stimulus.</i>	JM is prompted by both KM and M to walk across the room to KM and he acquiesces. The small amount of power applied in the stimulus is sufficient to overcome any resistance and the action is complied with

Attuning operates to regulate the interaction, as JM is highly attuned to KM on this occasion. The code *invitation responded to* refers to TK looking over at AI who comes to him to inspect his image in the mirror with him (TK4-22.18). A minimal amount of power is required to act as a stimulus to induce AI to take the action of moving over to TK. As one would expect, this is an example of attuning (pro and positive), but it serves to illustrate the other end of the continuum.

6.3.9 The process of attuning

The process of attuning is one that is characterised by fluctuating levels of direct mental, emotional and physical closeness between partners in the communication dyad. The levels of attuning are based on three different foundations. The first is previous knowledge of patterns of behaviour within the dyad that appear to be likely to be repeated in the future. The second is an awareness of what is happening in the present interaction and the third is a knowledge of anticipated behaviours that are based on current observations.

Anticipation is the key element to understanding how attuning operates as a process. This code implies that one participant displays indicators that suggest readiness for the next action. These indicators are evident to and are directed at the other partner. This code indicates that there is an individual understanding of what is happening by both participants, such that the next action is comprehended by them and that understanding is mutual. This understanding is based on the fact that the actions have been done before and therefore there is a predictable process that one or both anticipate. What is happening here is anticipation of a familiar routine. One might say that anticipation based on the past implies that attuning is evident in the present and is likely to occur in the future. In fact, a present experience is recognised and anticipation occurs where it is based on the expected repetition of a sequence of events which are remembered as having previously followed the present experience. Examples of *anticipation (past)* derive from the code *anticipation* (of a familiar routine).

Table 6.27: Anticipation

Data Point	Code	Description of the extract from the transcription
TK5-38.53	<i>Anticipation</i>	Al is reading the Bertie story which is reaching its climax, TK displays gestural indicators (a smile and a slight closing and opening of his lips and mouth) that he understands the point at which the story has arrived and he is ready for the next action which is the climax of the story, where Bertie puts his finger up his nose, picks it and sometimes eats the pickings.
TK7 57.30-40	<i>Anticipation</i>	Al, M and TK are going to make a painting, TK is sitting in his wheelchair in the art room. He is covered in a protective cloth and looking at Al who is off screen. M is squirting paint onto paper. TK is smiling and his eyes turn as does his arm. He then looks at M. At 57.39 he knows that they are to paint and at 57.40 M picks up his hand to physically prompt him to paint.

Be there soon is a code, that describes the anticipation of one partner that he will be with the other partner soon. The code derives from JM1-3.23, where JM is being oriented by M to walk towards KM. She calls him at 3.23 and at 3.24 he sets off. The code implies that attuning is present between JM and M and to a slight extent KM, towards whom he will walk at 3.24. As the communication is taking place at 3.23, JM's level of attuning to M declines and it increases towards KM. JM anticipates a higher level of future attuning from KM as he heads off in her direction at 3.24.

Related to this code is *anticipation of a friend*, which describes a level of attuning in the present and a further anticipated higher level of attuning. JM 4- 5.14. is an example of this, where KM awaits the oncoming JM. Indeed both these codes imply increased future attuning that is less based on past experience but is mostly based on current observational information. This is *anticipation (present)*.

Illustrative episode 1

The code Be there soon which is based on JM 1-3,23-4 can be analysed in terms of the categories of the theory. Thus two communication partners offer stimuli to a third (M to JM and from KM to M). They are variably attuned to by JM. He then raises his level of attuning to KM and lowers it to M and displays an action as he sets off towards KM, where his level of attuning rises still higher when he catches her hand at 3.27.

6.3.9.1 Anticipation: Two types

Therefore there are two types of anticipation. One type is based on anticipation of what is to happen as it will replicate a familiar routine. This is anticipation based on the past. The second type is based on visual evidence of the present that informs what will happen in the future (anticipation based on the present). The difference between the two is composed of memory of a past event, which is necessary for the first but not necessary for the second type of anticipation.

6.3.9.2 The Process of attuning: conclusion

The implication of the code *anticipation* is that attuning is a concept that may alter over time. As an interaction develops the attuning level may rise and fall and vary from one partner in the dyad to the other at any one time. Indeed attuning levels are highly likely to be asymmetrical at many different points although the overall process tends to demonstrate a symmetry. The processual aspect to attuning is noted in the definition in Section 6.3.2 and is a fundamental indicator that attuning is a dynamic concept that changes as it impacts on the other categories of the theory and they impact on it. Attuning cannot remain static. As a person attunes to another, each stimulus that the person notices or attends to, each action or engagement that the person does, along with the setting in which the person is located and state of being of the person, all combine to bring variable influences on the attuning process and ensure its constant dynamic state.

6.3.10 The nature of attuning

6.3.10.1 The position of attuning within the categories

Attuning is central to the process of communication within the dyad and as such it interfaces with all other categories.

Inputs

The categories that are influences for attuning to occur are:

- Setting
- Being
- Stimulus
- Attention
- Action including maneuvering
- Engagement.

Not all categories are required to be operative at any one time for attuning to occur.

Outputs

Those categories that attuning influences in the communication process are

- Engagement
- Stimulus
- Being
- Action including maneuvering
- Attention.

6.3.10.2 Indicators of attuning

The following are all observable behavioural indicators that attuning is taking place.

- Two partners looking at each other.
- Movement towards the person /object to whom the partner is attuned.
- Eye contact
- Physical manifestation of assent such as a smile given in reaction to a stimulus that has been offered by another partner.
- Close physical contact.
- Close psychological contact manifested by physical indicators such as smile, posture, gaze and expression.
- Smile or laughter indicating amusement (mutual) at third person or object.
- Joint action.
- Mutual attention.
- An action or stimulus has been offered by one partner to which there is evidence of a changed and more attuned state of being in the other partner illustrating mutual *rapport*.

6.3.10.3 The development of attuning

Attuning has been noted to be a dynamic process. However, attuning may also be conceptualised as having typical stages through which the partners in the dyad may proceed as attuning deepens. The following codes outline an example of how this process of intensifying attuning may occur:

Welcome

- which involves one partner making a gesture of welcome towards the other as s/he approaches (JM 3-4.46).

Getting close and getting closer

- These codes detail a desire for closeness from at least one partner in the dyad. An exemplar is JM gripping KM, moving close to her and touching his head off her chest (getting close) and KM responding by stroking his head (getting closer) (JM 4-5.25+ 5.30 + 5.34).

Social behaviour

- This code details one partner in the dyad attuning to the other, to the point where he is closely linked to the other partner. The exemplar is TK smiling at M and following her with his eyes (TK 1- 7.28).

Assent

- This code demonstrates attuned agreement between the dyad. One partner carries out an action or asks a question and the other responds in a clear affirmative manner. Thus TK and M are already clearly attuned when she asks him while looking at him 'Are ye pulling my leg?' to which he replies 'Ucch' (Yes) (TK1-11.13-11.15). TK7-58.07 shows a non verbal example of attuned assent. In the middle of a painting session, TK finally allows M to push his hand on to the paper and start painting, he then smiles.

Shared harmony

- This code indicates attuning at a point where a harmony between the dyad is evident. *Harmony* is the highest level of attuning within the dyad and is characterised by behavioural evidence such as quiet peace (JM and AI beside each other on the mat holding hands- JM -9-8.36-8.42), or action that is smooth, coordinated and harmonious (M feeding TK- TK1-9.33).

6.3.11 The conditions for attuning

Attention accompanies attuning. In general, an additional category is required for attuning to take place, as the attuning normally focuses on an individual who most often is engaged with the other person or is carrying out an action, or a delivering a stimulus. A

rare exception to this is to be found in TK6-52.55-53.00 where TK is *disinterested*. He is looking away from M, who has a toy snake dancing near him. He smiles (for no apparent reason) then turns to the camera but appears to be attending to something further away. TK is showing a low or absent level of attuning to M and is not giving her any attention.

Attuning is an integral part of the process of developing attention and they frequently co-vary. Attention may be to a stimulus, to an action, or to an object, where that object is effectively a vector that is an integral part of the dyadic interaction. This is illustrated in Table 6.28.

Table 6.28: Attention, stimulus and attuning

Data Point	Code	Description of the extract from the transcription
TK2-14.54	<i>Concentration on action</i>	TK is concentrating on M who is beside him and is adjusting the sock on his left hand. That action works to induce TK to attune to the stimulus and focus TK's attention which in turn increases his attuning level to M.

By contrast, in some incidents a vector (object) acts as the medium through which attuning increases.

Table 6.29: Objects as vectors for attuning

Data Point	Code	Description of the extract from the transcription
TK8-1.00.03-04	<i>Assent</i>	M and TK have been painting, she shows TK his painting and he acknowledges it by looking at it and then he looks at her and smiles. TK attunes to the painting, his attention is focused on it and from that to the partner (M) in the dyad, his attuning to M is directly increased as his attention moves to her.
TK1-8.38	<i>Engagement verbal</i>	Here TK turns to make eye contact with M, as she is trying to interest him in a cup of tea.

The following are codes that may be causes, but not requirements, for attuning:

Concentration on action

Concentration on object

Interest

Support nearby

1. *Concentration on action*

This code involves intense concentration on what the other person is doing. Thus TK is watching M adjust the sock that he has on his hand which has become loose (TK2-14.54). He is highly attuned to what she is doing.

2. *Concentration on object*

This is only a feature of attuning when the object is a vector for communication, because attuning by definition applies to another person, or to an object where it (the object) is an extension of the person in the interaction process.

Table 6.30: Concentration on object

Data Point	Code	Description of the extract from the transcription
TK5-37.55-37.57	<i>Concentration on object</i>	TK is watching Al reading the Bertie story from the book, TK is watching the book. However, the book is the focal point for the communication. This involves the observer's head being angled so that it is clear he is watching the book closely and also his gaze is clearly evident.

3. *Interest*

In this code, the communication partner demonstrates an obvious attention and interest in (attuning to) the action that is going on. The attention is focused through the action. The result of the interplay of attention and action is that the attuning level of the partners rises and falls in tandem with the attention displayed to the action.

Table 6.31: Interest

Data Point	Code	Description of the extract from the transcription
TK7-57.58	<i>Interest</i>	M and TK are in a tussle over whether she can get his hand to paint on paper, TK is interested in how she is achieving this (pro attuning to her) and paying it his full attention
TK5-37.55-37.57	<i>Interest</i>	Al is reading the Bertie story, TK is looking from M to the book. He is attuned to the story (the event that is occurring) and through this to M. This incident occurs in the setting of the classroom where TK had apparently been overlooked for being the focus of the storytelling. M has defended his right to be included in the story telling and he now attunes to her as the story progresses.

4. Support Nearby

This is a code that suggests that attuning may occur where one person is highly motivated for the other to achieve some task.

Table 6.32: Support nearby

Data Point	Code	Description of the extract from the transcription
JM 1-3.25	<i>Support nearby</i>	JM and M are motivated for JM to walk across the room, he because he is walking towards KM whom he likes a lot and M because he is carrying out the task she asked of him. Attuning on his part is manifest by his intense attention to KM. His arms are open, he is looking at her and he is rushing towards her, however, the actual code is based on the actions of M, who has just let him go, being near JM to catch him if he falls.

The provision of support in this incident is a manifestation of attuning and also the reason for it. This support is a behavioural scaffolding to ensure that the action is a success.

6.3.12 Summary of conditions for attuning

The difference between the *concentration* codes, the *support* code and the *interest* code is one of degree. The attention focus is stronger and more intense in the *concentration* codes as in the *support* code, where M is paying close attention to JM. M is there to catch him should he stumble. Behavioural indicators for *intense concentration* are the strength, duration and fixation of the eye gaze as well as the physical stance of the partner involved. This intensity of attention facilitates the strong level of pro and positive attuning that is present. If the codes are to be ranked in terms of increasing intensity of attuning then the order is *interest*, *support* and *concentration*. All the vignettes that underpin these four codes indicate that **attention is a major cause for and feature of attuning**. These concepts are quite different, yet are closely allied in how they determine the way in which the communication process works. Further data is presented in Section 6.4.8 on this matter. The conclusion of this section is that **attention and attuning covary**. In general it would appear that the greater the level of attention, the greater the level of attuning; however, this relationship does not hold in all circumstances.

6.3.13 Attuning in proximity and at a distance

Attuning typically occurs in close proximity. Indeed, nearly all the incidents that were observed occurred with the members of the dyad beside each other, or at most one metre distant.

Table 6.33: Attuning and proximity

Data Point	Code	Description of the extract from the transcription
JM1-3.28	<i>Attuning-dual</i>	JM is passing me, he slows down and grins at me as I look at him
JM1-3.27	<i>Attuning single</i>	JM is rushing across the room to meet with KM who moves backwards in step with JM thus attuning her movement to his, the attuning seeming to increase with increasing proximity.

However, attuning may also occur at a distance as the following example from Jane's interview shows. Jane is watching her interactions with SW on the video tape, she comments about SW 'there's somebody there that she's focusing on trying to get her attention' (20). My field notes reveal that Maurice was observed making eye contact at 3 metres and SW responded to being spoken to at 3 metres also (Memo of 23/5/08).

6.3.14 Attuning: A multi-dimensional concept

Attuning can be multi dimensional; that is it can be two way, three way or just one way. It can also be imbalanced, in that the level of attuning may not always be equal between the two participants in the dyad as noted in Section 6.3.9.2.

6.3.14.1 One way attuning

One way attuning implies that only one of the partners in the dyad is attuned to the other during the interaction. The data in the study provide some evidence to support the concept that attuning can be predominantly one way. However, there is no defining evidence that this is so. In the absence of such defining evidence a conclusion is drawn that attuning generally requires a minimal amount of reciprocity. These codes bear upon this matter. The code *the crush* suggests a predominantly, but not exclusively, one- way attuning. This code describes the physical expression of an intense liking for one member of the dyad by the other. This code demonstrates a large imbalance in the two way process of attuning. It is not one way attuning, but it is approaching that state.

Table 6.34: The crush

Data Point	Code	Description of the extract from the transcription
JM 2-4.05	<i>The crush</i>	JM is running across the room to the arms of the other (KM). Implicitly KM is also attuned to JM, as she is waiting for him to arrive, but he has his arms open, is looking at her and is making all the running as he nears her

A consideration of attuning negative, suggests that a code such as *refusal of invitation* has strong one way attuning.

Table 6.35: Refusal of invitation

Data Point	Code	Description of the extract from the transcription
TK1- 11.17	<i>Refusal of invitation</i>	M is bringing a spoon of food towards TK. He sees the spoon of food, opens his mouth, but M does not put in the spoon. TK demonstrates high pro attuning and positive attuning to M's stimulus, but M's level of pro attuning is of a low order and her negative attuning is moderate to high as she fails to do what he thinks she intends.

Other examples of incidents that approach one way attuning came from field observations

that were not videotaped. There were two examples: JM holding Joan's hand and rubbing his head with it (JM 3.28-3.29) while Joan is uninvolved and Andrew looking at a staff member who does not look back. There were also several non-specific incidents where the staff member was attuned to Sarah, but this behaviour was not reciprocated.

By contrast, *upset* is a code that has several incidents where M is bringing a large bird around TK as part of a communal group song. TK has a pained expression on his face indicating considerable upset. M is oblivious to this. The code implies a fairly strong level of attuning by the service user to the and a low or absent level of pro attuning by the staff member to the service user (TK6. 51.39 and 51.36). Positive attuning does not appear to feature in this code as M appears to be oblivious to TK's wishes.

Screaming is the one code that most nearly attains an absolute zero level of attuning by one partner and a high level of attuning by the other. These incidents take place again in the context of a singing game that involves all 5 participants in the group. TK is watching M dancing near him with a toy snake (TK6-53.25) and a toy tiger (TK6-52.00) but he very much dislikes the stimuli and, although clearly attuned to M, TK reacts strongly in a negative manner. M appears not to attune at all to TK's frame of mind and carries on the dance.

6.3.14.2 Two way attuning

Two way attuning implies that both partners are attuned to each other and that a reasonable symmetry exists regarding the level of attuning between the communication partners. This is the typical mode in which engagement and communication take place. Two way attuning is implied primarily by non verbal indicators such as both partners looking at each other and other indicators of mutual attention. Codes such as *amused collusion*, *verbal utterance to promote empathy*, *contact*, *assent verbal / non verbal* and *close physical contact* are typical examples of the many codes that indicate a two way attuning process. Two way attuning implies that the partners value contact with each other and place trust in the other. There is an unspoken element of mutuality present. *Harmony* is that property of attuning that indicates a high level of pro and of positive attuning. It is in effect the highest level of attuning. It is characterised by mutual satisfaction in the interaction, trust and an element of one partner obliging the other. There is a sharing of pleasure in the incidents that are classified for this code. *Harmony* has two elements: a behavioural element when clear behavioural indicators are evident that two or more partners in the communication process are carrying out the same action together and an apparent coordination of action that is evident. Secondly there is a more ineffable element which indicates a strong communication link.

A typical code for harmony is *mutual satisfaction*.

Table 6.36: Harmony

Data Point	Code	Description of the extract from the transcription
TK1- 11.18- 11.19	<i>Mutual satisfaction</i>	M is feeding TK. After some vacillation, TK's mouth opens , he says 'hmmn' and M inserts the spoon. She says 'Neeow'. The action in this incident is seamless, coordinated and both participants work together as one. A clear sense of togetherness is evident.

6.3.14.3 Three way attuning

Three way attuning implies that attuning is potentially a multi dimensional concept which is manifested as either of two states: sequence or simultaneity. The codes described are categorised under the topography of engagement, however, they demonstrate important aspects of how the attuning process serves to regulate engagement.

Sequential attuning

In sequential three way attuning there is a very rapid switch of attention focus (focus transfer) that is driven by the change in attuning. Two basic examples illustrate this code. The first is an observed incident where M speaks to TK (first dyadic interaction) but he turns away slightly to look at me, I am behind the camera (second dyadic interaction), this action occurring within the space of one second. A second example of this is the code *third person reference point mono* where one partner in the interaction tunes out from the interaction to proceed to interact with another.

Attuning is a process that impacts on all other categories, it is pivotal in the establishing of engagement. In the code *three way interaction* (TK4-22.13-14) M withdraws from contact with TK (first dyadic interaction), S turns to him (second dyadic interaction), his hands move and he turns towards M (third dyadic interaction). This attention shift is closely linked with the rise and fall of the levels of attuning that are directed at the different individuals. What appears to happen in this third example is that a stimulus from M causes a change of attuning in TK and his attention shifts to S in response to a stimulus from her. He then attunes briefly to S then attunes to M again. This is the process of focus transfer that occurs where the attuning to one falls and to another increases, as the focus of the engagement shifts. Sequential three way attuning is characterised by focus transfer.

Simultaneity

Attuning can operate at two levels simultaneously. This implies that one individual attunes at the one time to two sources.

Table 6.37: Third person reference point

Data Point	Code	Description of the extract from the transcription
TK3-15.32	<i>Third person reference point</i>	TK is looking at the camera and his mouth is open, waiting for M to feed him with the spoon. He is attuned to both but at differing levels (the camera more than the spoon).
TK4-22.11	<i>Third person reference point</i>	M rubs TK's shoulder but he is grinning at Al

The incident detailed in Table 6.38 offers an example of multiple attuning where the attention and consequently the attuning is diffused.

Table 6.38: Three way interaction

Data Point	Code	Description of the extract from the transcription
TK4-22.01	<i>Three way interaction.</i>	TK is in his wheelchair, M is sat beside him talking to S and Al who are nearby. TK is smiling at the total interaction. TK is the pivot of the interaction which is directed from him to both S and Al who are also interacting primarily between themselves.

6.3.14.4 Conclusion

Attuning is in general, a two-way symmetrical process. However, there are certain events where it is asymmetrical. This state is characterised by the level of attuning being high from one partner and low from the other. Attuning may also be primarily one way and in certain instances it is three way, that is, it takes place between three partners simultaneously or nearly simultaneously. Conceivably attuning could occur in multiple relationships. However, no evidence of this was demonstrated in this study.

6.3.15 The nature of an attuned relationship

A dyadic relationship in which attuning as a process is firmly established is characterised in the first instance by a two way contact then by a mutual valuing, which manifests as solidarity between the partners, where reassurance and trust are demonstrated. In general behavioural indicators of the features of attuning will be present although it is possible that these may be subtle and easily overlooked. The following codes exemplify the nature of an attuned relationship.

1. Shared harmony

An example of this is where attuning is indicated by a silent presence between the partners as in JM –9-8.36-8.42.

2. Contact

Contact is generally expressed by a relative proximity of the dyad members. However, as noted in Section 6.3.13, attuning may occur in certain instances at a distance of up to 3 metres or even further. *Contact* may occur as the partners approach each other (JM1-3.24), or as joint action between the dyad (TK1.8.13), or as eye contact which is a feature of the particular actions that they are engaged in (TK 1-8.38-8.45 and others). Eye contact is an extremely common feature of this code and is noted as a main indicator of attuned partners in the dyad. It is also an indicator of mutual attention and as such demonstrates the close relationship that exists between the two categories.

3. Valued person contact

Another element of an attuned relationship is that one person or often both value it. An example is featured in Table 6.39.

Table 6.39: Valued person contact

Data Point	Code	Description of the extract from the transcription
JM 14-16.39	<i>Valued person contact</i>	JM is being prompted by KM to press a switch, he looks at KM and then touches her hand. The nature of the physical contact is indicative of a high value that JM places on his relationship with KM.
TK1-9.10		M is stroking TK's ear while looking at him directly. He looks directly at her.
JM 4.5.16-5.20		KM bends down to JM and rubs the side of his head. He proceeds to smile as she (KM) laughs.

The latter two incidents of the code suggest that compliance by one to the wishes of the other is also highly valued. Physical indicators of this are one person touching or stroking a part of the other's body where the other really likes this.

4. Solidarity is an aspect of attuning where the dyad is against the world around it.

Table 6.40: Solidarity

Data Point	Code	Description of the extract from the transcription
TK4-22.10	<i>Solidarity</i>	During a group game in which there is a collective joke over whether TK's turn to participate should be ignored. TK's head dips and his arm falls to his lap. He looks dejected. At this, his partner M lifts his arm and shouts 'Poor TK' Subsequently his head comes up and he smiles at another staff (Al). He knows his turn will come thanks to the solidarity of M's verbal intervention.

5. *Reassurance* is an aspect of attuning that is demonstrated in Table 6.41.

Table 6.41: Reassurance

Data Point	Code	Description of the extract from the transcription
TK6-52.39-40	<i>Reassurance</i>	M has the toy snake dancing near to TK, his mouth opens and he becomes distressed. This is observed by J who is in another part of the room. She says 'TK', he calms and then starts to grin and then laugh. The demonstration of a strong one way attuning (by J) that then led to relief for TK as he attunes to J, suggests that reassurance is an important aspect of the process and indeed an output of attuning.

6. *Trust* is the last element of an attuned relationship this is inherent but not named in many codes for attuning, such as *contact*, *assent* and *rapt*. It is named in one code *trust in action*.

Table 6.42: Trust

Data Point	Code	Description of the extract from the transcription
TK 1-8.12- 8.13.	<i>Trust in action</i>	TK is being fed. He looks forward does not focus. His mouth is open, he turns to look at M, he accepts the food and licks it off the spoon without seeing it. This code suggests that such a high level of attuning has occurred between TK and M that he is willing to take food off a spoon that she offers him unconditionally.

6.3.16 Attuning: A rapid shift phenomenon

The process of attuning is marked by rapid shifts of the focus of the person who is being attuned to, as noted above in 6.3.14.3 (the sequence section). The code *three way interaction* which is cited in the sequence example, involves three shifts of attention and attuning in the space of two seconds. Other examples of rapid attention and attuning shifts are to be found in the data. *Invitation responded to* details TK looking at himself in the mirror and his gaze then shifts to AI who is approaching him (TK4-22.18). This occurs in the space of one second. *Double action* describes TK being fed by M then closing his mouth after the spoon is withdrawn from it by M. At same time he turns (r) to look at the clicking noise behind the camera (TK1 -8.10) all this also is occurring in the space of one second.

6.3.17 The relationship between attuning and key categories

6.3.17.1 Attuning and attention

There is a close relationship between attuning and attention. A key question that the data in this study poses is, which comes first in the communication process? When a stimulus is presented to a partner in the dyad, there is a period during which the attention of the person is brought to bear on the stimulus. This period is short but the actual process of bringing attention to bear on the stimulus appears to occur after the process of attuning to the stimulus. Thus the processes of attention and attuning seem to overlap. However, in sequential terms the person would appear to attune to the stimulus first and that is then followed by the person bringing attention to bear on the stimulus.

6.3.17.2 Attuning and maneuvering

Maneuvering can involve intense concentration by one partner on the other, which implies a high level of attuning. Maneuvering involves a high level of pro attuning and in many instances a high level of negative attuning.

6.3.17.3 Attuning and stimulus

Attuning influences stimulus and is influenced by it. The presentation of stimuli can be influenced by the process of attuning, in that an awareness by one partner of the other's state of mind (being) is an influence on how and what stimuli are presented. In certain incidents, it is possible to observe stimuli that demonstrate a low level of pro attuning being presented by one partner to another.

Illustrative episode 2

An example of this is TK11-12.09 where KM is pulling shapes that she wants JM to play with further away from him. She is doing this in order to stimulate him to engage with them. He does not respond as she wishes. KM's low level of pro attuning is the main factor in the lack of success of her strategy. The opposite effect where high pro attuning results in the partner in the dyad acting on the stimulus is evident in JM 14-16.53-4, where KM deposits a switch in front of JM. His (l) hand comes out and he touches the switch. In this instance KM appears to be very closely in touch (high pro attuning) to JM whereas in the first instance she was not.

Attuning levels can also change in response to the provision of a stimulus. The incident outlined above in JM14-16.53 also illustrates this point, as JM's pro attuning level is high as he responds to the stimulus offered by KM at 16.52. He follows her as she moves the switch and then looks at it intently at 16.53 and then presses it at 16.54. Table 6.43 offers an example of how high pro attuning can result from a stimulus.

Table 6.43: Attuning and stimulus

Data Point	Code	Description of the extract from the transcription
TK1-9.47-9.52		M brings a spoonful of food (stimulus) to TK's mouth as it approaches he opens his mouth. TK looks up to M (9.47) (attuning to M and then attention to M), opens his mouth wide (9.49), takes in some food (action) as the spoon enters his mouth (stimulus) (9.50), sucks more food off the spoon (9.51) and then licks his lips and looks directly at M (attuning and then attention) as she withdraws the spoon (stimulus at 9.52).

The examples suggest that **a stimulus is more likely to elicit an action when both partners demonstrate high pro attuning.**

6.3.17.4 Other relationships

The relationships between attuning and engagement, action, being and setting are considered under the relevant sections in this chapter.

6.3.18 Attuning: Key points

- **Attuning may be defined as a process (that can be bilateral or multi-dimensional) whereby communication partners move symmetrically or asymmetrically towards or away from each other mentally and emotionally.**
- **In behavioural terms attuning can further be identified as a process that describes how different participants display understanding of each other, through their observable behaviours.**
- **Refusal to acquiesce to a request does not necessarily mean that the request has not been understood.**
- **A stimulus is more likely to elicit an action when both partners demonstrate high pro attuning.**

6.3.19 Conclusion

Attuning may be summed up as the core category of the theory of interaction of people with profound intellectual and multiple disability and their carers. Attuning addresses the main concern of the partners in the dyad; to wit: how do we communicate? The next sections of the chapter examine the subcore categories of the theory. These are not presented in any particular sequence. However, attention is considered next, as it is closely associated with the core category.

6.4. Attention

6.4.1 Definition of attention

Attention manifests in this study as an observable behaviour that indicates the consciousness of a partner is directed at the other partner in the dyad, the actions of another, a shared point of reference, or an object.

6.4.2 Dimensions of attention

There are three dimensions to attention: positive, neutral and negative. These three elements present a continuum from positive attention (devoted to a stimulus or person) to attention neutral (person is in neutral non attending mode, which includes an element of unintentional non attending) to attention negative, where the partner in the dyad is stopping attention or actively and intentionally not giving attention.

6.4.3 A taxonomy of attention

Attention can be given (positive), taken away (negative) or be absent (neutral).

This scale indicates codes that denote an increasing scale of attentiveness:

Table 6.44: A taxonomy of attention

<u>Attention negative</u>	<i>Ignoring- Active.</i> <i>Ignoring-Passive.</i> <i>Lost interest.</i> <i>Attention ceases.</i>
<u>Neutral attention</u>	<i>Bored.</i> <i>Marking time.</i> <i>Still.</i>
<u>Attention-positive</u>	<i>Watching and passive waiting.</i> <i>Watching and active waiting.</i> <i>Still attention.</i> <i>Hidden attention (pretend inattention).</i> <i>Gaze.</i> <i>Observing the action.</i> <i>Curious.</i> <i>Close observation.</i> <i>Rapt.</i>

6.4.3.1 Attention negative

The four codes in this frame delineate a decreasing level of negative attention. *Ignoring active* is illustrated in incidents where a stimulus is offered by one partner to another and the other turns away from it. Thus in TK8-1.00.08 M shows TK the painting that he has just completed. However, he turns away to look at A1. This code is related to *attention ceases*, which is illustrated by TK4-22.49 where the group is singing the ‘hello’ song to TK. It has ended, M turns her head away from TK and starts talking to fellow staff member A1. M’s attention to TK has ceased. The difference between the codes is that the latter illustrates a natural break in the communication process whereas the former illustrates a decision by one partner of the dyad to ignore a stimulus from the other.

Ignoring passive by contrast is illustrated by JM6-52.50-51. KM pushes the Tigger toy beside JM’s hand. He is leaning over a wedge looking forward but does not respond. This code represents a state of slightly less negative attention than ignoring active. Less negative still is *lost interest* which is based on an incident where TK has indicated to his partner M, that he does not like her playing with toy animals near him. She then ceases to do so and stands in front of him doing nothing (TK6-52.17-21). M has lost the interest which she was previously displaying in the proceedings. The code is at the border with the next frame: *attention neutral*.

6.4.3.2 Attention neutral

This is largely concerned with attention being unclear or not focused. A state of boredom or confusion is characteristic. *Bored* is based on incidents where the activity is lacklustre and the partners are not much involved in it. Their attention is there, but minimal. An example is TK looking at Al who is moving paint pots about on a table nearby, he then tilts his head back, sticks out his tongue, his eyes appear to rotate and his gaze goes to the ceiling (TK8-1/00.02).

The incidents that are coded as *still* demonstrate a degree of attention to an event. In this incident TK is sitting beside M and Al is reading the story. TK's hand moves slightly and at one point his eye gaze shifts to follow the book, then he remains still watching Al (TK5-38.31-38.37). Some degree of attention appears to be present, but it is implicit in the behaviours rather than explicitly obvious.

In between these codes is *marking time*, where the incidents show the partners together in an action, but the action is at a remove from the point of attention of the partners. Thus TK is underwhelmed by the impending climax of the Bertie story that is being enacted in his vicinity. He looks blank (TK5-38.08). Another example is JM 6-11.40-11.42 where KM is some distance away from JM, but in his sight, and she is picking up a ball. JM is lying over a cylinder watching KM and tapping the floor with his hand. Much is happening, yet nothing is happening.

6.4.3.3 Attention positive

The codes *watching and waiting* and *still attention* demonstrate clear indicators of attention, such as facial smiles, looking at another (TK2-14.33) and opening one's mouth to admit an approaching spoon (TK1-10.26). This is a moderate level of attention that would characterise ordinary engagement. *Gaze* is coded where there is change of head and eye position combined with a degree of intensity that is stronger than previously described. *Curious* and *close observation* continue the codes which are characterised by an increasing intensity that is apparent in the nature of the look and also in the accompanying actions. JM1-3.29 (*close observation*) has KM looking intently at JM, whereas in TK5-39.37 Al is looking for something in the cupboard behind TK and he is straining his neck to see what is going on (*curious*). Lastly *rapt* is a code for attuning, but it also applies for attention as it demonstrates total attention as well as total attuning being offered to an event. In this instance it is the climax of the Bertie story that TK is so caught up in (TK5-39.12). Interestingly TK's attention has shifted from *marking time* to *rapt* in the space of one minute. This demonstrates how changes in the degree and quality of attention may happen quite quickly.

6.4.4 Causes for attention

The primary driver for a person to offer attention to another is a *stimulus* offered by the

other. However, the following categories all play a part in the occurrence of attention: *stimulus, setting, being, action* (of one member of the dyad) which may be a stimulus if viewed from the other partner's perspective and, of course, *attuning* which regulates the process of devoting attention to another.

Stimuli tend to be offered primarily by one member of the dyad to the other. However, they can also emerge from the general setting in which the action is occurring, the code *gaze response to incidental stimulus* gives many examples of this.

Stimuli for attention may take the following forms:

- Verbal utterances that are used to attract the other or questions that are posed to one participant may elicit the attention of the other.
- Positional movements
- Aural events
- Visual events
- Incidental stimuli
- Anticipation of the event that is expected to happen next (see code *watching and waiting active*).

On a more general note, attention may be directed by stimuli of varying strength.

Whether a stimulus actually succeeds in attracting the attention of the other partner appears to depend on the strength of the stimulus, its proximity (*attention-2 sources*), the nature of the stimulus (*attention-tension*) and whether it is actively welcomed by the attender and therefore attuned to, which leads to attention being given to it.

6.4.5 Consequences of attention

Attention is a driver for all the categories in the theory except for setting. Thus action (and maneuvering), attuning, engagement, stimulus and being are all influenced by the provision of attention to them. Attention is not a driver for setting, as the setting remains unchanged if attention is brought to bear upon it. The relationship of attention to attuning is more complex. It should be noted the general findings are that a person attunes to a stimulus and attention follows after that. However, the continuation of attuning is partially driven by the (now established) state of attention.

6.4.6 Manifestations of attention

The primary manifestation of attention is visual gaze, that is the direction that the person looks in. Often this is most apparent where changes occur, such as when attention starts or stops. Attention may manifest in other ways. For instance, it can also show as *curiosity*, a code that describes intense straining by a participant to see what is going on.

Other manifestations:

- Close observation of other partner or event
- Partner watching and waiting for an event to occur
- Visual tracking (Focus group 43)
- Mobile gaze changes
- Still gaze
- Head position.

Hidden attention

Attention can be hidden that is the person can pretend not to be attending when he or she actually is (see code *hidden attention* where JM makes a dummy throw of the toy Tigger which has been sent to him by KM, while he is apparently gazing at the floor doing nothing (JM6-11.24).

Stillness

Attention may be still, that is, a person can be occupied in attending while showing little behaviour, but it is nonetheless clear from the person's posture and gaze that he / she is attending (observing the action). This implies that movement is not necessary for a partner in a dyad to be giving attention. From this, one can state that **although attention generally manifests as a result of a person attuning to a stimulus and an action occurring which demonstrates this, nevertheless attention does not require action by the individual who is giving it**. Therefore attention may be **implicit** (evidenced in passive observation) or **explicit** (evidenced in active behaviour).

6.4.7 Attention: Cutting point

The cutting point for attention is when it ceases. This change may be driven by internal or external factors. An example of external factors is TK6-51.47, when TK looks away from the stimulus of the bird in front of his face in order to look at an event that is happening off the screen.

Internal factors are less obvious. They may be inferred in an incident such as TK8-1.00.02, where TK stops attending to M, tilts back his head and sticks his tongue out for no identifiable reason. A reasonable conclusion can be made that attention ceases as a result of both internal factors (being) or external factors (stimuli).

6.4.8 The relationship between attention and other key categories

6.4.8.1 Attention and attuning

As noted previously, a very close relationship exists between attention and attuning. In general terms, however, attention can be seen as a function of attuning in that attuning modulates attention. This emphasises the central role of attuning as the core category of the process of communication, it is inherent in the process and is difficult to untangle from the other categories at times. It is most closely intertwined with attention and therefore most difficult to untangle from it.

Attention and attuning covary. However, a degree of attuning to another person is a prerequisite for attention to occur to another. Equally, a degree of attention appears to follow the establishment of a level of attuning. As noted in Section 6.4.3.3. the two categories overlap in the code *rapt* which indicates very high levels of attention coinciding with very high levels of pro attuning.

An examination of the interrelationship of the categories is illustrated by the incident detailed below.

Table 6.45: Attention and attuning

Data Point	Code	Description of the extract from the transcription
TK5-39.33-39.37		The Bertie story is being told by Al. M is beside TK and the story has reached a slight hiatus. TK attunes to Al, watches her go past, then at 39.35 he attunes to M who is doing nothing and demonstrating a low level of attuning to TK. He is giving a moderate level of attention to M, combined with a low level of attuning. Her level of attuning to TK is very low. At 39.36 he disattunes to M and his attention fails, however, at 39.37 she (M) attunes to TK at a high level. She looks at him (attention) and attends to him as she tickles his neck. He smiles (in response to M) but he is still attending to Al who is searching in the cupboard to his right (action). TK is mainly attuned to Al although the smiles suggests he is slightly attuned to M, despite the lack of overt attention to her.

This incident illustrates the dynamic nature of attuning and attention. TK's attention switches from one person to another and back again. His level of attuning seems to vary more or less, but not completely in conjunction with the attention focus. While

it seems that attention and attuning operate in tandem, it also appears that they do not necessarily operate at the same level at the same time. This is the nature of the covariable relationship.

The relationship can be stated as follows:

- Positive attention equates to a mostly high level of attuning (see codes *watching and waiting*, *watching and active waiting*).
- Negative attention is generally linked to a high level of pro attuning and high negative attuning level. Thus the code *active ignoring of prompt* demonstrates that one partner knows very well what the other wishes but proceeds to ignore it. By contrast *passive ignoring of prompt* is linked to strong anti attuning and negative attention.
- Neutral attention is linked with a low or absent level of attuning, illustrated by codes such as *bored* and *marking time*.

6.4.8.2 Attention and engagement

Attention is a feature of engagement. The incidents in Table 6.46 demonstrate this.

Table 6.46: Attention and engagement

Data Point	Code	Description of the extract from the transcription
JM 7-3.12	<i>Engagement with person-distance</i>	JM who is sitting on a mat looks up at KM
JM5 -7.59	<i>Engagement with new person</i>	JM looks up as KM's hand comes near to him, he is engaged with KM's action
TK 1-7.38	<i>Verbal indication of next action</i>	TK is watching the staff (M) who is attending to him, putting his bib on and saying what will happen next.

The process of engaging with a person commences with an initial attuning to the stimulus of the other and then attention is devoted to the other person followed by engagement. This process may be uni or bilateral. The general principle that emerges is that attention is necessary for engagement to occur.

6.4.8.3 Attention and stimulus

Two principles emerge from the data:

1. Attention to the other is a necessary condition for the person providing a stimulus where the behaviour is intentional.

The table below gives examples of this principle.

Table 6.47: Attention and stimulus 1

Data Point	Code	Description of the extract from the transcription
JM 3-4.58.	<i>Strong stimulus</i>	KM is struggling to get JM to walk to M. She looks at JM who is in front of her still holding his left arm, her right hand comes around and catches his shoulder as he rotates.
TK5- 39.00- 39-04	<i>Strong stimulus</i>	Al shows a picture of the Bertie book to TK, as a story from the book is being told to the group then the chorus reaches the climax of the story.

2. Attention is also necessary by the person receiving the stimulus, if he or she is to react to the stimulus.

The next table offers examples of this principle.

Table 6.48: Attention and stimulus 2

Data Point	Code	Description of the extract from the transcription
JM4- 5.11	<i>Strong trigger for action</i>	KM appears eight feet in front of JM, he looks at her straightens up and sets off towards her.
JM1- 3.24 and 3.25	<i>Verbal strong trigger for action</i>	M withdraws her hands from JM and lets him go. Says: <i>Off you go.</i> KM opens her arms at a distance from JM he looks at her intently as he walks rapidly forward towards her.
TK2- 14.49		M is bending over TK, her hand is supporting his head, she holds the spoon in front of his mouth. TK's mouth is open he shows eye contact and pushes out his tongue

The code *gaze response to definite stimulus* implies attention follows a stimulus.

Table 6.49: Gaze response to definite stimulus

Data Point	Code	Description of the extract from the transcription
TK1-7.33	<i>Gaze response to definite stimulus</i>	TK's head turns to the right and his eye gaze looks to M who is bringing over a bib
JM 12-12.55-12.57	<i>Gaze response to definite stimulus</i>	KM looks at JM. JM's gaze moves from the toy that he was looking at to KM.

Attention is enhanced by the presentation of a stimulus so **providing a stimulus is a driver for attention**. The code *gaze response to incidental stimulus* implies that the persons' gaze may change focus as a result of side action that is going on.

Table 6.50: Gaze response to incidental stimulus

Data Point	Code	Description of the extract from the transcription
TK1-9.20	<i>Gaze response to incidental stimulus</i>	TK looks around in response to somebody else making a noise.
TK5-38.18	<i>Gaze response to incidental stimulus</i>	TK turns away from the main focus of the attention which is the book of the story that is being told to look at the camera
JM6-10.46	<i>Gaze response to incidental stimulus</i>	There is off screen talking JM turns his gaze to look at it

Attention may be directed by strong external stimuli, but also by such incidents as are described above, which are incidental (or weak) external stimuli. Therefore, a conclusion can be arrived at that **attention may be directed by stimuli of varying strength**.

6.4.8.4 Attention and action

Two principles emerge from the data to explain the relationships of these categories. Firstly **attention is a cause but not a necessary condition for action**. Attention can also be founded on anticipated action and as such it becomes a driver for action.

JM 1-3.25 illustrates this point where JM is intent on looking at his goal (which is KM), he is walking rapidly forward, his arms extended. Secondly, **action is a cause of attention but it is not a requirement for it**. This suggestion, is to some extent a

semantic one, as it relates to attention being triggered by the person attuning to the stimulus of another. Stimuli may be categorised as an action or not.

6.4.8.5 Other relationships

The relationships between attention and being and setting are considered under the relevant sections in Chapter 6.

6.4.9 Attention. Key points

- **Attention is an observable behaviour that indicates the consciousness of a partner is directed at the other partner in the dyad, the actions of another, a shared point of reference, or an object.**
- **Attention may be implicit (evidenced in passive observation) or explicit (evidenced in active behaviour).**
- **Attention to the other is a necessary condition for the person providing a stimulus where the behaviour is intentional.**
- **Attention is also necessary by the person receiving the stimulus, if he or she is to react to the stimulus.**
- **Providing a stimulus is a driver for attention.**
- **Attention may be directed by stimuli of varying strength.**
- **Attention is a cause but not a necessary condition for action.**
- **Action is a cause of attention but it is not a requirement for it.**

6.5 Being

6.5.1 Introduction

Definition: Being is a category that describes codes that relate to a person's state of mind, as observed or inferred through observation.

Being is that aspect of the person that generates thought and action. Being is a key category in terms of its relationships to attuning, as it is a driver for attuning and therefore for action including maneuvering, stimulus and attention. It appears to be an indirect driver for engagement in that attention is necessary for engagement to occur and being does not bring about engagement without it. This mechanism is illustrated in Table 6.51.

Table 6.51: Being and engagement


Data Point	Code	Description of the extract from the transcription
JM6-11.57	<i>into the swing of things</i>	JM who was previously curious but passively watching KM (being) sees the ball which KM is dangling in front of him (stimulus), reaches towards her hand (attuning, attention and then action) and the ball (attunes) and grabs it from her (engagement). The sequence of events is: being, stimulus, attuning, attention, action and engagement.

6.5.2 Taxonomies of being

All codes are named on the basis that an inference could be properly made from the observed incident on the basis of an identifiable state of mind that was present in the individual. Seven codes emerged from the initial observational data that were grouped under the category being. Other memos were written that referred to this category. These were sourced from the interview and focus group data.


The seven codes may be laid out on scales reflecting differing aspects of the concept. Two aspects immediately present themselves. One is to conceptualise being in terms of the degree of tension that is inherent in the different states that are coded for the category. The second is to view being on a continuum that represents degrees of action inherent in the codes. A marked quality that linked the codes that were classified from the observational data as constituting the category being was the degree of tension that they appeared to represent. As such, a taxonomy of the concept aligned along decreasing levels of tension appears as follows:

Figure 6.5: Tension levels in being

High tension	<i>Wary</i>
	<i>Suspicious</i>
	<i>Frustrated</i>
	<i>Into the swing of things</i>
	<i>Repentant</i>
Low tension	<i>Relaxation</i>

Another continuum that emerged from the representations of being was to view the codes of the concept in terms of rising levels of action that they represented:

Figure 6.6: Action levels in being

Maximal action	<i>Into the swing of things</i>
	<i>Frustration</i>
	<i>Repentant</i>
	<i>Wary</i>
	<i>Relaxation</i>
Minimal action	<i>Suspicious</i>

6.5.3 Manifestations of being

Being by its nature refers to an internal state of mind. It manifests primarily in non verbal communications such as:

- Facial expression
- Sweating
- Tongue flicking
- Chin rubbing
- Foot tapping
- Vocalisations
- Head banging
- Head position / movement
- Crying
- Skin colour
- Mouth downturned
- Refusal
- Bodily tension.

The sources for this data come from the incidents underpinning the codes in the category, from the observations of Andrew and SW and from the interviews with staff. For instance, ‘Strong emotions can be expressed and understood from facial expressions’. (C-91-92). (Interview with Jane -2). Interviewer describes SW cocking her head.....Jane says ‘she kinda does be listening’.

6.5.4 Types of being

Wary is a code that describes a person’s reaction to stimuli that bring about a reaction where s/he recoils from the stimulus or shows that s/he is worried by what is happening around her / him. *Suspicious* is a similar code but differs from *wary* in that there is a lower level of action in the indicators for it. Both these codes suggest states of being which are clearly linked to individual stimuli.

By contrast, *relaxation* describes a code where the individual shows evidence of being relaxed. There is an environmental action going on, but no evidence to link it directly with the manifest state of being (TK7-57.42).

The code *into the swing of things* describes the intense nature of some states of being. The incident upon which it is based re-emphasises the link between external events and the internal state of one partner in the dyad as noted above in Section 6.5.1. The precursor of the action was a stimulus that was presented to JM. This was followed by JM attuning to the stimulus and eventually to the other partner. Action occurs and this is then followed by engagement. The process has the effect of drawing JM into the game and his state of *being* changes as a result.

6.5.5 Causes for being

The causes for *being* are: setting, stimulus, action, engagement, attention and attuning. A person's state of mind (being) is influenced by external (observable) environmental stimuli and internal (unobservable) stimuli. A key aspect of this study is that it identifies the relationship of being to the concepts (categories of the theory) that affect it and are affected by it.

The study offers some evidence to suggest that external stimuli influence the other's state of being. The first to be considered is the setting.

6.5.5.1 Setting

Setting has an impact on being. This is observable some of the time, so the evidence from multiple codes in the study is that setting has an impact on being at times.

Illustrative episode 3

Andrew was in the Snoezelen room. It appeared to have little impact on him (Observation 23/5/08). However, his keyworker SG was with him and said that he had been very calm during the canal boat trip which had taken place the previous Monday. Also she said that he was often quiet when she and he would go to Mass during the week when the church would be quiet. Separately on the same day I observed JM listening to a tape recorder in the kitchen along with Ellen. The background music left him looking delighted, then excited. Also with SW the music had her laughing and smiling at times.

In sum, this suggests that setting has an impact on being part of the time in an observable manner.

6.5.5.2 Stimulus

Stimulus acts as an influence on a person's state of mind (being).

Illustrative episode 4

Various incidents were observed in the May 23rd session where Andrew who had been agitated became very calm when offered food (10.37) by his keyworker. Another also involved Andrew where he calmed down when he was touched. One other incident also from that session involved JM, whose mood changed from being detached from the action to becoming interested when he was offered a tape recorder and then he smiled (11/08). One other incident occurred where Andrew hit himself and his key worker's mood changed from a neutral stance to one of being concerned.

The conclusion that is drawn from these incidents is that stimulus is a driver for being. Such a view is further supported by evidence that where no stimulus is offered to individuals in the dyad, then mostly no change of mood (being) occurs.

6.5.5.3 Action

One partner's action is a stimulus for the other partner, so many of the comments made regarding the role of stimulus and being also apply to that of action and being.

Illustrative episode 5

Multiple incidents illustrate this from the observation session of 23/5/08 where the actions of one partner in the dyad determined the state of mind of the other. Andrew and his keyworker were observed together, for a period of time when he was hitting himself (stimulus for staff member, action for Andrew). The staff member became very concerned (being) but when Andrew was eating (stimulus for staff member, action for Andrew), he was peaceful (being) and his non action induced the keyworker to become quite mellow (being).

The conclusion is that action is a driver or cause for being.

6.5.5.4 Engagement

Engagement seems to affect the state of mind (being) of the partners in the dyad. Various incidents were observed to support this concept during the 23/05/08 observation session.

Illustrative episode 6

At 10.55-59 Andrew's keyworker was engaged with Andrew. His mood appeared mellow as he was quiet and showing no challenging behaviour. Ellen and JM were engaged in successive interactions he was mellow and sad and happy in different incidents (11.04 /11.13). One other incident was observed where JM held the partner in the dyad and she (Ellen) became upset (11.20). Lastly J engaged with SW who was sitting in her chair / bed, SW's mood changed and she smiled (11.22).

The conclusion is that engagement is a driver for being.

6.5.5.5 Attention

This study found some evidence that attention affected being. Ellen was playing tapes to JM and she looked at him, JM smiled (11.10). Two other incidents occurred where Ellen talked to JM and he was delighted (11.11 and 11.16). There are many incidents of partners in the dyad watching action and their state of mind remaining unchanged. However, one specific incident occurred at JM 13-13.30-13.34 where JM was sitting on a mat looking at KM, his mood was quiet. It appears that the attention to KM was assisted by his state of being, but that essentially JM's state of being was derived from the pleasure that he took in attending to KM.

6.5.5.6 Attuning

Specific incidents in which attuning can be clearly identified as the process that altered another's state of being appear to be rare. This is because attuning is the covert process that enables one partner to engage with another, or bring attention to bear on something. It is integral to the process whereby one person changes their focus (of attention or engagement) and makes an action a stimulus or an engagement. Attuning is intimately linked with the concept of being. There is plenty of evidence that being impacts on attuning. However, the following focus group discussion looked at the reverse process:

Illustrative episode 7


'I get quite upset when he's upset' said one member (SG) speaking of Andrew (17). The process operating here is that the being (of one) plus attuning impacts on being of the other.

Discussion then centred around whether the process operated in reverse and there were differing views on this. Mona thought her calm may rub off on service users, Jane thought JM cried when the staff were upset, however, others had not seen this.

It seems clear that attuning affects being, but it is not so easy to unpick the clear evidence for this. However, because attuning is the core category and therefore impacts all other

categories of the data it is possible to rank the codes inherent within other categories. An example is provided by considering the codes of the category being. These codes can be ranked on the basis of whether they displayed characteristics of negative or positive attuning.

Figure 6.7: The codes of being ranked by degree of attuning

Positive attuning	<i>Repentant</i>
	<i>Into the swing of things</i>
	<i>Relaxation</i>
	<i>Suspicious</i>
Negative attuning	<i>Wary</i>

6.5.6 The effects of being

As noted above being impacts the following categories: attuning and action. Table 6.52. demonstrates this.

Table 6.52: Being and action

Data Point	Code	Description of the extract from the transcription
JM 4 5.30- 5.35		JM wishes KM to rub his head (state of being), he attunes to KM, attends obliquely to her and then moves her to hold her hand in order to achieve this (action).

Being also impacts on engagement. This is illustrated in Table 6.53.

Table 6.53: Being and engagement 1

Data Point	Code	Description of the extract from the transcription
JM 6-11.57-8	<i>Into the swing of things</i>	JM who was previously curious but passive (being) makes contact (engagement via attuning) with KM by catching hold of a string of the hairy ball that KM is dangling in front of him.

Attention may result if a person wishes (being) to devote it to a stimulus such as an object, event or person in the vicinity.

Table 6.54: Being and engagement 2

Data Point	Code	Description of the extract from the transcription
TK 1-9.31	<i>Close observation dual</i>	TK is sitting in his wheelchair he is looking straight at M and he opens his mouth for food. His state of being is such that he attends to the stimulus of the food and then responds and opens his mouth (action).

A person has a choice to attend or not to attend to the stimulus.

Table 6.55: Being and attention

Data Point	Code	Description of the extract from the transcription
TK 2-14.07	<i>Active ignoring of prompt</i>	M raises her (l) hand and makes a circle motion (stimulus) over TK's head. He closes his eyes (being and attuning) and turns away (action). The action is explained by TK making a decision not to attune to M and not to attend to M's hand. The decision making process is located in his being.

Stimulus also occurs as a result of a partner in the dyad wishing for an action to occur and then prompting another to act.

Table 6.56: Being and stimulus

Data Point	Code	Description of the extract from the transcription
JM 6-11.57	<i>Into the swing of things</i>	JM is kneeling on a mat on the floor. Al wishes JM to move (being). She touches JM's back (stimulus), he attunes to the stimulus and this prompts him forward (action). She releases her hand and off he goes along the mat.

6.5.7 Conclusion

The general causes of being (state of mind) have been described. The impact of this concept (the outputs) links to the role of being in the dyadic framework as laid out below. **The basic requirement of each individual is a state of being that exists in a setting (environment). Being provides the basic receptor for the stimuli that drive the action, engagement and attention (including the maneuvering) of the participants. Attuning is the unconscious /conscious mental process that regulates and modulates the interaction.**

6.6 Setting

Definition: Setting (effects) refers to the impact of the surrounding environment on the interactions of the members of the dyad. It is concerned with the general impact of what is happening around the person, which is discriminated from the impact of specific effects such as stimuli and actions. To define the concept precisely, it comprises the environment in which the individual is located exclusive of the immediate interaction. In practice the evidence of this study suggest that a radius of three metres is the maximum in which immediate interaction can take place and that the setting is located outside that radius. In certain instances, where the interaction is closer to the individual, the setting may constitute events taking place somewhat nearer to the individual. However they always constitute the background events. The setting is the one category that is not impacted by the other categories. Therefore there are no causes for it as its sole role in the framework is one of locating and impacting on the other concepts.

6.6.1 The effects of the setting

The effect of the setting (environment) in which the dyad finds itself located was obvious in very few codes and memos that were identified in this study.

6.6.2 Setting and stimulus and attention

The main code in which the effects of setting were evident was *Movement triggered by environment*. This code was based upon several incidents in which small changes in the background or middleground of the action triggered movement and attention changes from one or other communication partner. Table 6.57 has an example of this.

Table 6.57: Movement triggered by environment

Data Point	Code	Description of the extract from the transcription
TK4-22.46	<i>Movement triggered by environment</i>	TK is smiling and kicks up his leg (action following attention to the song) in response to the group of staff singing a song.

The point about this code is that the person in the dyad is reacting to non specific actions or activities that are taking place in the setting. One other code illustrates this also: *verbal and gestural statement*.

Table 6.58: Verbal and gestural statement

Data Point	Code	Description of the extract from the transcription
TK5-39.07	<i>Verbal and gestural statement</i>	TK's fingers move (action) and he makes an exclamation in response to the climax of the Bertie story

Other examples of the impact of the setting came from the focus group discussion. Jane asserted that the environment affects attention (39.50). However, further exploration of the topic led to the understanding that the setting acts to affect a person's attention as the person attends to non specific stimuli in the environment.

A setting is a composite of many elements, but two stand out in particular: the background stimuli (general effects) and particular effects of individuals within the setting. Stimuli therefore may be specific or non specific.

Stimuli exist in the environment and these combine to impact the attention of a person, which in turn may cause action. Non-specific stimuli are the overall components of the setting, while specific stimuli are identified as emanating from individuals within the communication dyad or triad. Occasionally objects may also qualify in this regard, see *object as reference point* (TK5 -37.50) (in this case a storybook). In most instances individuals were located within the setting but delivered stimuli which were classified as being wholly separate from the general effects of the setting. Thus a conclusion may be arrived at, that the **setting and the stimuli in it impact on attention and action.**

6.6.3 Setting and engagement

Setting can also affect engagement. When this happens the person who provides the stimulus for the engagement is located in the setting and is not part of a communication dyad or triad. This person is removed from another potential communication partner and is considered a part of the overall setting. However, attuning can occasionally occur at a distance (see 6.3.13). A somewhat arbitrary discrimination applies whereby the individual is determined as part of the setting rather than part of the interaction dyad. Two indicators for this discrimination may be noted:

- Distance
- The individual not being in any communication framework prior to the engagement taking place.

Table 6.59 illustrates the point.

Table 6.59: Engagement with person distance

Data Point	Code	Description of the extract from the transcription
TK 7.57.35	<i>Engagement with person distance</i>	M picks up a sheet of paper at some remove from TK. She intends that TK will paint on it. She does not engage with TK in the action. However, he proceeds to smile at M.
JM 7-3.12	<i>Engagement with person distance</i>	JM is sitting on the mat in the classroom, he is upright and looking at KM who is off screen at some distance to his left, he looks up at KM.

6.6.4 Setting and being

A focus group statement (23/5/08) that a staff discussion of TK being ill in hospital led to SW starting to cry was cited as an example of setting impacting being. See Section 6.5.5.1. for more on this.

6.6.5 Setting and maneuvering

Setting does not impact maneuvering which is solely determined by the participants in the dyad.

6.6.6 Setting and attuning

There is little to be said regarding the relationship of setting and attuning except to note that individuals attune to events that occur in the setting.

6.6.7 Setting: Key points

- **Setting (effects) refers to the impact of the surrounding environment on the interactions of the members of the dyad. It is concerned with the general impact of what is happening around the person, which is discriminated from the impact of specific effects such as stimuli and actions.**
- **The setting and the stimuli in it impact on attention and action.**
- **Change in the setting may induce change in the individual.**

6.6.8 Conclusion

Some evidence for the impact of setting on the categories: attention, stimulus, action, engagement, attuning and being is offered in these findings. However, there is no clear evidence that this applies universally so a conclusion can be reached that **change in the setting may induce change in the individual.**

6.7 Action

6.7.1 Definition

Action is an observable process of behavioural change in an individual that is demonstrated by movement, gestures, facial expression, vocalisation or other behaviours.

6.7.1.1 Action in brief

Action like the other concepts in the theory is a continuum. It descends from *strong action* through *action to uncertain action* and *non action*. Action is precipitated by a decision to act, which is a cutting point after which movement or other behaviour (the action) occurs. Action may occur as a result of an individual attuning to and then attending to a direct prompt or stimulus and or to (incidental) *setting effects* or unintentional stimuli (*setting effects* or *stimulus*). Action may also result from an individual's state of being.

Action requires an intention to act. It is discriminated from a reflex which does not act.

6.7.2 Causes for action

The primary causes of action are being and stimulus. Attuning and attention are requirements for an action to take place, where it is a response to a stimulus. The setting is the overall context in which action takes place so it is a factor also.

6.7.2.1 Being

Being influences action, that is, the state of mind of an individual influences what they choose to do.

Illustrative episode 8

Various examples of this were evident in the focus group discussion: JM was listening to Daniel O'Donnell and this led to his not doing anything else (6.35) as he was content with his favourite singer entertaining him. However, when Mary Duff joined Daniel in singing, he wanted to turn off the TV as he does not like Mary Duff's music (8-9) his state of mind (being directly influenced his action). The process in play was stimulus (Mary Duff's singing), attuning to the stimulus, attention to the stimulus and action (behaviour indicating his wish to turn off the TV).

Another example of the impact of being on action is given below.

Table 6.60: The impact of being on action

Data Point	Code	Description of the extract from the transcription
JM13-13.47	<i>Action reaction (unmotivated to act).</i>	JM is sitting on the mat looking at KM moving a teddy around. He does nothing, she comments ‘No, you just don’t want to do anything today’. The action (of KM) produces no effect on JM because his state of mind (being) is not positively attuned to KM’s action.

6.7.2.2 Stimulus

An object can be a cause for an action. The code *setting up partner for action* (providing stimulus) looks at the effect that a familiar object has on a participant.

Table 6.61: Object as a stimulus for action

Data Point	Code	Description of the extract from the transcription
JM 5-8.01	<i>Setting up partner for action.</i>	JM is presented with a ball which he is expected to roll, after looking at it for a while the fingers of his left hand open and he tries to hold the ball.

The incident suggests that because of a shared history the participant takes his cue from the object and that it comes loaded with historical instructions on what to do. The code *providing stimulus object* also denotes the use of an object as a cause for an action. There are many examples, but particularly one derived from JM6 10.37 where, again, the presence of a familiar object, in this case a toy tiger named Tigger induces JM to pick it up and throw it away

A person and an object combined may also be a stimulus for action. The following example occurred during a games session.

Table 6.62: Action response 1

Data Point	Code	Description of the extract from the transcription
TK5-38.00-38.01	<i>Action response</i>	M brings a Big Mack switch and places it beside TK’s hand, as the Bertie story reaches its climax TK pushes it triggering the voice of the machine.

6.7.2.3 Personal action

An action by a person is the most common form of stimulus. There are many examples of these in the data, particularly in those codes that are grouped under the category stimulus. However, there are also many examples in the action category, one of which is found in the code *action response*.

Table 6.63: Action response 2

Data Point	Code	Description of the extract from the transcription
JM 8-7.34- 7.35	<i>Action response</i>	Al touches JM’s back while he kneels on the mat. This prompts him to move forward, she releases her hand and he goes off crawling along the mat

This example demonstrates a clear intentionality about the stimulus and the action that responded to it. However, the same interaction may occur as a result of an unintentional stimulus as is detailed below.

Table 6.64: Action response incidental

Data Point	Code	Description of the extract from the transcription
JM 13- 13.35.	<i>Action response incidental</i>	JM is lying on the mat looking around, his gaze fixes on shapes that KM is adjusting ahead of him (attuning and attention), then his head drops (action). She does not intend him to act with regard to the shapes at that point.

6.7.2.4 Summary

There is a fine line that divides the codes that were grouped under stimulus and those grouped under action. The dividing line between these concepts is that a code is grouped under action if it comes about as a result of a previous stimulus, or is an event that is not designed to elicit a reaction. A code is grouped under stimulus if it is clear that a stimulus is provided in order to induce a certain course of action. The key element of the process is the stimulus rather than the action. The difference depends on the situation of the action in the dyadic flow and also on the degree of intentionality that is inherent in the action. The category stimulus denotes a greater level of intentionality and greater emphasis on the importance of the stimulus in the incident than that in the category action, because the former implies the initiation of a run of action-stimuli events. However, it also needs to be made clear that in a dyadic interaction, one partner’s stimulus may induce action from another partner and that an action by the other partner may be regarded as a stimulus by the first. So an overlap of the concepts is acknowledged

and, indeed, is bound to occur in a fast moving dynamic interchange.

Table 6.65: Action and stimulus: Key differences

<p><u>Action.</u></p> <p>May result from previous stimulus</p> <p>May be an event that is not designed to elicit a reaction</p> <p>Tends to have a secondary position in the dyadic flow</p> <p><u>Stimulus.</u></p> <p>Key element is the intent to induce a certain course of action from another</p> <p>High degree of intentionality inherent in stimuli</p> <p>Tends to have a primary position in the dyadic flow</p>

6.7.3 Types of action

Actions may be carried out by one partner in the dyad or by more than one. Actions may occur in the present or be predicted to occur in the future.

6.7.3.1 Single action

Counter-and corrective action.

These codes denote actions that bring or attempt to bring a situation that is unsatisfactory into line with the wishes of the person carrying out the action.

Corrective action occurs where one partner finds a situation unsatisfactory and seeks to remedy it. The unsatisfactory situation may derive from action of the other person or simply from setting events that occur as part of the general changes that occur in life. The following table offers an example.

Table 6.66: Corrective action

Data Point	Code	Description of the extract from the transcription
TK2-14.49-51	<i>Corrective action</i>	M is pulling up the sock that has half come off TK's hand and which she wishes to remain on fully. It is not clear how the sock came to be half off, whether it just happened as result of time or if TK is trying to take it off. In any event he sticks out his tongue at 15.52, indicating perhaps that he tried to take it off. There is pro attuning present in this code as both partners understand each other but also a high level of negative attuning as their wishes appear to be different.

Counter-action is related to *corrective action*. *Counter-action* also implies pro attuning linked with negative attuning. Both partners wish to do opposite actions.

Table 6.67: Counter-action

Data Point	Code	Description of the extract from the transcription
JM3-4.40.	<i>Counter-action</i>	JM and KM are holding hands and pulling in opposite directions. Each partner appears to understand what the other is thinking so there a high level of pro attuning and a high level of negative attuning also, as neither partner will accede to the other's wishes.

This code is closely related to the category maneuvering. Related to *counter-action* is *insensitive action*. This occurs where one partner in the dyad continues doing something that the other dislikes. There are elements of action, reaction and disregard in this. The clearest example of *insensitive action* is located in TK6-53.21-26.

Table 6.68: Insensitive action

Data Point	Code	Description of the extract from the transcription
TK6-53.21-26	<i>Insensitive action.</i>	TK is sitting in his chair and M has the toy snake dancing beside TK's face. M stands up holding the snake and TK's (l) hand. She dances, then holds TK's (r) forefinger and raises it as part of the dance. TK's mouth closes, then he gives a short grin then his mouth opens. His head turns away, his mouth is wide open and he screams. M does not realise TK's distress.

This incident demonstrates high anti-attuning, as the partners clearly do not understand how each is feeling at this time and high negative attuning as they do not cooperate in their actions. The negative attuning suggests that a level of asymmetry is also present.

Pure action

Typically, pure action is exemplified by a decision to act that is either internally generated where the precursor is *being* or externally generated where the precursor is stimulus. Thus the former is illustrated by the code *decision to act* in JM1-3.24, where JM's hands unclasp as he determines (being) that he is going to walk across the room to KM. The

latter is shown in *strong action* where JM is running across the room heading directly to KM's arms, which are the stimulus for him (JM 2-4.05). This code demonstrates a clear emphasis on the action. In effect there are two behaviours present: the running and the direct eye gaze at KM. The code *emphasis* which is an action that is performed with gusto appears to be present when two behaviours that are oriented towards the same goal are evident and it seems to be an indicator that determination (strong intentionality in the behaviour) is present in the action.

6.7.3.2 Dual action

Action may be carried out by both participants in the dyad, that is, they may work together to achieve an action. Dual action arises where one participant carries out part of an action, but the other completes it. The example is JM14-15.57, where KM and JM work together to activate a switch.

6.7.3.3 Future action

The code *predicting action* implies that one action of one partner may suggest to the other that a certain event is going to take place. The other then responds in anticipation of that event.

Table 6.69: Predicting action

Data Point	Code	Description of the extract from the transcription
TK5-37.37.	<i>Predicting action</i>	M lifts the Big Mack switch with her hand. In response TK's left hand goes up a little. What has happened is that one partner has made a move suggesting a specific action is imminently required. The other makes a movement to indicate readiness. The other has, in fact, predicted what is going to happen from the information that he has received.

The code suggests that gestural indicators enable communication partners to predict future actions within the dyad. The caveat is that these are scripted behaviours. There are other similar examples of this in Table 6.70.

Table 6.70: Preparing for action

Data Point	Code	Description of the extract from the transcription
TK1-7.56	<i>Preparing for action</i>	TK moves his head and looks over at the kitchen counter where M is sitting on the stool prior to giving him his drink.
JM14-16.01	<i>Preparing for action</i>	JM changes his body stance and looks at the switch that he is about to push
JM4-5.11	<i>Ready for action</i>	JM is about to walk across the room to KM. He is looking at KM who is 8 feet away. His posture is straight, his arms extended, he is gesturally indicating that he is ready for the next move.
TK2-14.39	<i>Ready for action</i>	M is about to feed TK, her hand is holding the spoon. It stops 6" from TK's mouth which he opens, there is eye contact.

If this process is examined more closely, it becomes apparent that when both partners are attuned and paying attention to each other and when one provides a stimulus it is **possible for both communication partners to predict some future action within the dyad**. This understanding is to some extent based on the fact that the actions have been done before and therefore there is a predictable process that one or both anticipate. In a sense this code relates to the code *anticipation* (see Section 6.3.9) which suggests that a future attuning is possible where a scripted sequence of events occurs that the persons in the dyad have previously experienced. It is difficult to discriminate whether an understanding of actions in these codes is predicated on a scripted element or whether the understanding of what will happen next derives from the flow of actions in the present and a logical prediction is made by the partner in the dyad about the next events.

6.7.4 The strength of the action

Actions appear to vary in the degree of determination that they demonstrate. The codes *determined action* and *strong action* are exemplars of powerful actions. This power is demonstrated in the determination and keenness that characterise the non verbal indicators of the action. *Emphasis* is a code that also demonstrates a high strength of action, but it differs from the others in that it manifests in some incidents as verbal determination. All three codes suggest that one partner in the dyad is highly motivated to take the action in question. These actions also reflect a high level of intentionality. The partner demonstrating the action is very clear about the intention that he or she is trying to achieve. Table 6.71. illustrates an example from the code *determined action* which suggests that a high level of intent is apparent in the very determined actions of the person.

Table 6.71: Determined action

Data Point	Code	Description of the extract from the transcription
JM4-5.12	<i>Determined action</i>	JM is walking towards KM who is about 8 feet away from him. His arms are outstretched and his mien (the way he looks and the set of his jaw) is one of determination

JM1-3.20 and JM8-7.36 also demonstrate this element of determination. *Strong action* describes a similar vignette. However in this incident JM is running toward his quarry (JM2-4.05). In contrast the code *uncertain action* implies a low level of intentionality. In this incident the person is not clear about what she intends to do.

Table 6.72: Uncertain action

Data Point	Code	Description of the extract from the transcription
TK6-51.48	<i>Uncertain action</i>	M is shaking a toy bird in front of TK, he looks away she looks down then moves away slightly.

This code also shows a low level of attuning between the partners, while the codes that show strong action demonstrate a high level of pro attuning and of positive attuning.

6.7.5 Action-reaction / non action


The successive steps of action and reaction are at the heart of the dyadic communication process as the table below shows.

Table 6.73: Observable behaviours that trigger actions and those reactions that result

1. Types of actions that trigger reactions:	
Touch	Vocalisation
Handling	Visual stimulus
Noise	Verbal stimulus
2. Types of action response:	
Unmotivated to act	Facial reaction
Gesture	Hand movements
Head turn	Vocalisation
Smile	Motor reaction
Tongue protrusion	Gaze
Arm movement	Eye contact
Mouth opens	

Actions / stimuli that induce actions may be displayed as demonstrating differing amounts of strength.

Figure 6.8: A typology of proximity/strength of action

Low	Uncertain stimulus
	Distant visual stimulus
	Nearby visual stimulus
	Observation of close stimulus
	Being touched
High	Being handled

6.7.5.1 Non-action

Non-action is concerned with settings where minimal stimuli are present, but no action is elicited from the participant (s). Non-action may be passive or active (*determined inaction*) or occur as result of a period of stasis. There are four codes that come under this heading.

Passive inaction details various events where the possibility of action or engagement is present but it does not happen.

Table 6.74: Passive inaction

Data Point	Code	Description of the extract from the transcription
TK5-37.08-37.19.	<i>Passive inaction</i>	TK is in his chair beside M. Al is telling the Bertie story, TK's tongue is out. He turns right, looks at the camera, the action, watches and does little.

Passive waiting involves the partner in the dyad doing nothing despite a stimulus being nearby.

Table 6.75: Passive waiting

Data Point	Code	Description of the extract from the transcription
JM14-16.08-9	<i>Passive waiting</i>	JM is on the mat. KM has left the switch nearby, however, JM waits.

Stasis differs from the other codes in that there is an element of balancing of opposite forces that occurs. The second incident details a more extreme version of this code.

Table 6.76: Stasis

Data Point	Code	Description of the extract from the transcription
JM9-8.36-8.42.	<i>Stasis</i>	JM is squatting on the mat and Al is kneeling beside him touching his hand illustrates the point. There is a little conversation between Al and another but JM is content with the status quo.
JM2-4.21	<i>Stasis</i>	KM is holding JM's hand to prevent him slumping to the floor which is his intention.

Determined inaction is a code that is very close to the code refusal and illustrates a degree of overlap or juxtaposition of some codes. *Determined inaction* does, however, differ from *refusal* in that the former implies negative attuning accompanied by no action, whereas refusal implies the same level of attuning but an action of some form is evident.

Table 6.77: Determined inaction

Data Point	Code	Description of the extract from the transcription
JM3-4.48	<i>Determined inaction</i>	JM is prompted by M to walk towards him. He keeps his hands together, his expression is one of determination and he does not move.

6.7.6 The relationship between an action – Stimulus and a reaction

There is some evidence in this study to support the hypothesis of a direct relationship between the degree of stimulus that is offered by one partner to another and the degree or strength of the reaction of the other.

Weak actions

A weak action tends to produce a weak response. *Uncertain reactions* occur in response to uncertain actions (see TK5-38.05, TK1 10.07. and others). This code is based on incidents where the stimuli are not offered decisively and the reaction is similarly indecisive. The code *transient action reaction* supports this hypothesis.

Table 6.78: Weak actions

Data Point	Code	Description of the extract from the transcription
JM10-10.45	<i>Transient action reaction.</i>	JM is crouching on the mat. Al catches JM’s (r) wrist momentarily then lets it go. JM extends his arm towards her momentarily then it falls. The incident suggests that a transient action elicits a transient response.

An incident from the code *reaction to being touched* which is located at TK5-38.44 also supports this suggestion, in that a moderate stimulus (M wiping TK’s cheek) elicits a moderate reaction (his head turns towards her).

Neutral actions

Neutral action generally elicits neutral levels of reaction. Two examples are given below.

Table 6.79: Neutral actions

Data Point	Code	Description of the extract from the transcription
TK1 7.59	<i>Reaction to observing action</i>	TK looks at the bib that M is putting around his neck and opens his mouth
JM11- 12.06	<i>Reaction to observing action.</i>	JM who is on the mat looks at KM who is moving shapes away from him, he makes an utterance. 'Huh'.

Strong actions

By contrast to these codes a strong action produces a strong response. The code *reaction to being handled* shows that where M puts (forces?) TK's head back, he grimaces (TK1-7.42), this strong action from M evokes a strong response.

Addendum

Further theoretical sampling was conducted in May 2008. This data complicates the picture. This process involved direct observation of four service users who were in the classroom of the DDC along with the same number of staff. Eighteen incidents were observed. These incidents included service users being fed, moving their legs, having physiotherapy, hitting self, staff member speaking to the service user, the service user spitting, rocking, clapping and playing with a toy. Neither JM nor TK was present.

The strength of each action and the stimulus that preceded it was rated by the observer. Subsequently each action was classified as being strong, medium or low. Most stimuli evoked actions of a similar strength. When the strength of all 18 incidents were examined and compared with the strength of the resulting action, in general, the strength of the action was lower than that for the stimulus that preceded it.

Therefore the answer to the question of whether the strength of an action reflects the strength of the stimulus that preceded it, is that for most stimuli-action events, the strength of the stimulus was the same as the strength of action. However, for some events the level of stimulus that was offered was higher than the action that resulted.

A possible interpretation of this data is that **a variable relationship exists between stimulus strength and the following action. Where a direction does manifest, the strength of the action is less than the strength of the stimulus.** A possible explanation for this relationship is that **the strength of the person's reaction to a stimulus or action of the other is mediated by the person's being and also depends on the level of attuning and attention to the other.**

6.7.7 The relationship between action and other key categories

6.7.7.1 Action and attuning

Actions are manifestations of attuning in the sense that attuning is in most cases a requirement for an action to occur. It is necessary for a communication partner to attune to another or to the stimulus that the other produces, if there is to be a consequential action that responds to the stimulus. This is true of the prediction of future actions also. Attuning is also necessary for where active non-action takes place. Attuning does not occur where an action emanates solely from within the person (being).

6.7.7.2 Action and attention

Attention is a frequent precursor of action, however it does not appear to be a requirement for it. Various examples of both states are evident in the data. The latter situation is exemplified in the first incident in Table 6.80. Attention as a precursor to action is demonstrated in the second incident.

Table 6.80: Action and attention

Data Point	Code	Description of the extract from the transcription
TK5-38.07-38.08	<i>Emphasis</i>	M's action is not accompanied by attention to TK. She is beside him, saying the Bertie story. At the climax she pulls back, cocks her head pushes out her chin and says <i>That's dirty!</i>
TK5-38.55.	<i>Attention</i>	TK looks (attention) at M who is exclaiming (action) at what Al is saying of the Bertie story.

Interestingly, in JM 12-12.50, attention is the sequel to action, where JM points (action) at a toy mouse on the floor that KM looks at (attention).

6.7.7.3 Action and engagement

The two categories of action and engagement reside at the apex of the theoretical structure and are therefore in some ways the end results of the communication process. The question of how they relate and what discriminates them needs to be made clear. The code *reaction to observing action-direct cause and effect* demonstrates that action is generally a one way phenomenon. In this code M brings the spoon close to TK's mouth (stimulus), which he opens (action).

Engagement by contrast is generally, but not always, a two way phenomenon that is concerned with the communication process. Engagement is evident in TK1-11.05-11.08

where M bends down as she brings the spoon of food close to TK’s mouth. His mouth opens, she smiles and he also smiles. Eye contact is made. The borders of engagement lie where it ceases, as noted in the code *engagement—limited: restricted interaction patterns*. JM is on a mat looking at shapes, but does not physically interact with them. KM is moving the shapes but no person-person interaction occurs (JM 13-13.51-13.57). This code denotes parallel interaction but no clear engagement. The discriminator between the two categories suggests that engagement implies either an overt or an implicit communication is taking place, whereas action does not. Many of the codes in the category engagement are characterised by a ‘locking on’ quality as the partner in the dyad locks on to an object, person or event.

6.7.8 Maneuvering

Maneuvering is a property of action. It is a form of action that has earned its place as a sub-core category in the theory because of its distinctive nature and also its relative ubiquity. Maneuvering is closely associated with attuning, in that a high degree of pro attuning is a requirement for it to occur.

6.7.8.1 Definition

Maneuvering is an interdependent movement of two parties towards and away from each other, characterised by an implied mutuality, mental and physical interdependence and attempted goal attainment by each partner in the dyad.

Description

Maneuvering involves changing one’s position in order to get into a situation where one can resist the actions of the other, or where one’s own actions can overcome those of the other and one can achieve one’s goal.

6.7.8.2 Preparation for maneuvering

The code *maneuvering into position* denotes a communication partner preparing to offer a stimulus to induce an action from the other partner. The actual positioning is designed to enable the stimulus to be successful and is determined by the level of pro attuning that the partners achieve, counterbalanced by the level of negative attuning present in the potential interaction. An example is demonstrated in Table 6.81.

Table 6.81: Maneuvering into position

Data Point	Code	Description of the extract from the transcription
JM7-3.25-26	<i>Maneuvering into position.</i>	J moves to JM’s side to turn him to the right, however JM also manoeuvres into position by crossing his legs so that he can’t be moved.

6.7.8.3 Types of maneuvering

The actual maneuvering process has three aspects: hostile, neutral and harmonious maneuvering

6.7.8.3.1 *Hostile maneuvering*

This involves the attempted imposition of power by one on the other. The following codes illustrate this concept.

Table 6.82: Hostile maneuvering

Data Point	Code	Description of the extract from the transcription
JM 8-7.26- 7.28	<i>Positional resistance</i>	JM is sat on the mat his torso is flexed, legs crossed. He has a blank look. He is using the position he is in to be ready to resist being moved which Al is urging him to do.
JM 4-5.26- 5.28	<i>Seeking release</i>	JM is catching and pulling KM's hair and neck. KM manages to detach both his hands from her, he grins and moves away slightly. Then at 5.28 JM attempts to catch hold of KM's right arm while she holds JM's collar.
JM1- 3.22	<i>Positioning for chosen action</i>	JM is manipulating his position vis-à-vis the staff member in order to get into a position he wants to be in, his (r) hand goes around M to catch her hand, which is holding his own, which he wants to release.

6.7.8.3.2 *Neutral maneuvering*

Micro- and *nano-dance* are examples of neutral maneuvering. They mostly demonstrate situations where the two partners work together to achieve a goal.

Table 6.83: Neutral maneuvering

Data Point	Code	Description of the extract from the transcription
TK2- 14.14- 14.20	<i>Micro dance</i>	TK is sitting in his chair waiting to be fed by M. His tongue goes out, it pushes the spoon up and away. His mouth opens, the spoon nears it, then bounces off the top of his tongue. The spoon rises, falls and rises again, nears his mouth which opens and the spoon goes in. The movements of both partners flow around the other.

6.7.8.3.3 *Harmonious maneuvering*

The code *coordinated interactions* implies a higher degree of coordination than that of neutral maneuvering, both pro and positive attuning are high. One example of this code was demonstrated in Table 6.84.

Table 6.84: Harmonious maneuvering

Data Point	Code	Description of the extract from the transcription
TK1- 8.07- 8.10	<i>Coordinated interactions</i>	M is feeding TK. She brings the spoonful of tea from the cup to TK's mouth. He opens it, looks directly at her and drops his tongue. She inserts the spoon and leaves some liquid in his mouth

6.7.8.4 Causes of maneuvering

Because maneuvering is a property of action, the same causes for action apply to it. Thus being is a primary cause, as is stimulus. Attuning and attention are requirements for maneuvering to take place and engagement can also be involved. The setting is the overall context in which maneuvering takes place, so it is a factor also.

6.7.8.5 Requirements for maneuvering

Attuning to the other and attention to the stimulus that the other offers are requirements for maneuvering. These categories are predicated upon the presence of a state of being that is open to the other and that also has determined some specific goals that the person wishes to achieve. The combination of these concepts is manifested as close observation of the other. Without such observation one of the properties of maneuvering (namely that the actions of one partner follow the other) would not be possible. Maneuvering also requires a high degree of visuo-motor ability, the cognitive capacity to attune to the other and to alter one's own movements rapidly in the light of the other's movements. These

abilities are manifested in the code *micro-dance*. Two incidents are described below.

Table 6.85: Micro-dance

Data Point	Code	Description of the extract from the transcription
JM 4-5.25	<i>Micro dance</i>	JM is moving towards KM and tries to grab her hair. She catches his hand and pulls back, he pushes towards her.
TK7-57.52-57.59	<i>Micro dance</i>	M is trying to get TK to paint on paper by physically prompting his hand. He looks at A1, turns around his head and does not let his hand fall to the paper despite M flexing her hand around his. Then she pulls his hand, he sticks out his tongue, smiles at her as she tries to push his hand to the paper without success, then she moves his hand which falls away.

In general, these incidents suggest that maneuvering is a symmetrical process which both partners indulge in to the same degree and at which both are equally adept.

6.7.8.6 Consequences of maneuvering

Maneuvering can involve differing outcomes:

1. **Victory for one partner** over the other. This concept is coded under *power struggle outcomes*. Table 6.86 illustrates this point.

Table 6.86: Victory

Data Point	Code	Description of the extract from the transcription
JM 3-4.58-5.00	<i>Power struggle outcomes</i>	KM is attempting to induce JM to walk across the room to M. He, however, much prefers to walk towards KM. After some maneuvering JM smiles as KM withdraws and recognises that she must go down to the other end of the room for JM to walk towards her, in order to induce him to move. JM has won.

2. **Disengagement** (the code is *physical disengagement*) where one partner manages to extricate him/herself from an interaction that is not going the way he or she wants. Again this represents a form of achievement of a goal of the interaction.

3. **An unproductive outcome** (*unproductive maneuvering*). This code involves one

partner recognising that an attempt to get the other to engage in a particular action is futile, as detailed below.

Table 6.87: Unproductive maneuvering

Data Point	Code	Description of the extract from the transcription
JM 12-12.45-55	<i>Unproductive maneuvering</i>	AI (the teacher) is standing around near JM, constantly moving around him, at times with toys in order to get him to engage but to no discernible effect as he ignores her.

4. **A changed dynamic in the interaction**, such as the disengagement of one from the other (*physical disengaging*), Victory of one over the other (*victory* and *unwilling acquiescence*) or a change in the degree and /or nature of the actions that each partner is offering in response to the other (*reduced counter action*).

6.7.8.7 Components of maneuvering

Maneuvering may involve:

- escape from certain situations (*release from action prompt / seeking release*)
- coordinating actions between two people in order to achieve a mutual goal, (*coordinated interaction*).
- attempts to induce action from one partner by the other (*micro dance*),
- acquiescence to the wishes of the other (*unwilling acquiescence*) and
- attempts to move oneself to a position in order to better achieve one's goal (*maneuvering into position*).

6.7.8.8 Maneuvering and attuning

Maneuvering implies high levels of pro-attuning because the process involves two individuals moving around each other trying to achieve either mutual or individual goals. In order to do this it is necessary to have a clear understanding of how the other partner is feeling, what they are doing and what they are likely to do. This can only be achieved if one is attuned to the other.

Maneuvering may be harmonious or not harmonious. Harmonious maneuvering is characterised by a high level of pro-attuning and high positive attuning. The code *coordinated interactions* is typical of this state and it emphasises that both partners are attempting to achieve a mutual aim. Most of the codes apply to the latter state (non harmonious), that is, maneuvering is carried out with the aim of achieving one partner's aims at the expense of the other, so power is an issue in this process. Furthermore this

aspect is marked by a high level of pro-attuning and a high level of negative attuning.

6.7.9 Action: Key points

- **Action is an observable process of behavioural change in an individual that is demonstrated by movement, gestures, facial expression, vocalisation or other behaviours.**
- **Maneuvering is an interdependent movement of two parties towards and away from each other, characterised by an implied mutuality, mental and physical interdependence and attempted goal attainment by each partner in the dyad.**
- **It is possible for both communication partners to predict some future action within the dyad.**
- **A variable relationship exists between stimulus strength and the following action. Where a direction does manifest, the strength of the action is less than the strength of the stimulus. A possible explanation for this relationship is that the strength of the person's reaction to a stimulus or action of the other is mediated by the person's being and also depends on the level of attuning and attention to the other.**

6.8 Stimulus

The category stimulus contains data that codes how a stimulus is provided by one partner in a dyad to another and also how the other reacts to that stimulus.

6.8.1 Definition

A stimulus is an attempt by one partner to induce an action from another partner.

Stimulus has an inherent meaning component in it because the nature of the action that is required is specific rather than general.

6.8.1.1 Aspects of the category: Stimulus

The codes in this category split into two: those that describe stimuli and those that describe reactions to stimuli.

6.8.1.2 The nature of a stimulus

In the dyadic process stimuli emanate from a person. That person may offer a stimulus that has a verbal or physical element. Equally, stimulus may in rare cases be collective and proffered by multiple persons in the setting (see *acknowledging the joke* TK5-39.16-17) or may consist of the presentation of an object by a person.

6.8.1.3 Duration of a stimulus

A stimulus may be offered over a short or a long period of time, even if it is apparent that the stimulus is in fact ineffective. An example of this is the code *persistence* where one person offers a stimulus that is apparently lost on the communication partner.

Table 6.88: Persistence

Data Point	Code	Description of the extract from the transcription
TK6-51.34-38	<i>Persistence</i>	M has a toy bird that she holds hovering around in front of TK's face (stimulus) despite his ongoing disinterest (non attention/ anti attuning/ non action), with the result that she persists in offering the stimulus in order to try to elicit an a reaction.

6.8.2 Relationship between stimulus and action

The category stimulus occupies some of the territory that the category action also covers. The relationship between the two is complementary and is explained in Section 6.7.2.4. This section states

‘The dividing line between these concepts is that a code is grouped under action if it comes about as a result of a previous stimulus or is to be an event that is not designed to elicit a reaction, whereas a code is grouped under stimulus if it clear that a stimulus is provided in order to induce a certain course of action. The key element of the process is the stimulus rather than the action. The difference depends on the situation of the action in the dyadic flow and also on the degree of intentionality that is inherent in the action?

There is an overlap between action and stimulus. The code *action response* (action) overlaps with the multiple codes grouped under *responding to the stimulus*. At this point only does a conjunction between the categories of stimulus and action occur. There is some degree of overlap between the categories. If a difference can be identified the codes grouped under *action response* are typically reactions that have a lesser degree of intentionality than those grouped under *responding to the stimulus*.

6.8.3 The meaning of a stimulus

Section 6.7.2. ‘causes for action’ noted that a stimulus can come ‘loaded with historical instructions on what to do’. Various examples of this phenomenon are captured in the data. Two codes illustrate this:

Table 6.89: The meaning of a stimulus

Data Point	Code	Description of the extract from the transcription
TK1-8.27	<i>Physical prompt – predictor</i>	In this incident the staff member of the dyad gives a physical stimulus to the other participant, which tells the other what will happen next. M is about to feed TK and she rubs his head and then brings the spoon towards his face. This action tells him that he is to be fed soon.
JM5-8.01-8.03.	<i>Setting up partner for action</i>	KM presents a toy ball to JM and leaves it beside him. There is a history attached to the ball so JM knows what is asked of him. The stimulus consists of KM’s action and the ball (8.01) eventually at 8.03 he acts and tries to catch it.

What seems to be happening in these incidents, is that repetition of acts between the participants in the dyad establishes a shared meaning that is attached to the acts and to the artefacts that are part of them. This meaning is built up over time, but eventually it establishes predictors for the future. So, if a certain set of actions are accompanied by certain artefacts and these occur in a particular pattern and are repeated many times, then they indicate that certain other patterns will likely occur in the future. A shared meaning is consequently established for the particular pattern in which the stimulus is presented.

6.8.3.1 Conclusion

Stimuli have meanings. This can be captured by noting that **certain stimuli have a shared history and shared meaning that is developed between the participants. These function as communicators of possible future action** (they serve to tell the person about the intentions of the communication partner and what is expected of the person by the communication partner).

6.8.4 Requirements (causes) for a stimulus to occur

There are two essential elements that are required for a stimulus to occur.


1. The communication partner must be in a state of mind (being) that wishes it. That is the state of mind of the individual must provide the motivation to make the stimulus. This may be influenced by the setting in which he or she is located at the time.
2. There is also a requirement for a target for the stimulus to be directed at; to that end the target must be attuned to, to some degree and attention must be paid to the target.

It should be noted that a communication partner may make an action that is not directed towards another, this does not require the second element.

6.8.5 The strength of a stimulus

A stimulus may be presented by a partner in the dyad with varying degrees of strength. A very strong stimulus may be offered, where one person stands in front of the other and uses their whole body as the stimulus, while a very weak stimulus may simply be to place something near to the partner and see if he responds. The weakest coded stimulus in the taxonomy is *setting up partner for action* where KM presents JM with a toy ball and leaves it near to him (JM 5 -8.01). An example of the strongest stimulus is where KM is trying to induce JM to walk across the room to her, she appears in front of JM her arms are spread wide (JM 4-5.11.). In both these cases the stimuli used are artifacts that convey an inherent meaning. The difference between them being in the strength or demonstrativeness of the stimuli. The taxonomy defines various points on the gradient between the two extremes that demonstrate differing strength of stimuli.

Figure 6.9: Stimulus strength: A typology

Strong	Strong trigger for action
	Strong stimulus
	Physical prompt prolonged
	Physical prompt visual prompt combination
	Physical prompt voice prompt combination
	Physical prompt for action
	Stimulus control
	Gesture prompt voice prompt combination
	Prompt to obtain reinforcement
	Gestural prompt
	Verbal exhortation
	Providing stimulus –object
	Verbal stimulus prolonged
	Persistence
	Verbal stimulus
	Inducing relaxation
Ritualistic movements –prompting for action	
Weak	Setting up partner for action

6.8.5.1 Determinants of the strength of stimuli

The following concepts are determinants of the strength of a stimulus:

6.8.5.1.1 *Being*

The state of mind of a communication partner is a determining factor in the stimuli that are offered. Various examples of how the internal state of mind of one communication partner (being) drives the production of a stimulus are evident in the data.

Table 6.90: Being and stimulus

Data Point	Code	Description of the extract from the transcription
TK2- 14.44- 14.54	<i>Slight irritation</i>	M is feeding TK. However, she notices that the sock is coming off TK's hand (attuning and attention). She is irritated by this (being) and stops feeding him to pull up the sock on his hand (stimulus). He responds by sticking out his tongue and smiling slightly (action) at 14.54 . This event might be interpreted as TK trying to remove the sock which upsets M who decides to rectify the problem.
TK6 51.49- 50	<i>Providing stimulus object</i>	M is bringing the bird (stimulus) near to JM, partially to fit in with the setting events (the group song) but also the position of the bird in relation to TK seems to be determined by M's internal state of being, which is in turn driven by the group activity (setting).
JM4- 5.19.	<i>Ritualistic motor movements</i>	JM is engaged in ritualistic movements (stimulus) in order get KM to rub his head (which he likes). These movements emanate from his internal state (being) so his state of personal being is driving this behaviour (stimulus).

6.8.5.1.2 *Setting*

Setting events provide the background from which the stimulus may come or which may impact on the individual and induce him or her to provide a stimulus. The incident in Table 6.91 demonstrates the latter situation.

Table 6.91: The effect of setting as a stimulus 1

Data Point	Code	Description of the extract from the transcription
TK6 -51.34- 51.38.	<i>Persistence</i>	There is a group song and game going on in the classroom, M has the toy bird hovering in front of TK's face, she is offering a persistent stimulus which he is ignoring. The bird is part of the group song / game which is being performed by the staff to the students which is the setting event . However, the actual stimulus is the toy bird which would not be offered to TK if it were not an integral part of the setting.

The code *strong stimulus* demonstrates how the setting can provide the stimulus itself.

Table 6.92: The effect of setting as a stimulus 2

Data Point	Code	Description of the extract from the transcription
TK5- 39.00- 39.04.	<i>Strong stimulus.</i>	Al is showing a picture in the Bertie book to TK. The story is coming to an end and the chorus reaches the climax of the story. The staff all sing / shout 'He even eats it' (his snot). There is no specific stimulus as the totality of the setting constitutes the stimulus. The stimulus acts to induce TK to laugh (at TK5-39.04). The communication sequence runs from setting (stimulus), attuning, attention, action.

Other factors that drive the production of stimulus and determine the nature of stimuli include attention to the other and the degree of attuning to the partner. Table 6.93 has an example of this.

Table 6.93: Strong trigger for action

Data Point	Code	Description of the extract from the transcription
JM4-5.11	<i>Strong trigger for action</i>	KM wants JM to walk across the floor to her. He will only do this if she is the prompt. This she does. So JM's mind state (being) determines her stimulus. This can only occur if she is attending to him and, more importantly, is attuned to his mind state.

6.8.6 Prompts

Prompts are intentional stimuli, that is, they are presented by one partner to the other with the aim of the other delivering a particular action in response.

6.8.6.1 Types of prompts

There are four types which are named in descending order of strength: physical, gestural, verbal and visual. The first three are well known in the literature; the last is added by this study. A visual prompt is defined as being a visual stimulus which elicits a reaction in the other. An example of this type of prompt is found in TK1-9.49, where M brings a spoonful of food to near TK's mouth. As it approaches he opens his mouth. M is using the spoon as a mechanism to say 'open your mouth' which TK does.

Single person and double person prompts

Prompts may be delivered by one or more persons. In general, most prompts are given by just one person as in the example above. However, others involve double prompting (by two people) such as in TK7-57.52-58.01 where a physical / verbal prompt combination is offered to TK by M who is prompting TK with her hand over his (physical prompt) and Al who is encouraging him verbally to push down on the paint saying 'squash it' (verbal prompt).

Prompts as triggers for agreed behaviours

Some prompts take the form of mutual triggers for behaviour, that is, they are recognised by both partners as being the cue for a certain behaviour to occur. They are indicators of what to do (as in JM3 -4.50 where M goes away from TK to stand across the room in order to induce him to walk across it).

Stimulus and prompt: The relationship

A stimulus may include a prompt, however, it goes wider. A prompt is something provided by another person, whereas a stimulus may also include an event or a setting effect. A further difference between the two is that a prompt is intentional in

nature, whereas a stimulus may not be intentional or indeed emanate from a person at all. Prompts, like stimuli, vary in terms of their emphasis or strength. They may be strong encouragements for action or simply indicators or cues for action. Intentionality is always present, but the degree may vary with the strength of the prompt.

6.8.7 Responding to a stimulus

Stimuli normally generate a response of some type. This response may be an action or an absence of action. The scale below is ordered on the basis of the positive to negative responses from top to bottom. The middle responses indicate neutral reactions to the stimuli.

- *Response to prompt.* Person attunes to the prompt, and acts on it. In JM14 16.53 KM deposits a switch in front of JM. His (l) hand comes out and touches the switch. There are many other examples of this code.
- *Acknowledging the stimulus.* The individual makes a behavioural response that indicates he knows the stimulus has been offered see TK5 39.07 where the Bertie story is being read to TK, it has reached a climax, TK makes a verbal utterance in response.
- *Graduated response to stimulus* see JM6-10.39 where JM looks at the prompt which is the presence of a ball, he moves his hand towards it, subsequently he pushes the ball, then he throws it.
- *Variable response to prompt.* The person vacillates in his response to the prompt. KM offers JM a prompt (Tigger). JM's hand vacillates over the prompt eventually picks him up twice before finally throwing Tigger away (JM6-10.27-36).
- *Delayed response to stimulus.* The person delays, hesitates and eventually responds to the prompt. See JM6-10.45-10.55, where KM offers a toy ball to JM at 10.45, he looks at it at 10.51 and pushes it away, plays with it at 10.53-4 and eventually throws it at 10.55.
- *Stoicism.* Person puts up with the stimulus, but does not like it. The incident that illustrates this code is TK5 38.45 where M is feeding TK she wipes food off his face, TK looks away slightly from M.
- The codes *watching* and *watching and passive waiting* are coded under the category attention, however they also are present in this category. They denote a quiet observation of the stimulus or the action that is going on. They do not indicate that the stimulus is not attended to and attuning is present, but the partner who is the goal of the stimulus chooses (being) not to react. In JM 6-11.28-11.30 (*watching and passive waiting*) KM puts a hairy ball near JM. He does not apparently react. His expression is neutral, he does not move. Similarly in *watching* (JM 6-11.28-11.30) TK is in his chair observing the spoon of food being refilled by M. He does nothing.
- *Avoiding stimulus.* The person avoids the stimulus because he does not like it. M is bringing the bird flying around TK's head and face as part of the song /game he looks away far away from the bird as he does not like it (TK6-51.31).

- *Removal of stimulus.* The person removes the stimulus physically as he does not like it. In the relevant incident M is holding JM by his collar and JM's (r) hand, he tries to detach M's hand from his collar (JM4 -5.06).

6.8.7.1 The speed and determination of the response

The contrast between the codes *response to prompt graduated* and *variable response to prompt* suggests that responding to a prompt may be affected by the state of mind (being) of the partner who is required to respond. This in turn impacts on the level of attuning between the partner who is offering the stimulus and the other. The incidents in Table 6.94 illustrate this.

Table 6.94: Speed of response to a stimulus

Data Point	Code	Description of the extract from the transcription
JM 6-10.39- 10.41	<i>Response to prompt graduated</i>	A response may be a gradual process of acquiescing to the suggestion of the other person. JM slowly decides to push the ball after being presented with it. JM's response is modulated by his willingness (being) to respond.
JM 6- 10.45-1055	<i>Variable response to prompt.</i>	JM plays with the ball for a while before eventually throwing it away.

The conclusion is that the response to a stimulus is modulated by the individual's attuning to the other, which in itself is also modulated by the nature of being of the individual.

6.8.8 A note on the stimulus response process

The codes in this category, and also many of the codes in the category action, describe incidents in which a stimulus and response process occurs. This is not construed in behavioural terms in this study because the theoretical framework that is founded on the data in the study is much more complex than a simple behavioural feedback loop.

The process whereby a stimulus provided by one person determines or controls the actions of another is termed 'stimulus determination' in this study. It should be discriminated from stimulus control, which is a Skinnerian term that relates to purely behavioural determinants and reinforcements of a response (Skinner 1992).

Stimulus determination as used in this study is the process whereby the delivery of a

prompt or stimulus determines the action of the other. This phenomenon is particularly evident where there is a history of the behavioural pattern between the dyad members (*reward implicit*) or if there is power applied (*acceptance of stimulus*). However, stimulus determination is not the sole process at work, as the variable responses to stimuli outlined in 6.8.7 make clear.

6.8.9 Response determinants

The data in this study illustrates two primary responses to a stimulus. It can be accepted and acted upon, or it can be ignored and not acted upon. An example of the former is JM5-7.53-7.55 where KM offers JM a ball and says ‘throw it’ which he does. The second possibility is illustrated by JM 3-4.53 where KM positions JM so that he can move off and walk as he is facing forward towards M. He decides not to move.

An exploration of the incident at JM 5-7.53-7 begs the question, does JM obey the command or does the command act as a prompt simply to trigger the action? In other words is he acting because of the power of the command (the stimulus) or is he ready to act (being) and when he attunes to KM and attends to her he is aware (being) of the verbal prompt (stimulus) which simply triggers the action? An understanding of the action of JM suggests that it is modulated by the degree of attuning of JM to KM. However, there are other factors at work in this incident; primarily these are the degree of intentionality of JM’s action which appears to be high and secondly, the acceptance by JM of KM’s wishes. JM seems to have a high level of pro attuning and of positive attuning in this incident. A degree of power is also implied in this interaction. Power is reversed in the second incident (JM3-4.53) where JM declines to act on KM’s stimulus. This incident demonstrates a high level of pro-attuning and a high level of negative attuning also. A conclusion can be reached that JM’s actions in both cases are intentional and result from a high level of attuning to KM. The difference between the outcomes in the incidents is that his state of being differs.

6.8.10 The relationship between stimulus and key categories

6.8.10.1 Stimulus and attuning

The code *making the task harder* is interesting in that it is based on an incident where JM is on a mat. He is not particularly interested in moving the large shapes that are positioned some way in front of him. KM moves them further away (JM 11-12.09). Most of the incidents observed in this study indicate some level of empathy (attuning) between the staff and clients. This incident is an example of the opposite. KM is trying to get the client to engage with the task of moving the shapes on the mat by making it harder for him to do—this at a time when he is showing little interest in the task. It appears that KM is trying to stimulate JM’s interest by making changes in the environment and that any changes are better than nothing happening. There is an apparent lack of attuning present

in this incident and KM's actions appear to be prompted by her own internal need to do something (being), rather than a rational assessment of the situation.

The conclusion that can be drawn is that the level of attuning between members of the dyad is one (of several) determinants of the nature of the stimulus that is provided (and whether it is effective). The other drivers for a stimulus are the surrounding setting, the state of mind of the person who is delivering the stimulus (being) and attention to the other.

6.8.10.2 Other categorical relationships

The relationships between stimulus and engagement, action, being, attention and setting are considered under the relevant sections in this chapter.

6.8.11 Stimulus: Key points

- **A stimulus is an attempt by one partner to induce an action from another partner.**
- **Certain stimuli have a shared history and shared meaning that is developed between the participants. These function as communicators of possible future action.**
- **A stimulus may include a prompt, however, it goes wider. A prompt is something provided by another person, whereas a stimulus may also include an event or a setting effect.**

6.9 Engagement

6.9.1 Definition and description of Engagement

Definition

Engagement is a category that describes the point in the interpersonal process where the attention of two or more people are focused on each other or one person is focused on an object or an event. Engagement is an active behaviour demonstrated by the persons who are involved in it.

Engagement seems to be characterised when it works well by an 'interaction bridge'. This can be an action that involves something physical such as feeding or playing with something with the other person. The code *playing* is an example of this, where KM and JM are both pulling at a hairy ball which KM is dangling in front of JM. Eventually KM lets go and JM has it (JM 6- 11.47-11.51). In this instance the ball acts as the interaction bridge.

An interaction bridge can be seen where an object serves as a bridge between partners in the dyad such as in the code *engagement with person and object* where M is feeding

TK and inserts the spoon into TK's mouth. She proceeds to look straight at him, he also has direct eye contact and opens his mouth to receive the spoon (TK 1-8.57). In this case the feeding process is the interaction bridge. An interaction bridge can be non physical. It simply occurs when it is clear that a communication link is established between the two participants in the communication, that is, when there is a mutuality evident in the interactions and this can be attributed to a specific object or process. The code *engagement –warm* is an example of this, a high level of attuning being characteristic of this code. Attuning provides the scaffolding and support for the interaction bridge to function so that the process of engagement can take place.

6.9.2 The topography of engagement

The following codes describe some of the topography of the category:

Joint attention.

Engagement of both partners in the dyad may be directed to the same focus.

Distance.

Engagement can occur at a distance when the stimulus to attract the attention of one partner in the dyad is strong.

Double focus.

Engagement can occur to two things at once, that is, with a person and also to an object that the other possesses.

Parallel engagement.

Non-engagement may occur where both partners in the dyad are engaged, but not with each other. This is a borderline code that marks the edge of engagement.

6.9.3 Targets for engagement

These can be:

6.9.3.1 One partner in the dyad

Unilateral engagement implies that just one partner is engaged with the other and that this is not reciprocated. Initial attuning to the other who is the stimulus, followed by attention being paid to the person and then engagement is the process involved. Examples are in Table 6.95.

Table 6.95: Unilateral engagement

Data Point	Code	Description of the extract from the transcription
JM7-3.12	<i>Engagement with person-distance</i>	JM looks up at KM who is at a distance but as she is such a powerful influence for JM, she is also a strong stimulus. As a result he attunes and attends to her and engages. However, she does not reciprocate.
TK2-14.33-14.36.	<i>Watching and active waiting</i>	TK is in his chair. He has just eaten off a spoon, M is now preparing the food for the next spoonful. TK smiles at the camera, moves his (l) arm and looks at M. His hand rises and falls, he continues looking at M who does not look back.

6.9.3.2 Both partners in the dyad

Bilateral engagement implies that both partners in the dyad are engaged with each other. The process arrives as a result of an action of one partner acting as a stimulus to the other who attunes to him/ her, gives attention to him /her and then engages. Table 6.96 illustrates this.

Table 6.96: Bilateral engagement

Data Point	Code	Description of the extract from the transcription
JM7-3.17-18	<i>Engagement with new person</i>	JM is sitting on the mat, J moves to his side and is about to come down on the mat, JM smiles at J, his hand goes up and he moves his torso. He is smiling.
TK4-22.04	<i>Engagement with person</i>	TK laughs in response to M rubbing his hand and saying ‘No’ to S (another staff) (this is part of a teasing game).

6.9.3.3 Three partners in the interaction

Engagement may occur where three people mutually engage as shown in Table 6.97.

Table 6.97: Three way engagement

Data Point	Code	Description of the extract from the transcription
TK4-22.01	<i>Three way engagement</i>	TK is smiling at M who is talking to S. It is interesting to note that the engagement is between three people, but they are not all three simultaneously engaged.
TK4-22.13-22.14	<i>Three way engagement</i>	M withdraws from contact with TK, S turns to him, his hands move and he turns towards M. During this incident M and TK show attention to each other that ceases, then starts again as S interposes in the engagement. Attuning appears to be quite changeable between M and TK but just getting going between S and TK.
TK7-58.07-58.15	<i>Three way engagement</i>	A more complex scenario is evident where a painting session is underway and M is holding TK's hand on to the paper which has paint on it. Al is pushing the paper into place then holding TK's hand also, TK is looking mostly at AL, M is looking at TK. Painting is going on. This incident shows M attending to TK, TK and Al mutually engaged so all three are engaged, two mutually; three lines of engagement are occurring out of a possible maximum of four.

It is possible to suggest that the data supports a view that **engagement can take place between multiple partners. However, this requires multiple attention and attuning to occur between the partners and it may be limited by the capacity of each partner to display these factors.**

6.9.3.4 A person and an object

The final target for engagement is where a person and an object engage via the object. The feeding process is one example; the code *engagement with person and object* exemplifies this. In TK1-8.57 the spoon is the object in question where M inserts the spoon into TK's mouth and looks straight at him. He also has direct eye contact and opens his mouth to receive the spoon. Where objects are used as part of the interaction process, a person and object engagement also takes place. *Staff client playing* is a code where KM is dangling a ball in front of JM, he reaches for it and she moves it further away (JM6-11.44). KM and JM are mutually engaged through the medium of the ball.

6.9.4 Causes for engagement

There are three primary causes for engagement:

- Verbal stimulus from one partner, coded in *monologue to promote engagement*.
- Gestural stimulus from one partner, coded in *fine gestural interaction / strong gesture*.
- Objects can be used as a stimulus. In this case the object is the vector and focus for the engagement. However, it bears a relationship with the communication partner who provided it, which to a limited extent makes the stimulus a combination of the individual and the object.

In order for engagement to take place it is necessary for a setting to be present. The individual's state of mind (being) is influenced by the setting and determines if attention is given to a stimulus or an action to enable engagement to occur. Attuning regulates the process of attention being offered to the stimulus/ action and the occurrence of engagement.

6.9.5 Types of engagement

Engagement may occur between an individual and an object or between two or more individuals. The following codes offer examples of the different types of engagement:

Humorous

Engagement may be humorous, particularly verbal engagement, (*Verbal utterance – humour / slagging- laughter mutual*).

Warm

Engagement can be warm. In this code, engagement is either verbal or non verbal, but the type of engagement is characterised by indicators of warmth such as smiles, eye contact, soft touch and gentle verbal comments.

Table 6.98: Engagement: warm

Data Point	Code	Description of the extract from the transcription
TK 1-8.38	<i>Warm engagement</i>	M is bringing TK a cup of tea. She says to him ‘he loves his cup of tea in the morning, is that right?’
TK1- 11.05- 11.08	<i>Warm engagement</i>	M bends down as she brings the spoon of food close to TK’s mouth, his mouth opens, there is eye contact as she smiles and he also smiles.
TK4- 22.09,	<i>Proprietal gesture</i>	There is a collective joke in progress whereby TK is apparently to be deprived of his turn at the group song that is being sung for each person in the group. However, M is fighting on his behalf and gestures towards him, meaning ‘I will stick up for you’.

Play

Engagement can also involve playing.

Table 6.99: Engagement: play

Data Point	Code	Description of the extract from the transcription
JM6- 11.44-46	<i>Play</i>	KM is dangling a ball in front of JM, he reaches for it but she moves it, in this incident KM is playing with JM in order to elicit the reaction that she wishes.
TK1- 8.59	<i>Play</i>	M is feeding TK, she has the spoon in his mouth, it is almost locked in as he has it clamped tight. She wiggles the spoon to remove it, as she does, he grins.

Showing

One partner is showing the other something as in TK8-1.00.46 where M rotates the painting that TK has done and holds it vertically in front of TK so that he can see it.

Promiscuous

This is a code for which there is only one incident. The incident involves TK engaging with four people in quick succession, he smiles at M, looks at the camera (myself), then at A1, back to camera, then to M (TK7-57.35-57.40).

Persistent

This code exemplifies a state where one or other partner in the dyad wishes to persist

with the engagement an example of this code is *clinging*. At JM 3- 5.02, KM is trying to get away from close contact with JM and he is trying to hold on to her.

6.9.6 Processes of engagement (Stages in the engagement process)

Engagement is a process which follows a pattern where it begins, takes place and then ceases. The process can be described as follows:

Engagement follows a pattern which has **causes** as in TK15-38.24 where AI offers TK the stimulus of showing him a book while she is telling the story and he turns to look. It then **takes place**, as is illustrated by JM5-7.59 where JM is lying on a cylinder and he looks up in response to the approaching hand of KM (along the floor). It demonstrates a **turning point**, an example of which is TK4 22.13 where for ten seconds a joke has run between M the other staff and TK that his turn in the 'hello' game will be missed. At this point, he withdraws a little from the engagement. Alternatively, the process may demonstrate **changes** which are illustrated by the code *relaxation after tension*. For example, following a period of tension between M and TK over how she handled him and prepared to feed him, TK is then fed with the spoon after which he relaxes and smiles (TK1-10.30-10.37.). Finally engagement may **cease** or **move** to another partner as in the code *substitute*, where at (TK6-52.24), TK ceases his engagement with M as she has moved away and he engages with me.

6.9.7 A hierarchy of engagement

Engagement can be tracked across different codes as it deepens and becomes more intense in parallel with the increasing level of pro-and positive attuning.

Table 6.100: A hierarchy of engagement

<i>Non Engagement</i>	Partners in the dyad are self-engaged in parallel (TK5 37.07).
<i>Limited engagement.</i>	In JM13-13.51 JM is on the mat looking at shapes, but he does not physically interact with them. KM is moving them but no person-person interaction demonstrates that parallel engagement is happening. Engagement is limited to the shapes that the partner is offering, this implies a limited indirect engagement between partners. There is a small degree of attuning and attention.
<i>Staff-client playing.</i>	There is a high level of pro-attuning in this code and a low level of positive attuning. The work is being done, attuning is at a functional level for it to occur. The incident JM6-11.44 illustrates this. As KM is dangling a ball in front of JM. He reaches for it, she moves it further away in an attempt to get him to move also.
<i>Engagement –humorous.</i>	This code implies a high level of engagement of a distinct type. TK4-22.01 is an incident of this code where TK is in his wheelchair, M is sitting beside him on chair, S and Al are nearby, M is talking jokingly to the other staff ‘No, you missed out on someone’, TK is smiling at interaction.
<i>Warm Engagement</i>	This code is characterised by a mutual warmth between the partners. The incident of TK1-11.05-11.08 shows M bending down as she brings the spoon of food close to TK’s mouth, his mouth opens, she smiles and he also smiles. In both these last categories pro-and positive attuning is at a high level.

6.9.8 The relationship between engagement and key categories

6.9.8.1 Engagement and attuning

Engagement is facilitated by attuning. Attuning regulates engagement. There is a direct relationship between the level of attuning and degree of engagement which the dyadic

partners engage in. The relationship between engagement and attuning is complex. Attuning is a necessary condition for engagement to occur. However, once engagement has occurred it affects the degree of attuning that is attained. This is a dynamic process where both concepts impact on and affect the other as the process of an engagement continues. This point is illustrated in JM 3- 5.02, where KM is getting away from close contact with JM and he is trying to hold on to her (coded under *engagement persistent –clinging*). In this incident engagement is occurring. However, there is a low level of pro-attuning between the dyad members but a high level of negative attuning. It suggests that attuning is a requirement for engagement, but that the level of pro- and positive attuning varies across the different types of engagement.

6.9.8.2 Engagement and stimulus

Engagement and stimulus are related in that a stimulus is a frequent driver for an engagement to occur. A stimulus can be verbal or non verbal. An example of the latter is TK 2-14.04, where TK smiles and looks at M (stimulus), as she says (mockingly) that he is ‘Not to tell June’ (engagement).

6.9.8.3 Engagement and attention

Engagement is different from attention, which is the initial part of the process that facilitates the engagement to occur and to be maintained. Engagement, however, requires that a stimulus is provided and that attuning occurs to that stimulus. At that point attention is applied and the result is that engagement takes place. This presupposes that a setting that can support the process is in place and that the state of mind (being) of the partners in the dyad is likely to lead to attuning, which is the key to the whole process being successful.

6.9.8.4 Engagement and setting

There is little evidence that setting impacts on engagement, except to note where the setting constitutes a large group of people or an event, then stimuli that are going on within the setting may impact on a person. This may result in an engagement such as in the code *movement triggered by environment*. One incident of this code is drawn from TK4-22.46, where M and others are singing to TK (*the setting*). He is smiling at the action but kicks up his left leg as he is looking at Al (*engagement*) who is one of the singers. The relationships between engagement and action, being and attention are considered under the relevant sections in Chapter 6.

6.9.9 Engagement: Key points

- **Engagement is a category that describes the point in the interpersonal process where the attention of two or more people is focused on each other or one person is focused on an object or an event. Engagement is an active behaviour demonstrated by the persons who are involved in it.**

- **Engagement can take place between multiple partners. However, this requires multiple attention and attuning to occur between the partners and it may be limited by the capacity of each partner to display these factors.**
- **In order for engagement to take place it is necessary for a setting to be present. The individual's state of mind (being) is influenced by the setting and determines if attention is given to a stimulus or an action to enable engagement to occur. Attuning regulates the process of attention being offered to the stimulus/ action and the occurrence of engagement.**

6.9.10 Finale: Behaviour and inference in category construction

The seven categories that are outlined in the theory are intimately interrelated, but differ in terms of their identifiability. Attention, engagement, action, stimulus and setting are all concrete concepts that are readily identifiable on the basis of observable indicators. Being and attuning are not identifiable in the same manner. They are, to some extent, intangible concepts. Attuning is evident through the observation of the behaviours of the participants. Attuning occurs where participants' mental or psychological shifts can be seen; however, the shifts manifest as a participant showing certain behaviours. For example, a person may be screaming as a result of a highly distressing interaction and may then shift to smiling at the other partner in the dyad and showing a more mellow demeanour as the interaction changes. The identification of the process of attuning is based on the behavioural changes of the individuals and attuning itself as a process is inferred from the behavioural evidence.

Being is also identified through inference based on observation (see Section 6.5.1). Being names states of mind, which by definition are not identifiable as specific behaviours. An example of this is the code *wary*, which is named for behaviours that show the participant demonstrating behaviours that indicate they are wary. In one instance this is shown by a participant's bodily position and in the other by the person's facial expression. However, the inference that enabled the code to be named is based on the individual's behaviour in the total context of the interaction (the other things that were going on).

Identification of all categories relies on observation. This implies that the number of interpretive stages is reduced to a minimum. However, in order to identify attuning and being, an inferential stage is required, which is not required for the other categories.

6.9.11 Conclusion

This chapter has presented a theory of interaction that explains how people with profound intellectual and multiple disability and their carers communicate and interact. It has proposed the core category of attuning that makes explicit the process by which communication and interaction take place. The theory also names the six sub-core categories. These have been described and the relationships that are inherent within them

and between them have been laid bare. The result is a multivariate theory of attuning. The theory does not predict the outcome of any particular event; rather it enunciates the differing processes that are at work as the ebb and flow of communication proceeds.

The next chapter considers the implications of the theory of attuning for the understanding of communication. The chapter also examines the potential implications of the theory in the field of intellectual disability.

CHAPTER 7

Discussion of the findings

The discussion of the findings of the study or, more accurately, the discussion of the theory of attuning, is divided into three parts. The first section will examine the methodology and methods that were developed in the study and consider the potential impact of these innovative approaches. The main section of the discussion looks at the implications of the theory of attuning for communication theory in general. The final section examines the implications of the theory for practice, that is, what can this research mean for the lives of people with profound intellectual and multiple disability and for those who interact with them?

7.1 The contribution of the study to method

The first topic addressed in this chapter is the methodology that was developed in the study. The question of how this approach may impact on the analysis of dyadic interaction is considered. Secondly, the question of how video derived observational data that functions as a matrix for the development of a theory sits with the tenets of classic grounded theory is examined. The implication of this type of method for grounded theory is also considered. Thirdly the question of where the study sits in relation to the qualitative paradigm is examined. The section concludes with a short note on the implications of the study for research and specifically for speech and language therapy research in this area in the future. Before considering these issues it is important to acknowledge the limitations of the research study

7.1.1 The limitations of the study

7.1.1.1 The data set

The primary limitation of the study was that the main data set was derived from observation of the interaction processes in just three dyads, so only six people provided the primary data upon which the theory is based. Furthermore the data from two of the dyads was coded and was micro analysed, the third being used for subsequent theoretical sampling, so in effect the four participants in dyad one and two were the primary data sources for this study.

However, handling and analysis of the data was a lengthy business. In all, the initial sampling was based on just 25 minutes of videotape. It has been noted in Section 5.23 that 36,000 data points were derived from the 25 minutes of data and that more than 1,000 incidents were observed in that data; these incidents yielded 242 codes. As a result all categories attained data saturation, that is, a situation where the addition of further data does not add new properties to the category (Glaser 1978). The comparison of each

incident was complex work. Once codes had been named, a constant comparison of each code with other codes became increasingly time consuming as the number of codes increased. When categories started to emerge the situation stabilised to the extent that the primary comparisons were made between each category. I was concerned to achieve a situation whereby intensive analysis of the micro- communications and behaviours in the data were balanced with the need to manage the data. This occurred when it appeared that data saturation of the categories was achieved. However, the transcription and the coding process was prolonged. The memoing process, which took place in tandem and subsequent to the coding process, was also prolonged. Overall transcription, analysis and memo writing took in the region of two years, although further theoretical sampling extended this. In short, the length of time that data transcription and analysis took was a major issue for consideration in undertaking research of this kind.

7.1.1.2 Interpretation and analysis of the data

The choice of video as a data collection instrument inherently implies that the researcher's preconceived assumptions about what is worth observing come into play. This applied in two ways:

- The selection of particular episodes to be filmed and the selection of different aspects of scenes within those episodes both imply a certain degree of researcher bias.
- Video observation of interaction is by its nature selective. The scenes that were chosen for filming, the way in which the camera was directed at the scenes and the degree of detail that was filmed all constitute limitations to the study because the totality of the observed scenario was not captured on film.

The method that was chosen to transcribe the narrative and prepare it for analysis was innovative. The analysis of such data using grounded theory was largely unprecedented. Innovations by their nature are untypical and untested and may imply that they come with unforeseen caveats, the most important of which is the degree of interpretation of the data. Formulating the data in a transcription framework and subsequent coding and categorising of the data all involve manipulating the data. Such manipulation is to some extent structural (the framework) and to some extent interpretive (the coding). The coding of the data was unmistakably an interpretive process (Charmaz 2006). It is undeniable that interacting with the data, i.e. labeling an incident with a code, is an interpretive act. Furthermore the grouping of substantive codes and the writing of memos on the codes are a mental process that involves deciding on one name rather than another in order to formulate a concept. Such processes are acknowledged as having been integral to the analysis of the data. In mitigating the power of personal interpretation of the data I tried to apply the constant comparative process assiduously, as is described in Section 5.21.1. Ultimately each code earned its place in the theoretical framework on the basis that it fitted the data upon which it was based (Glaser and Strauss 1967). The overall

effect was that interpretation of the data was reduced to a minimum as the framework emerged from, but was not forced from, the data.

7.1.1.3 The location for the fieldwork

Another limitation was that the study was conducted in a developmental disability centre. Such centres are essentially schools for people with severe, profound and complex disabilities and as such the orientation of the staff in the centres was to promote education and interaction. The student population of the DDC was children and adolescents. This service was chosen for the fieldwork because it had a reputation as a quality service. Quality interaction was the target of the study simply because there was no point observing poor quality or absent interaction when the purpose was to uncover the structure of interactions. Other studies have sought to discover the factors that influence whether or not interaction occurs, but that was not the focus of this study (Markova et al. 1992; Griffiths 1999; Griffiths and Cowman 1999). The findings of the study reflect the fact that data was gathered in a place where plentiful interaction occurred. The theory of attuning that emerged from the study is an explanatory theory based upon the observed data in this setting. There is no evidence offered for the generalisability of the theory to other settings.

The final limitation of this approach is the Hawthorne effect (Heacock et al. 1996). The consequence of my presence in the classroom setting was that I took the role of observer as participant (Speziale and Carpenter 2007). That I had some effect on the action in the classroom is undeniable. In certain instances it was clear that I interacted with the participants, however, these were rare. More importantly, did the observer affect the action that was taking place? The answer to that question can only be a subjective one which was—not very much. Diary records show that I had spent some considerable time becoming familiarised to the participants before the observations commenced. The video records show that for most of the time, the participants were involved in interacting with each other and appeared to give little thought to the camera and observer. That view remains an interpretation of the behavioural evidence. However, there was no evidence observable to me to gainsay that conclusion.

7.1.2 Observation, video recording and the development of narrative

Narrative transcripts of observational material form the core data upon which the theory is based. The development of such transcripts is labour intensive but the result allows analysts to base their findings on the evidence of what the participants do in their interactional practice (West 1996).

The advantages of using video to record and subsequently to document the action and interaction that was the subject of the study were immense. Detailed descriptions of every action, pose, posture, movement, gesture and vocalisation of the participants

were made. The narrative was embedded in the transcription structure such that precise sequences of communication and interaction were clearly identifiable. Heritage notes that this precision is enabled by tape recorded data (Heritage 1984). The capacity of video to allow fine-grained coding is noted by Heacock et al. (1996) who also state that “it is not unusual for an observer replaying a videotape to detect nuances in non verbal behaviour that an observer in the field setting missed” (1996:336). This is, in fact, the nub of the matter; video allows for the collection of extremely detailed data that can reveal what is not evident to the observer of action in real time. The fruit of this process was the fine-grained detail of incidents and sequences in behaviour that constituted the transcription and formed the basis for the data analysis.

Various factors needed to be considered before the research methodology was determined. Chief amongst them was that there was no agreed convention for capturing data of this sort. A structure had to be arrived at that would simultaneously capture the dyadic narrative, but also render the fine-grained detail of the behaviours and the sequences in which they occurred. There were two main phases in the data analysis process: preparation of the transcript and subsequently the coding of the transcribed interactions which was accompanied by the generation of memos. The transcription of the videotapes was the most painstaking and slow phase of the data analysis. This had to be carried out in order to render as precise a written description of the data as possible. As such, each episode in the tape was viewed in real time, in slow motion and generally frame-by-frame, in order to ascertain the exact behaviours that were occurring and the precise sequences in which they occurred. Typically it took five and half hours to transcribe one minute of TK’s video and this covered 11 pages of transcript. Indeed it took two months of intensive work to transcribe 13 minutes of tape. Such lengthy data analysis is not untypical. Schonfeld made a videotape of a case study of a student engaged in a graphic educational computer game that attempted to “understand virtually all the actions taken in a problem session and the mental states that lay behind them” (Schonfeld 1992:182). Schonfeld asked the research group to analyse the behaviours that they saw. This took the group (the number of whom is not specified in the report) 18 months to analyse 7 hours of video. In the context of ‘thick description’ of an event, he notes that the descriptions were “thicker than most” (Schonfeld 1992:209).

There is a balance to be achieved between the advantages of a methodology and the disadvantages; that balance must be set in context. The context of this study was that the detail that was achievable through the combination of a painstaking transcription of video-recorded interaction produced data that had the potential to reveal the underlying structure that was inherent in the interaction process itself. The cost of that reward was the long duration of the transcription and the subsequent analysis. Nevertheless in all categories data saturation was achieved, a necessary criterion if the resultant theory is to be considered a good fit with the data sources from which it is derived. Ultimately

such an approach has application in many areas of conversation analysis as well as in the analysis of non verbal behaviour. Possible applications would seem to be evident in the exploration and comprehension of challenging behaviours in people with intellectual disability as well as in others who have difficulty communicating and articulating their feelings such as people on the autistic spectrum, children with ADHD and young children and infants generally. The primary virtue of such a data gathering method is that it can discover the features of the communications of people who do not communicate verbally in the sequences in which they occur. The discovery of how cause and effect operate in such sequences becomes possible, whereas in real time the intricacies of much of the subtle interplay of interactions may be difficult to catch. In the end decisions regarding the degree of observational detail that is required in a study must be driven by the research question and the resources available to the researcher. However, the aims of the research must take precedence for researchers and that means that where fine-detailed data is required plentiful researcher time is also required.

7.1.3 Grounded theory and observational data: An innovative synthesis

7.1.3.1 The nature of the data

Classic grounded theory contends that ‘all is data’. Glaser’s concept of data includes interviews, written texts and of course, observation (Glaser 1998:24). Four levels of data are presented as being amenable to analysis. Here they are presented in descending order of quality:

1. Baseline data, that is, the participants’ optimum description.
2. Properline data, the thoughts and feelings of the participant which are limited by what he or she is willing to disclose.
3. Interpreted data, the description of the participants interpreted by the researcher.
4. Vagueing out, where the participant makes unspecific responses which scarcely address the research questions. (Glaser 1998).

Glaser also notes that data may vary from clear “factual description to airy ungrounded conceptualisations” (1998:9). The primary characteristic of the differing levels is the degree of mediation of the data by either the participant or the researcher. The data in this study was located at the quality end of both spectra, that is, it was baseline data and it was close to factual description. My interpretation was very much limited to the selection of one aspect of one observed incident as opposed to another. The primary data was derived from the examination of video recordings. Video recordings constitute baseline data which is not the participants’ descriptions of how they answer the research questions. Instead this baseline data is observation of the participants’ verbal and non verbal behaviours. It emanates directly from the participants and is not mediated by any other. Much of the recorded data is non verbal (analogic communications) which has been noted to offer a powerful insight into the meaning that people place on an

interaction (Watzlawick et al. 1967). McNeill (1992) states that non verbal behaviours, and especially gestures, may be considered the truer indications of a person's meaning than words. He regards gestures as revealing iconic thoughts that reveal how a person feels and how a person relates to another. In sum, baseline data which is the highest quality data is the foundation upon which the study is built. Two cautions should be noted. The first is that the video recordings were by their nature selective in terms of the episodes that were recorded, the location from which they were filmed, the breadth of the scene that was filmed, the degree of detail and the subsequent selection of the important characteristics of each scene during the transcription process. Secondly, most codes were derived from multiple incidents in the data and data saturation was achieved for many of the primary codes; however, this was not the case for all codes.

7.1.3.2 The derivation of the narrative

The narrative that was prepared from the videotapes and interviews was highly detailed as was the coding process in which the relationship of lines of behaviour of the participants was examined, so that each incident could be located concisely in the appropriate code with a minimum of interpretation. Such an approach is similar to Glaser's concept of 'explication de text' which he describes as "reading closely line by line to ascertain what exactly the author is saying without imputing what was said, interpreting it or reifying its meaning" (Glaser 1998:24).

7.1.3.3 Data analysis

The primary problem with comprehensive coding of the data in the substantive area is the danger of developing a complete description of the interaction and as a result a qualitative descriptive analysis of the data becomes very real (Glaser 2007). The approach to data transcription, coding and analysis in this study was intended to avoid that problem but also to adhere as closely as possible to the action in order to allow the substantive codes and subsequently the theoretical codes to emerge from a matrix that had as good a fit with the data as possible. The constant comparative approach was central to this process. Subsequently the analysis led from the initial rather tentative memos that had been written, to theoretical sampling and further memoing. It was upon this basis that the vertical structures of the substantive codes emerged. In the next step the relationships between the substantive codes emerged as successive theoretical memos identified and confirmed them. Thus the horizontal lattices of the theoretical codes evolved to develop and link the codes and categories together in a meaningful way. The net effect was that the whole theory rested on the solid foundation of the original data and it was tied to that data by the methodical analytical approach which reduced the opportunity for interpretation to a minimum. It seemed to me that this was an approach that validated grounded theory as a method, where the analysis process was closely interwoven with the data and as a result the theory could stand up to scrutiny in terms of its validity. As Glaser notes, the worth of a theory derives from its fit with the data

(Glaser 1998). In contrast with this straightforward account of the direct link between data and theory, Kathy Charmaz's constructivist view contends that the direct link is a methodological assumption of Glaser's. Charmaz's view is that it does not take account of the fact that developing concepts and categories and subsequently integrating them into a theory is influenced by what the researcher thinks and how that informs the way he deals with the data (Charmaz 2003). Charmaz locates grounded theory between the positivist and post-positivist paradigms and proceeds to suggest that the researcher, or viewer as she puts it, creates what is viewed. The objectivist by contrast regards the world as being inherently describable and by definition it can then be analysed. Charmaz may be regarded as having developed her unique style of using grounded theory (Eaves 2001) and perhaps it is at this point that there is a requirement to sum up where these different views impact on this research study. This paragraph and its predecessor have explicated the tight fit between data and the resultant theory. However, it is undeniable that all the video recordings, the compilation of the narrative and the coding and analysis were filtered through my mind. Does that process constitute a constructivist approach to GT? My answer is that in general it does not. It is undeniable that some interpretive elements come into play in the way I transcribed, coded and memoed the data. However, this process was reduced to a minimum as each step of the research process retained the tight fit between the data and the theory. In the meantime the theory is what it is. It is my contention that, while accepting that it is the product of his descriptive and analytic thinking, there is evidence to support its fit with the data and relevance to the substantive area and therefore it is a reasonable assumption that it may resonate in the world of practice.

7.1.3.4 The implications of using observational data for grounded theory

A detailed narrative derived from observational data has produced a theory that is grounded in that data. What are the implications for the development of grounded theory as a method? Grounded theory is an evolving methodology (Glaser 1998) and as such it may develop to include new approaches to data analysis. Glaser notes that "the power of grounded theory is phenomenal" (Glaser 2005b:6). He also regards one aspect of the power of GT as being its capacity to operate on all types of data. Hitherto grounded theory has scarcely been utilised as a research method to derive theory from observational data. While there is a long history of observational studies that have used conversation analysis or discourse analysis in child language research, there have been very few that have used GT. One rare grounded theory example of an attempted analysis of observational videotaped data is a study of the interactions of Salako women (Burkhardt 2007). Unfortunately while the observational data in this study is rich, the analysis is not carried out thoroughly, resulting in a description of the interactions rather than any plausible theory emerging. Another example is Urquhart's use of GT to analyse a case study of analyst-client interaction. She concluded that GT was a double-edged sword, in that rich concepts emerged from the data, but she had difficulty finding

the theoretical framework that linked them (Urquhart 2000). Interestingly Urquhart comments that much of this difficulty arose from the nature of the data, which was micro analysed dialogue.

By contrast, in this researcher's study, as well as the coupling of observational data with grounded theory analysis, a further innovative element was the use of video derived observations of micro communications. These communications represent the most finely detailed behaviours which were identifiable due to the frame-by-frame analysis of the videotapes. However, the method employed in this study not only enabled the identification of such micro-behaviours but it also facilitated the identification of the sequencing of those behaviours. The effect was that patterns of micro-behaviours were identified. Some of these patterns eventually emerged as the processes that were operating to link codes within categories or indeed in certain cases to link categories themselves within the theory. The evolution of this methodology, whereby grounded theory was paired with this type of data, was a key development of the study.

The evolutionary methodology employed in this study suggests that new applications for grounded theory may be opening up. The linkage of microanalysis of behaviours which can be identified through observational techniques means that data can be obtained that is now amenable to the application of grounded theory with the result that as with the invention of the microscope which revealed a new order of physical matter, understandings of the small components of the communication process can now be advanced. Out of this, previously unseen patterns of communications and behaviours can be found. In fact the structural organisation of the communication process can be understood through the application of a grounded theory methodology to such micro-data.

7.1.4 Narrative derived from observational data: Where does it sit in the quantitative/ qualitative dialectic?

As noted already, the principle that 'all is data' is a key basis for classic grounded theory and the position of the data is central to the way in which grounded theory works. This concept is expressed when Glaser states that grounded theory is "not logical, it is empirical, it seeks to find out what is going on" (Glaser 1998:91), the data then is king. This assumption leads by extension to methodological approaches such as continually referring back to the data as substantive and theoretical codes emerge to ensure that they have a foundation in it. This is the constant comparative method which is a cornerstone of classic GT. Such an approach has an inherent assumption that derives from quantitative research, which is that data may be viewed to a greater or lesser extent in an objective manner. Grounded theory is generally viewed as being a qualitative methodology (Eaves 2001). However, historically it is acknowledged as having roots in both paradigms (Glaser 1998). Glaser was taught by Paul Lazarsfeld, a

noted quantitative researcher, and he emphasises that his roots are in this paradigm. He notes that his own dissertation was a quantitative grounded theory (Glaser 1998). In contrast, Anselm Strauss was educated in the University of Chicago and his background was in the qualitative paradigm. Some of the interests that Strauss developed were concerned with the role of meaning in the interaction process (Strauss and Corbin 1998). A synthesis of these two traditions took place in the original text *The Discovery of Grounded Theory* (Glaser and Strauss 1967). Indeed the authors explicitly state that “there is no fundamental clash between the purposes and capacities of qualitative and quantitative methods or data” (1967:17). The original text does apply some principles of quantitative methodologies to the analysis of qualitative data and it is at this point that the key issue for this discussion can be pinpointed. This research study uses narrative data and interview data; is it therefore a qualitative study? The application of Glaserian classic grounded theory as a methodology in the study implies that the inductive process is very tightly knitted to the data sources. A thorough examination of the substantive and theoretical codes suggests that they can be tracked back to the data sources implying that a fit emerged between the data and the categories that were generated (Glaser 1978). This study then may be considered to have been carried out in the tradition of classic grounded theory, which Glaser locates as standing outside the qualitative paradigm. Indeed he considers that grounded theory conceptualises the data from whatever source it may arise and transcends both qualitative and quantitative paradigms (Glaser 2001).

The background to this study was my interest in the way in which people with profound intellectual and multiple disability view the world and how they establish their own meanings within it. It seemed to me that the optimal way of doing this was by trying to find out the patterns of communication that were present in their dyadic interaction. So the background aim was for an insight into the person as part of the dyad, the aim was to get as close as possible to the way of thinking of the person within the dyad. The narrative data that was collected told the story of who was doing what (their actions) and what they were saying about it in words, that is, qualitative data. The theory that has emerged has achieved the aim of obtaining an insight into the joint world of the communication dyad. The concepts and their interrelationships that have been identified are reflections of the participants’ thinking and these are made explicit in the theory. This point brings the discussion back to the original question, where does this study sit in terms of the paradigmatic dichotomy? The answer seems to be that the theory has emerged from narrative data which was derived from observation. This suggests that the study relies more on qualitative approaches yet in the whole of the research process I actively sought to minimise interpretive influences in line with the methodology of Glaserian grounded theory. The effect of this methodological approach means that positivist influences upon the study cannot be discounted.

7.1.5 The implications of the study methodology for speech and language therapy

Much of the practice based research which is concerned with how people with profound intellectual and multiple disability may be enabled to communicate derives from the speech and language therapy community. In particular the works of Bunning (1996), Grove et al. (1999a), Grove et al. (2001), and Wilder et al. (2004) were influential in the study. None of these experts used grounded theory as a methodology to inform their work and indeed a recent review of the literature has identified only eight articles published by speech and language therapists where grounded theory was noted as being central to the methodology (Skeat and Perry 2008). Of those articles, only three had service users or the parents of service users as their subjects; the others were concerned with speech and language therapists' practice or the education of speech and language therapy students.

This study has examined an area of practice that is near to conversation analysis but is not conversation analysis; it is near to discourse analysis but is not that either. The transcription framework derived some elements from speech and language therapy, some from ethnography (Eggins and Slade 1997; West 1996) and some from education and nursing practice. In short the methods employed in gathering the data were derived from an eclectic combination of sources that most aptly appeared to serve the purpose of obtaining appropriate data. The grounded theory methodology also fitted the aims of the study very neatly. Such a combination of method and methodology would appear to offer much in the area of the analysis of discourse, particularly but not exclusively when that discourse is non verbal. Grounded theory is about the identification of patterns of behaviour, that is, it is about understanding what is going on in social circumstances. Speech and language therapists are concerned with this domain also. The implications of the study are that grounded theory has a role to play in the researching of patterns of social interaction where communication is of necessity difficult to identify, to understand and to interpret. The theorist must be prepared to handle a deluge of data, but grounded theory offers the possibility to make sense of the data and to produce new insights into speech and language therapy research.

7.2 The contribution of the study to theory

“The explication of universal processes that explain social interaction through formal, generic principles is a long standing goal, a grail for those who strive for systematic principles of knowledge” Prus (1987) cited by Thompson et al. (1999:19). This study does not claim to have fulfilled Prus' long-standing goal nor does it claim to have developed a formal theory of communication but it does offer a framework that demonstrates systematic principles that underpin the dyadic communication of people with profound intellectual and multiple disability and their carers. The study identifies a core communication process that applies in this situation and offers a theory to explain the main concern of the participants in the substantive area.

The principal finding of the research project was that attuning is the key process by which people with profound intellectual and multiple disability and their carers regulate their communications, their interactions and their relationship. Attuning is the core category of the theory that explains the basic social psychological process which is at play. Attuning reflects how the communication partners behave and it affects how they interact within the communication dyad. It is therefore an influence on and is influenced by the communication process. Attuning is named as a verb, that is, it is the action inherent as interactions unfold. The research literature does not name attuning to any great extent. A search of the database 'Linguistics and Language Behaviour Abstracts' (all years up to 2009) reveals two citations for attuning, but 31 for attunement. Equally a search of the combined databases for 'Psychinfo and Psychlist' produced 43 citations for attuning, whereas for attunement there were 717 citations.

The concept of attunement (the noun) is based on Stern's concept of affective attunement which may be defined as "the performance of behaviours that express the quality of feeling of a shared affect state without imitating the exact behavioural expression of the inner state" (Stern 1985:142). Attunement involves the sharing of feelings and experience (Poulsen and Fouts 2001). Preconditions for it are "emotional awareness, readiness and openness to being attuned" (2001:185). Affect attunement has been identified in the mother-infant relationship and it has three stages: the mother identifying the emotional state of the infant, the communication of this understanding to the infant generally through behavioural imitation and the comprehension by the infant that the mother understands how he feels (Jonsson et al. 2001). Affect attunement, as defined by Stern, appears to be the closest concept that the research literature has identified to attuning, but it differs from attuning in several ways. Firstly, attuning is a dynamic process, not a static event. Secondly it is a process that regulates all others in dyadic communication; therefore, it is the key process. Thirdly attuning does not refer solely to an emotional state inherent in either or both participants. Instead it refers to an objective descriptor that defines the degree to which the behaviours of the individuals in the dyad align. It is undeniable that an affective element is involved in such alignments, but attuning goes further, in that it encompasses all elements of the interaction such as the perceptual, the intellectual and the sensory as well as the emotional affective state. However, Stern does refer to an element of affect that he suggests accompanies most attunements. These are 'vitality affects' and they inform the nature of "how a behaviour is performed, not what behaviour is performed" (1985:157). Vitality effects have the qualities of intensity and timing and they permit the sharing of experience over a period. Attuning would appear to share the properties of vitality and timing in the sense that attuning may be more or less intense and occurs variably at different times during the interaction. Attuning may manifest as shared behaviours that reflect a shared affect, but in general the concept as identified in this study is more powerful and more widely defined as "the process whereby communication partners move towards or away from each other mentally and

emotionally”, thereby suggesting that there is a cognitive as well as an emotional element to the concept.

7.2.1 What is attuning?

Attuning is the process that determines how an interaction is played out. The theory suggests that it is the primary factor involved in determining what happens in an interaction and how it happens. Internal factors such as the way in which the members of the dyad feel (their being) play a role, as do external factors (the setting in which the interaction takes place and the stimuli that are offered by each participant to the other in that setting also play a role). However, the actions and the engagement that constitute the central elements of the interaction are determined primarily by the way in which a person attunes to and attends to them and to the other person. The theory suggests that without attuning, communication would not occur; it is therefore the key element in the communication and interaction process. Attuning has two different dimensions and therefore four related polar opposites (positive and negative and pro and anti). In between these polar extremes differing levels of the concept may be found and these can be named (the codes *harmony* and *disinterested* being two examples of properties of attuning).

The main sub-core concepts of the theory are identifiable as occurring in specific behaviours, action, stimulus, attention, engagement and the setting can be clearly pointed to as existing in movement, eye gaze, dialogue, or the surrounding environment. The concept of being was less easily identifiable by observation but was inferred as being present on the basis of observed behaviours and this was confirmed by the focus group discussions with the non disabled participants. In trying to sum up the concept of attuning it is perhaps best construed as being both the driver and the reflection of the mental conjunctions or disjunctions of the individuals in the dyad.

7.2.1.1 Attuning: Related concepts

Attuning is a concept that has been referred to in differing ways in the literature.

Attuning has been examined in the context of the mother-infant dyad as being embedded in the interaction process which is construed as consisting of a chain of interlocking behaviours where each stimulus initiates a response which constitutes the next step in the dyadic mutual interaction (Papousek and Papousek 1977). These authors suggest that where a member of the mother-infant dyad achieves an intended outcome through one step of the interaction, this results in a pleasant feeling for the infant or mother, with the result that an affective link is established that then impacts on the next step in the interaction. This feeling may be considered an early marker for the concept of pro attuning.

The establishment of an understanding of mutual affect is a key requirement for ethical

practice amongst staff working with people with intellectual disability. Hewett and Nind (1998), commenting on new developments that shed light on interactive approaches to Intensive Interaction, note that empathy is regarded as a key quality that infuses the practice of staff who wish to work with people with ID in an ethical manner. These authors define the term as “a perspective on what the world may be like for people with learning disabilities” (Hewett and Nind 1998:18). Empathy is closely related to the concept of attuning, which is characterised by similar elements such as a mutual valuing in which solidarity, reassurance and trust are the central qualities. Such qualities were found by Forster and Iacono’s (2008) study of three support workers’ views of their interaction with a woman with PIMD which they saw as having a ‘strong emotional component’ and involving some element of attachment between staff and service user. Empathic understanding is also demonstrated in Firth et al’s recent (2010) consideration of Intensive Interaction. These authors describe a state of ‘being with’ the other person where the individual is relaxed, focused, and attuned to the other, where a state of “mutually pleasurable and symmetrical sociability” (Firth et al. 2010:58) exists between the staff member or teacher and the person with profound intellectual and multiple disability.

Sterns’ work on attunement has been referred to earlier in Section 7.2. Attunement, like attuning, possesses an element of matching of individual’s affective states (Stern 2000), Stern notes the importance of imitation linked to that matching of individuals’ feeling states through different modes of communication that express the same emotion, but not necessarily in the same way. Therefore, for Stern attunement is an inner state manifested in external behaviour. Attuning is similar, in that it is often identified by its inferred presence rather than specific behaviours and its presence is characterised by matched behaviours within the dyad. Interestingly, Firth et al. (2010) comment that experiencing such attunement may lead individuals to develop their understanding of their own affective life.

Another view of attunement is the process of development of interaction styles that are meaningful to the person with PIMD. Such an approach has been described by practitioners as matching the teacher or staff member’s behaviour to that of the person with intellectual disability (Forster and Iacono 2008), an approach that is clearly similar to that of Intensive Interaction practitioners (Nind and Hewett 2005). Of related importance is research into the operation of mother-infant dyads which suggests that infants from the age of two months are sensitive to their mother’s behaviours and that this mutual sensitivity leads to a “complex form of mutual understanding” (Trevarthen 1979: 346), where the infant matches his or her communication style to that of the mother. That the interaction process is complex as well as comprising many variables and being subtle in its nature is accepted by others (Hewett and Nind 1998) and it is in explaining how this complexity operates that attuning demonstrates its value.

‘Sensitive responsiveness’ (Hostyn and Maes 2009) is arguably another concept related to attuning. It defines “a dyadic quality of the interaction and refers to the way partners perceive each other’s signals accurately and correspondingly respond to each other.” (2009:304). Attuning shares the quality of good mutual understanding with sensitive responsiveness, but it differs from it as sensitive responsiveness seems to relate primarily to the perceived accuracy of a communication whereas attuning implies a more broadly-based concept that encompasses both accurate and empathic understanding (pro / anti attuning) and affective understanding (positive / negative attuning). Hostyn and Maes (2009) also identify that the concept of co-regulation is a factor in the dyadic interaction process; they note that it brings together “ideas of mutuality, reciprocity and turn taking” (2009:305). Co-regulation is very similar to the code *harmony* which indicates the highest level of pro-attuning. In combination the concepts of co-regulation and sensitive responsiveness suggest a similar concept to that of attuning, however, there appears to be some difference in that attuning is conceived in this study as not only being indicative of how interaction operates which is where the similarities lie, but attuning is also the key driver for the generation of interaction. As such it may be a rather more complex concept.

7.2.2 Identifying attuning

Attuning is also difficult to identify. In some incidents it is clearly evident. For example in TK2-14.03 TK is sitting in his chair and is being fed, M is standing beside him and moves across with the spoon in her hand, it descends towards TK, he attunes to her, attends and then turns towards her and looks at the spoon. However, in many instances attuning is evident by its inferred presence. Thus some codes have high levels of pro- and positive attuning and some have low levels, However, it is present to some degree in all codes. Only in very few codes is its presence unclear. *Lost interest* is one such, where in TK6 52.17-21 after TK and M have been playing with toy animals TK has indicated to M that he does not like her playing with toy animals in front of him, she ceases and stands quietly in front of him doing nothing in particular. There is no action and no engagement, yet even at this point some small element of pro- attuning must be present as M is still beside TK and therefore has some element of awareness of him. Codes such as *withdrawal*, *disconnected* and *disinterested* all imply a residual element of attuning that can be increased should *actions* or *stimuli* occur or should a changed state of *being* happen. The codes *disconnected* and *disinterested* suggest there is a residual element of attuning that is present in the dyad even though neither participant demonstrates behaviour that is suggestive of attuning. The residual element of attuning increases as the subsequent reengagement between the partners in the dyad gets under way. There appears to be a strong ebb and flow of the attuning level in the dyadic process. The data suggest that attuning is always present in the dyad provided that the partners in the dyad are sufficiently close to each other to be aware of each other.

The pervasiveness of attuning suggests that it is the generative factor behind the

communication process that is, not only is it the key mechanism that calibrates the mental closeness or distance of the participants in the communication, it is in fact the generator of that closeness, hence its pervasiveness. By implication attuning cannot be absent in communication. Heidegger (1998) views the importance of attunements as being central to identification of the individual's intrapersonal life (their 'Dasein') and the way in which the person defines his relationship to the world (Miller 2005). In light of Heidegger's view, it may be suggested that the way in which a person attunes to others affects the way in which he or she views the world and is in turn a mechanism for the external world to affect the person.

7.2.3 Attuning and visual impairment

The ability of an individual to attune to the other member of the dyad may be affected by his/her capacity to register sensory information. Identification and recording of sensory impairments that may accompany severe and profound intellectual and multiple disability is relatively rare (Gittins and Rose 2007). However, that does not mean that they do not exist. Eye problems are reckoned to be common in people in this group (Levy 2009). Evenhuis et al. (2001) examined a group of 672 people in residential care in the Netherlands and found that 51% had a lowered visual acuity, and 33% were severely visually impaired or blind. The prevalence of such conditions has implications for the attuning process. Some of the indicators such as eye contact, smiling, or where partners look at each other, are less likely to be present when one partner in the dyad is visually impaired. Furthermore the close relationship between attuning and attention which is primarily demonstrated by the presence of visual gaze also implies that attuning may be less likely to occur or to be detected. As eye contact is an element in turn taking and sight is important in the process that enables meaning to be ascribed to the analogic behaviours of others (Levy 2009), it is a fair assumption that visual impairment may impact on and alter the attuning process. However attuning may also manifest in close physical contact, movement towards or away from the other, joint action and altered states of being, behaviours which do not require visual acuity. The key to identifying such attuning is the close observation of cause and effect between the partners in the dyad. None of the three persons who were filmed in this study were diagnosed as having visual impairment or displayed such characteristics, so any conclusions regarding the implications for people with visual impairment come with this caveat: that the data set did not include behaviours that were generated by people with PIMD and visual impairment. It would nevertheless seem reasonable to conclude that attuning may be identified in persons with PIMD and visual impairment where indicators of its presence that do not derive from the establishment of visual interaction are present. There is an implication also that where visual impairment may be suspected in a communication partner, the use of video and accompanying microanalysis of the person's interaction may assist in identifying the presence and nature of the impairment and also its communicative implications.

7.2.4 Attuning and development

All participants with disability in the study were classified as having either severe or profound intellectual disability, yet it was from observation of their behaviours that the concept emerged. Attuning therefore appears to be a process that is present in people who are severely developmentally delayed. Attuning is a concept that is not generally identified in the literature. However, some papers identify the related concept of affect attunement. This concept is defined as “a special kind of intersubjective relatedness in which there is a match of internal states and a sense of emotional connectedness between two individuals” (Poulsen and Fouts 2001:185). Reciprocal identification of non-imitative feeling states is regarded as the central element of the concept of attunement by Jonsson et al. (2001). Chronologically, attunement has been identified as being well established in children of the age of 9 years (Poulsen and Fouts 2001); equally it is noted as occurring in younger children, indeed early in the developmental life of the infant. Jonsson et al. (2001) identify that mothers and infants at the age of 2 months share affective states and demonstrate this by imitation. Stern, by contrast, suggests that attunement occurs somewhat later, around 7 months. However, he does agree with Jonsson et al. (2001) that 2 months represents an important stage in its development (Stern 1985). That point is supported by Kearney (1997), who views the literature as suggesting that the infant opens out to the world around the age of 2 months. A consensus seems to emerge that indicates that children start to develop the capacity to attune from 2 months of age, but that this is only the start of an evolutionary process.

This suggestion that infants are recognised as having a capability to attune as early as the second month has interesting implications. An American study of the interactions of mothers and infants of two to three months, that videotaped staged dyadic encounters, found that these infants were sensitive to their mothers’ subtle changes in expression. Furthermore, the study found that they demonstrated a strong mutual understanding in the dyadic process and that much of that process was directed by the infant rather than the mother (Trevarthen 1979), a conclusion that others have also found (Murray 1985). Video was also used to record and analyse the dyadic interactions of four- and five-month-old infants and their mothers in a Canadian study (McQuaid et al. 2009). 64 children participated in the study which revealed that infants at this developmental stage had developed expectations regarding the nature and patterns of social interaction and their likely success in participating in it. Such patterns can be regarded as a sequence of interlocking, behavioural responses from one member of the dyad that also function as stimuli to the other member of the dyad and form the basis of social interaction (Papousek and Papousek 1977) in a similar manner to the relationship between action and stimuli that is examined in Section 6.7.2.4.

Comprehension of patterns in the interaction process by young infants supports the findings of this study that people with profound intellectual and multiple disability

recognise patterns that have become established in previous interactions and that they develop expectations that these patterns may play out in current interactions, as the code *anticipation* demonstrates. Such understandings are mutual and form a part of the attuning process. Attuning has been alluded to in a review of the literature relating to the conditions that affected sensitivity and responsiveness of caregivers to infants (Dunst and Kassow 2008). This analysis of 81 studies concluded that the promotion of reciprocity in the caregiver/child dyad is most effectively achieved when the caregiver attunes to the child's behaviour and interprets the child as possessing the intention to affect the dyadic process. Application of these conditions impacts caregiver-child contingent responsiveness and promotes interactional competence and mutual confidence (Dunst and Kassow 2008).

In short, two conclusions emerge from studies of interaction of children in infancy. The first is that the ability to impact on the interactional process is understood by infants quite early, with the effect that communication is potentially a mutual process from the age of two months. The second is that the establishment of the key components of mutual attunement and attuning is the central process to develop communication competence in the infant-mother dyad. The understanding by people with PIMD of the dynamics of the interaction process is evident in this study. Though they may be developmentally delayed at levels of less than a year, they also demonstrate that they understand the interaction process—i.e. that it is a structured, patterned process—by the way they take part in it. The studies of infant interaction identify the mechanisms of effective communication as being very similar to those of the process of attuning, a conclusion that reinforces the understanding that attuning works in the infant-mother dyad as well as in the caregiver-person with PIMD dyad.

7.2.5 Implications of the theory for communication theory

The dynamic nature of attuning and the place that it occupies at the core of the interaction process reinforces the view that static models of communication, whereby messages are sent by one person and received by another (Shannon and Weaver 1949), do not wholly account for what happens in the communication process. Attuning therefore demands that communication and interaction are construed as non linear processes that require a feedback mechanism (Buck and VanLear 2002). The theory also suggests that communication may be considered as a mutual process that is characterised by feedback loops which serve to continually allow the attuning process to modulate the nature of the interaction that is running through those feedback loops. Communication processes under such a view would be regulated by the attuning process itself. The theory of attuning suggests that communication takes place if attuning is present and that the degree and quality of the communication is dependent on the level of pro- and positive attuning. Attuning therefore is a requirement for communication to occur.

The continuous process model of mutual social co-ordination (Fogel 1993a) cited by Grove et al. (1999a) suggests that information does not reside in the behaviours or cognitive interpretations of the individuals in the dyad, but that it is created through their perceptions of the social actions that take place during the engagement. Such a model postulates that there are multiple meanings in a communication which “vary depending on the standpoint of the participants” (Grove et al. 1999a:193). It is possible to suggest that the attuning process is located between the participant and the perceived action or communication of the other and it is this process that determines how the communication is received. Such a view regards information that is transferred from person to person being found in “the meaning of the perception as it emerges through participation” (Fogel 1993a:14-15) (of the individuals). “Information is what participants create during communication through the continuous interplay of perception and action in a co-regulated social context” (Fogel 1993a:15). The continuous interplay of social action is the process that is regulated by attuning, so it follows that the nature of the interpreted meaning is greatly influenced by the attuning process.

This view of the importance of attuning in the communication process assumes that the discrete state view of communication, whereby information is exchanged through a word or a gesture and is passed to the other in a series of sequential steps (Shannon and Weaver 1949) is insufficient. The crucial place of attuning in the construction of meaning relies on the assumption of the continuous process model (Fogel 1993b). The model contends that information resides in the stimuli and actions that a person generates and also in the communicative responses that the participants in a dyad produce. Actions according to this model are in a “continuous process of creation vis-a-vis the partner”. **Attuning may be suggested as constituting the creative force that enables meaning to emerge from the communication interplay. Such a view leads to the conclusion that attuning is the crucial element that must be present within the dyad, both in order for communication and engagement to take place, but also in order for the information that is present in the communications to be created and interpreted.**

7.2.6 The concepts of the theory: Implications for understandings of the communication process. The subcore categories

7.2.6.1 Attention

Attention is the category that most closely relates to attuning. It comes about as a result of all the other categories and in turn it drives all others, except setting. Attention is defined in this study as “an observable behaviour that indicates the consciousness of a person is directed to either another, the actions of another, a shared point of reference or an object”.

Attention takes place as a result of a person attuning to another. It is necessary for a person to attune to another in order for attention to be directed at the other person or event. During and after the analysis of the data it was difficult to untangle which came first in the process. An extensive example is cited in Section 6.4.8.1, which demonstrates the sequences of behavioural interactions. It is possible to distinguish attuning as being the precursor category. However, because attuning is inferred rather than actually observed, its presence in the sequence remains potentially debatable. Kidwell and Zimmerman (2005) contend that it is not possible to untangle the presence of attention from the flow of social activity. However, there is some evidence in the literature to suggest that attunements are elicited in response to specific behaviours of another (Jonsson and Clinton 2006) and thus take place before the manifestation of attention.

Attention is a graded concept in that it can be very intense, as in the code *rapt*, neutral as in the code *bored* it can also be intentionally removed as in the code *ignoring prompt passive*. Lastly attention is by its nature eminently observable. It is therefore not difficult to identify its presence and its various forms. The three way breakdown of positive, negative and neutral attention implies that it is a dynamic concept from which much can be inferred regarding the mind state of the individual. It is also clear that attention can be indicative of the presence of intentionality in that attention may be intentionally given to another or withheld and this itself probably results from differing levels of both axes of attuning.

7.2.6.2 Being

Being, defined in this study as “that aspect of the person that generates thought and action,” is largely inferred from observations of what the person in the dyad did or how they carried themselves. Several codes were identified as describing the concept of being when it manifested in an individual and these frequently reflected that person’s conscious state. Consciousness is a key aspect of being and it implies that some characteristics exist which may describe what it is like for that individual and how it is to be that person (Nagel 1974). Being implies that the person feels differing emotions (affect) and that this sentient consciousness processes the effects of the setting in which the person is located and the stimuli within it to produce actions and to engage. The person is capable of attending to others and attuning to what is happening around them. When attuning occurs it is the person’s being that attunes. Being is concerned with the essence of the individual and as such its presence as a proactive concept in the theory implies two things—that the individual who demonstrates it has a degree of self-awareness and of intentionality. The presence of self awareness in persons with profound intellectual disability would not be universally accepted, although some researchers have suggested that observations of blushing behaviours in this group of people demonstrate evidence for its existence (Cleland 1979). Intentionality has been noted in an earlier chapter to be an emergent concept that is concerned with those behaviours

of a person that have an identifiable content. Although consciousness is a first-person ontology (Searle 1997) and intentionality is an element of consciousness (Haye 2008) and therefore being, it is arguable that the presence of it may be inferred when the individual engages in behaviours that have a focus, an “aboutness” to which the person is attuning. **Inherent in the framework of the theory of attuning is the implication that if an individual identifiably engages in the stages of the process and demonstrates attuning as he or she communicates, then by a reverse logic the presence of being is clearly to be inferred and with it the presence of a different but fully conscious person who is incorporating a degree of intentionality in her / his behaviours.** To restate the proposition, the identifiable presence of attuning is an indicator that the person who is attuning has an individual consciousness that is engaged in attuning.

7.2.6.3 Action, stimulus and maneuvering

The patterns of actions and stimulus determine much of the interaction in dyadic communications. Action is identified as an observable process of behavioural change in an individual that is demonstrated by movement, gestures, facial expression, vocalisation and other behaviours. In contrast, stimulus is defined as an attempt by one partner to induce action from the other. Stimulus therefore differs from action in that it has a greater element of intentionality and it tends to occur earlier in the dyadic flow of behaviours. Stimuli, like actions, may be classified according to their strength. Actions and stimuli imply that an individual is attempting to achieve something and implicitly there is a communicative element to these. The somewhat controversial view that all behaviour is communicative is put forward as an important assumption in examining and interpreting the interactions of people with profound intellectual and multiple disabilities (Grove et al. 1999a) yet it is an inherent element of the logic of the interplay of the concepts in this study. Examples are to be found in the study; one such is the code *determined inaction*. This code implies that the person who is not acting is communicating a clear message by his refusal to engage.

Stimuli are internally generated and externally targeted, in the data they are disproportionately offered by the staff members of the dyad. The disabled participants do offer stimuli, but much less frequently than staff.

Actions and stimuli are component parts of social interaction and they depend on the members of the dyad attuning to and attending to each other. It is a minimal condition for social interaction and for the initiation of action that attention is offered to another (Kidwell and Zimmerman 2005). However, the theory of attuning states that the state of mind (being) of the individual is a driver for that individual to make an action and or to make a stimulus. In other words a person must think they wish to do something before they do it. Wilder and Granlund (2003) make a related point in their study of the behaviour style and interactions of 7 children with multiple disabilities. They conclude

that the way the children interacted was a function of their personalities (Wilder and Granlund 2003). It is important to note that the participants in the attuning study did not appear to offer stimuli to the other person or make an action unless they had decided that this was what they wanted to do (being). At no point were actions or stimuli observed that were not understandable in the totality of the context in which they were taking place. There was, therefore, a presumption of intentionality in their actions.

Close observations of the actions of the participants in the attuning study suggests that the quality of aboutness (Searle 1983) allied to a sense of direction (Mohanty 1972, Freeman 1999) was manifest in their actions and stimuli and that there was therefore an intentional flow in the communication process. This is an important matter in that it emphasises the purposeful nature of the interactions and the implicit presence of intentionality within them.

In the context of this study, actions and stimuli are critical behavioural types that feed into the communication process. It is arguable that the central behavioural features of people with profound intellectual and multiple disability are inevitably going to be non verbal actions. However, estimations that of the totality of human communication 60% are largely non verbal (Geerts et al. 1996) would suggest that these are important factors in all dyadic communications.

Of all the concepts that were identified in the study, only maneuvering was clearly established as being a property of another concept—the concept of action. This happened early on in the study and as the nature of maneuvering became clear, it was evident that it constituted a sub category of action. Maneuvering refers to “independent movement of the participants in the dyad towards and away from each other and it is characterised by an implied mutuality, mental and physical interdependence and attempted goal attainment”. Maneuvering is about getting your own way through the application of action. It may or may not be harmonious, but it requires a high degree of pro-attuning and where it is not harmonious it implies negative attuning. The interesting aspect of maneuvering is that to observe it in action is comparable to watching dance partners. Maneuvering involves the dyadic partners moving towards and away from the other. Sometimes it may involve two diametrically opposed aims, as in the code *micro dance*. Sometimes it involves harmonious coordinated movements, as in *coordinated interactions*, the difference being the presence or absence of positive attuning between the participants. This type of closely related behavioural interaction between two people is contrasted with the educo-therapeutic intervention known as Intensive Interaction (Nind 1996), which is also characterised by closely entwined relationships. Intensive Interaction involves semi-structured dyadic interactions where initial high levels of imitation in the dyadic process give way to a developing dyadic relationship in which each participant learns to engage with the other on that person’s terms. Intensive Interaction also implies that both partners in the interaction have equal value and that

the interaction process is mutually negotiated (Nind and Hewett 2005). In some ways it is possible to view some of the partners' interactions in Intensive Interaction as mutual game-playing all of which suggests that attuning and maneuvering may be present in some aspects of the Intensive Interaction process.

A study (Finlay et al. 2008b) involving an examination of two videotapes of a resident with profound intellectual disability interacting with a staff member suggests that where the staff member is not certain about the resident's intentions or wishes, the staff is faced with a dilemma—namely to halt the interaction or to insist on its continuation. In this particular study the staff member solved the dilemma by treating the resistance or ambiguity as temporary reluctance (Finlay et al. 2008b). This approach resonates with the determined approach of both staff and person with intellectual disability in the multiple incidents upon which the code *micro dance* was based. Interestingly temporary reluctance seems to characterise many of the behaviours of both parties in the dyad in the study reported here. Maneuvering then may be said to be a highly developed form of action that demonstrates the determination of the members of the dyad to achieve their goals in a frequently very coordinated manner. In order for maneuvering to occur good communication (a high level of pro-attuning) is necessary, however, the result is often that participants clash in diametrically opposite courses of action. This aspect of maneuvering and the hidden role that is played by the application of personal power in the dyadic process is further explored in Section 7.2.10.

To sum up, the interplay of stimulus and action has to be considered in the light of how the participants attune to each other. High levels of pro attuning do not necessarily imply high positive attuning. The consequence may be that the stimuli and actions that a person generates in response to another may often result from a very good understanding of the other, even though the actions that take place between the participants conflict. Inherent in all of this discussion is the high level of intentionality that is evident in the codes that constitute these three concepts.

7.2.6.4 Setting

The context in which a person exists can be divided into two elements: environmental and personal (Pellegrini 1985). Pellegrini determines that the environment is composed of the physical space in which a person is located as well as the actions of others in the locale. The symbiotic nature of the person and the environment in which he or she is located is noted by various researchers (Lewin 1956; Charlop et al. 1983). Indeed Lewin considers that separating the individual from the setting should not be done and that they should be seen as differing independent variables rather than two wholly separate variables, a stance which differs from the evidence in the study that is reported here where setting is identified as a separate variable.

This study has differentiated between the two concepts of the background setting and other stimuli that emanate from others who are closer to the individual. This has been done because the evidence, although scanty, does suggest that there are clear differences between the concepts of setting and stimuli. The study has found that the setting has an effect on the action within it. The setting is a primary generator of the action that takes place within it. This study has not specifically examined the effects of the setting. These were examined in some detail in a previous study by this author (Griffiths 1999) which found that there were statistically significant differences between different settings on the purposeful and non-purposeful behaviours of adults with profound intellectual disability. However, that study defined settings, as did Lewin (1956) as the totality of the environment in which the individual was located. This current study takes a radically different definition of the concept. The definition used in this study is that the setting comprises the environment in which the individual is located exclusive of the immediate interaction. In other words, it is primarily a geographical concept which is expanded at times to include individuals who are not in contact with or concerned with the individuals in the dyad. The implication of this different definition of setting is that the interaction dyad (or triad) is construed as a separate entity to the setting and that the setting is a variable (category) which impacts on the variables (categories) that operate within the dyad and that process may elicit engagement as noted in Section 6.6.3. Mostly, the effects of changes in the environment were occasioned where alterations in the activity in the middle ground and background occurred and these had an impact on other concepts such as action, engagement and being. In general, **the paucity of observable setting effects is worth noting in the study.**

The impact of different settings on behaviour has not been exhaustively defined in this study, but the study has identified some evidence to suggest that the setting works to create a general atmosphere that pertains to a room, external environment or car, bus or other mode of transport. The matrix is composed not only of the physical surrounds but also of the persons in the setting and the general background activities that they engage in. The background activities have the effect of creating a composite of multiple micro stimuli which combine to create the whole.

That the concept of the setting is an important one in the context of an explanatory theory of communication is not in doubt. Service et al. (1989) contend that “Communication cannot be divorced from the context in which it occurs” (Service et al. 1989:44). Others regard a comprehension of the effect of the environment on the interactions of those within it as a necessary element in the understanding the abilities of the person with intellectual disability (Bradshaw 2001b). Some regard the term setting as encompassing different activities occurring within the one environment (Charlop et al. 1983), whereas others (Markova et al. 1992) consider that the term refers to a much larger physical space such as a type of residential establishment like a hospital or a hostel. A differing

view proposes that social interaction takes place in a global environment where the mechanics of the social structures may be construed as maintaining the interaction processes (Di Paolo et al. 2008), possibly as a result of the totality of the interaction and the environment. Such a view might regard the setting as a totality, not in the sense that Lewin (1956) suggests that individuals are separate variables within the setting, but rather that it is an organic whole in which each individual along with every other element is a working part of the whole—and as a result each part constantly affects all others. That view is echoed by Pellegrini et al. (1985), who state that “personal and environmental variables are interdependent” (:107).

To summarise, although there is extensive literature supporting the concept of a transactional relationship between setting and person, the data from this study does not explicitly illuminate such a transactional relationship. This view may partly derive from the definition of setting proposed in the study (i.e., the action outside that of the dyad/triad) or from the particular context and interactions that were analysed. However a further research project that utilised a similar methodology to examine the reciprocity of possible two way interactions between the dyad or triad and setting and the relative paucity of effects of the setting on the interaction would clearly be opportune.

7.2.6.5 Engagement

In many ways engagement is the goal of the communication process. Interpersonal relationships and interaction are regarded as a core quality of life domain (Schalock et al. 2005). Engagement with others in itself is regarded by some as being essential for the human individual (Zeedyk 2008). It is defined in this study as “the point in the interpersonal process where the attention of two or more people are focused on each other, or one person is focused on an object or event”. The requirements for an engagement are that a participant attunes to a stimulus and brings his / her attention to bear on it. An engagement is characterised by a verbal or non verbal dialogue which may involve eye contact, gestures, or words. Often a so-called interaction bridge is present, that is, an activity or an object that enables the participants to attend to and engage with each other. A mutuality is therefore recognised as being an inherent element in engagement. The mutual nature of engagement has been described as emanating from the gestalt nature of the phenomenon wherein multiple interactive behaviours are aligned congruently within the individual and these then impact on the intensity of the interaction to produce a communion between the participants (Zeedyk et al. 2009). Attention is a requirement for engagement. Mostly, engagement is a two way process, however, the data does show that it can be one way. Interestingly some of the incidents upon which unilateral engagement is based are where it occurs at a distance and the person who is not engaged does not notice the other. The readability of an engaged behaviour is an important factor and behaviours such as smiles, vocalisations and eye gaze are some of those behaviours that are more readable (Wilder 2008). Wilder also makes the point that

behaviours that take place for longer than one second are more easily readable. Many of the observations in this (the attuning) study are based on interactions and behaviours that lasted for one or two seconds. However, many interactions were much shorter. Despite that, effective engagement took place between the participants. It would appear therefore that the reactions of the participants to the other did not require stimuli of long duration. Such a finding might suggest that the level of attuning of the participants was quite high and that they attuned quickly if the other participant made an action or stimulus.

There are few recent studies (post 2000) that detail the nature of engagements between people with intellectual disability and others, so there are few indicators regarding the nature of the engagements that are described in this study. Several studies (Golden and Reese 1996; Hughes et al. 1999; Clegg et al. 1991b) examine the frequency of interactions and note specific types of interactions, but none of these denote their precise nature, nor the affective elements inherent in them. Interestingly, appreciation of the engagement process itself appears to be an indicator for successful interaction. There is some evidence that successful interaction depends on the expectancy of the non disabled participant that their partner can respond (Dobson et al. 2002). Such a situation certainly applied in this study, where many of the engagements were characterised by warm affect on the part of the staff member but also at times on the part of the person with intellectual disability, accompanied by an implicit expectation that a behaviour would have an effect on the other. The end result of successful engagement, therefore, may encompass a mutual communion where the individuals feel connected (Zeedyk et al. 2009). This surely is a form of attuning.

7.2.6.6 The frequency of engagement / interaction

The suggestion that high rates of interactions between care staff and service users are an indicator for a good quality of life has already been noted. In this study, engagement was a constant feature of the dyadic interactions of the participants. I chose the location of a developmental disability centre because it was the type of therapeutic environment where best practice might be observed. Furthermore the service in question was regarded as being at the upper end of the quality services in the country. Cullen et al. (1983) raise the question: ‘What is the optimum level of interactions (between staff and service users)’ (1983:583)? Inherent in such a question is how much engagement do people with profound intellectual disability want? This study does not answer that question, except to note that the patterns of engagement between participants differ in some respects, particularly in that the non disabled participants tend to be the initiators of more actions and stimuli than those with intellectual disability. This finding is echoed by Wilder and Granlund (2003) who found that children with multiple disabilities tended to initiate interaction less often than did their caregivers. However, there were periods of mutual non-engagement observed in this study, as well as multiple incidents where the person with intellectual disability initiated the stimulus that led to an engagement. This tells little

about optimum levels of engagement. However, the engagement that was observed in this study was what naturally occurred during activities, mealtimes and games in the DDC. This type of approach chimes with other studies that suggest engagement should occur naturally, but that the circumstances in which it takes place should be arranged to support it (Felce et al. 1995; Emerson and Hatton 1994). A reasonable conclusion would appear to be that people with severe and profound intellectual disability want to be engaged as much as anyone else, but that they may also choose times when they do not engage. They are then, just like everybody else.

7.2.6.7 Promoting engagement

Much of the research of the past ten years has not focused on interaction rates between people with intellectual disability and care workers in dyadic or other situations, rather it has been driven by differing conceptualisations of how the dyadic process might work. Hewett and Nind's work on Intensive Interaction (Nind 1996) is perhaps the most salient example of such an approach. Intensive Interaction relies on acute observation by the caregiver of the behaviours of the person with intellectual disability, with a view to the caregiver using these behaviours as basis for the development of a mutual conversation. This type of approach has been utilised successfully in the development of interaction strategies by several therapists. Outstanding in the field is the work of Phoebe Caldwell (Caldwell and Horwood 2007). Intensive Interaction starts out from a premise that the person with intellectual disability has something worthwhile to say and that it can be said in a way that is typical of people with intellectual disability and people with no disability (Coia and Hanley 2008). An analysis of observations in this research study suggests that engagement can be humorous, warm, persistent, promiscuous, functional or absent. It is interesting to reflect on the fieldwork for this study because I was made to feel very welcome in the centre where the data was collected. This sense of relaxed commitment was accompanied by a natural approach to interaction between staff and service users, which appeared to situate the engagement process in a very similar context to that of Intensive Interaction. The context could best be described as a natural setting where interaction occurred in an unforced ordinary manner, whether it was between the staff and people with intellectual disability in structured settings, in informal settings or indeed simply spontaneously. A conclusion might be drawn that engagement may be regarded as a process best promoted in a natural environment where people are confident to be themselves and to use their sense of who they are (being) to drive the engagement and interaction process.

Engagement is the apogee of the communication process. Engagement implies a focusing on the other person, it requires an act of will (intentionality) and it implies a sense of intellectual and affective coming together of the two people who engage. Engagement takes place as part of an ongoing co-created interaction it features an exchange of information and often of affect between individuals in the dyad. Engagement may vary

from the exceedingly warm and deeply empathic to the merely functional, but at all times it implies that a process of attuning has come to fruition and is underpinning the coming together of the people who are engaging. Attuning is the process that underpins the achievement of engagement. Attuning is necessary for the participant in the dyad to move towards the other person mentally and to achieve an engaged event and, as such, it is a critical process without which engagement cannot take place.

Establishing that engagement takes place between people with profound intellectual and multiple disability and people who are not disabled clarifies a fundamental point. However, the immediate implication is clear; it is that people with such severe disabilities are fully capable of engaging, interacting and communicating in a meaningful way. In itself, this conclusion has multiple implications. If a person can communicate meaningfully, then that person can make his or her choices and preferences known. Self-determination is a realistic possibility if the service that is supporting the individual facilitates the making of the choices and the acting on them to enable the chooser to gain his or her preference. Self-advocacy is also possible. If a person is presented with a range of choices and makes a decision, that process in itself is a statement of self-advocacy. Quality of life is also improved as the person can make known some of their preferences for a high quality life. The provision of services may also be bettered as the outcome of quality of life measures may be incorporated into service provider evaluation indices (Kober and Eggleton 2009). In short a deeper understanding of how people with profound intellectual and multiple disability communicate and achieve engagement opens up many possibilities, whereby they can achieve parity of meaningful action and of esteem.

7.2.7 Concomitants to attuning

Introduction.

There are four concomitants to attuning these will now be considered, they are communication, intentionality, power and script theory.

7.2.8 Attuning and the communications of people with profound and multiple intellectual disability

7.2.8.1 Attuning and the dyadic process

Attuning is demonstrated as the core category of the theoretical framework in this study. It is the central aspect of the dyadic process as it operates between the person with profound intellectual and multiple disability and the carers who interact with them. The theory of attuning is based on evidence that persons with intellectual disability as well as those who do not have an intellectual disability attune to the other. This research study suggests that a profound intellectual disability is no barrier to the attuning process. **The capability of people with profound intellectual and multiple disability to attune to**

others consistently and across multiple settings is an important finding that has not been demonstrated previously in the literature.

Attuning is also demonstrated as being a core element of how staff communicate with people with profound intellectual and multiple intellectual disability. It has been suggested that best practice implies a requirement for staff to attune to the persons they work with by matching how they communicate to the abilities of the person with intellectual disability (McConkey et al. 1999). A similar process (tuning in) is named as being central to teaching Intensive Interaction (Nind 1996). Nind explains that “through subjective, highly participative observation of learners, staff gain a feel for the kinds of interactive sequences which might attract the learner’s attention” (1996:51). Indeed all who care for, teach and meet people with PIMD need to develop the capacity for attuning. This injunction applies equally to relatives and non paid carers as well as to paid carers and staff. The presence of attuning in non disabled carers of children is described by (Wilder and Granlund 2003) who examined seven caregivers’ perceptions of their dyadic interactions with their children. The children were aged between 3 and 7 years and all communicated at the pre-symbolic level. The authors note that “the caregivers show sensitive responsibility in interaction. They read the children’s signals and lead the interaction according to what the children’s capabilities are at that moment” (Wilder and Granlund 2003:565). The authors also note that the caregivers self report as being “sensitive to changes in the immediate interaction situation” (ibid:566). They are less clear about the capabilities of the children, who are said to not display intentionality in their interactions.

There is as yet little evidence that the requirement to structure communication efforts with people with profound intellectual and multiple disability around the development of a mutual empathic ability such as attuning, is widely understood. Certainly Wilder and Granlund’s work is unusual in the literature, in that it offers some evidence that carers attune to people with intellectual disability. The theory of attuning builds on this and offers firm evidence that attuning is a core process for people with PIMD and for their carers. The ability of people with PIMD to attune to another has not been widely reported in the literature and as such represents a new development in the comprehension of the capabilities of persons with severe and profound intellectual disabilities. Furthermore, the conclusion that people in this group demonstrate attuning is based on observational evidence, not simply on proxy reports, a methodological innovation that supports the validity of the findings of the study.

The process of attuning and the six categories that comprise the theoretical framework emerged from the dyadic observation of the persons with intellectual disability as well as the non disabled carers. Implicit in the structure of the theory is that all participants engaged in all the processes and demonstrated all the categories of behaviour that

comprise the theory. This means that people with profound intellectual and multiple disability have a sense of personhood (*being*), that can focus their *attention on stimuli* that others produce. They can carry out *actions* voluntarily and they *engage* with others in a meaningful manner. **Implicit in the theory of attuning is the conclusion that people with intellectual disability communicate in the same way as their carers, that is people without disability. The manifestations of their communications may differ, but the processes that they engage in when communicating are the same.** To conclude the section, this study has provided evidence that the process by which people communicate is the same regardless of the presence of a disability.

7.2.8.2 Attuning as a micro communicative process

The research method used in this study has applied a microscope to the interactions of the research participants. The use of video recording of interactions enables the in-depth analysis of how people interact and what they do that influences each other's communications. The communication process as identified in the study is an extremely fluid one. The attention of the participants moves quickly from one focus to another as the attuning process waxes and wanes within the dyad, often changing within the space of one second. The study has demonstrated what one researcher termed "the subtle changes in specific aspects of communicative behaviour of which anecdotally speech and language therapists say they are aware, but cannot assess" (Mitchell and Van der Gaag 2002:164). Behavioural changes happen quickly, communications take place quickly and the interaction process may be so fast that it does not register at a conscious level with the participants in it. Micro behaviours appear to constitute the smallest units of communication behaviour that the study can identify. The study postulates that communication operates at a micro-level of which the participants are not consciously aware. The implication of the presence of a micro-communication process is that the practitioner needs to be aware of it and to reflect on the impact of the subtle as well as the gross communication behaviours that he or she may make. The use of video analysis may be worth considering as a means of making this possible. Video can enhance staff understanding of how these behaviours play out in the interaction process. Video is recommended as a way of observing the interaction process (Jones and LeBaron 2002) and it has been widely used in the observation of communicative interactions (Lindsay et al. 1997; McConkey et al. 1999; Duffy and Fuller 2000; Wilder, 2008). **In short, application of the theoretical framework of attuning to micro-communications may enable the practitioner to gain an understanding of the underlying communication processes and therefore a clearer comprehension of how communication actually works in practice.**

7.2.8.3 Attuning and the analogic / digital divide

It was noted in the literature review that non verbal communication conveys a general message about the affective element of the communications that a person produces

(Sperber and Wilson 1986). Non verbal communications can be classified as analogue communications and they tend to convey the relationship aspect of the interaction. By contrast, digital communication conveys the content aspect of communication. Digital communication, by definition, is more specific and generally may be equated to verbal, i.e. linguistic, communication (Watzlawick et al. 1967). The observational data in the study are primarily though not exclusively analogic in nature. Although all participants made some use of verbal utterances, these were less evident than their non verbal behaviours. Attuning relates to both the affective element of the other person and to the behaviour that gives voice to that affect. In light of Sperber and Wilson's (1986) view, it would appear that attuning occurred in this study primarily when analogic communications were in process rather than the digital communications of the participants. Participants attuned when they presented eye contact, engaged in mutually complementary gestural interactions, made close contact and at times when they used utterances and words. Words though were generally used not in order to convey digital information about some topic, but rather to convey a feeling or a mood (the affective element). An illustration is at TK4 22.10 where a collective joke over whether it is TK's turn at a game is taking place between the staff and other participants, TK's head dips and his arm falls to his lap (he is disappointed), then M lifts his arm and shouts "Poor TK". The words convey sympathy for him and an empathy that says 'I am on your side'.

Attuning then may, on the basis of the evidence in this study, be considered primarily but not exclusively an analogic phenomenon, that is, it occurs primarily in response to non verbal behaviours. The theoretical framework that emerged from the study is a theory for the substantive area only. It is not specifically a general theory of communication because it is not based on data drawn from the general population. The development of a formal theory of communication would require further theoretical sampling to be carried out. Such theoretical sampling would inevitably sample much more digital data and in all probability the contention that attuning is primarily an analogic phenomenon would be shown not to hold as so much communication in the generic population is verbal.

7.2.9 Attuning and intentionality

Attuning is a process which involves the persons in a dyad moving towards or away from each other mentally. Intentionality exists where a purpose or an element of aboutness is or has the potential to be identified with a behaviour (Searle 1983; Hays 2008). Intentionality may be identified at the conjunction of the person and the external world. Knowledge of the presence of intentionality in a behaviour or sequence of behaviours informs about the nature of the behaviour and its relationship to the person who produced it. Intentionality has been noted to be important in interpreting the communications of people who are apparently pre-intentional communicators (Carter and Iacono 2002). These authors are of the view that intentional signals from people with PIMD may be seen by observant persons and that "sensitivity and responsiveness are necessary for the

communicative partner to read the nonformal and often idiosyncratic signals” (Carter and Iacono 2002:178). In terms of the theory of attuning, intentionality resides in both the being of the participant and also in the action (the idiosyncratic signals) that he or she produces. Regarding the core category, intentionality appears to be an essential element of both axes of attuning: pro-anti attuning and positive-negative attuning. There is no evidence in the data to suggest that attuning can occur in the absence of a degree of intentionality.

Intentionality, then, is located where being applies itself to the external world to enact a stimulus or an action; it describes the type of action or stimulus. It is identified where a demonstrable purpose is evident in the action. It may be identified in non verbal behaviours and, as such, is indicative of a pragmatic capability to achieve interpersonal goals (Abbeduto and Hesketh 1997). Intentionality may be assumed to originate from within the person’s being and be found to be present at the point where attuning takes place, but before the attention has been applied to a person or object. It may continue to be present until the stimulus or action have been completed. Equally intentionality is present where an engagement is initiated. Many of the designated types of being (codes such as *desire, into the swing of things, wary*) have intentionality, but not all the manifestations of being do so. Some, such as sweating, tension and facial expression may be evidence of unintentional or reflex behaviours.

It must be emphasised that intentionality was at no point identified as being a category or a property of a category in the data analysis within the study. It is, however, an implicit criterion that is determined by the aboutness (Searle 1983) or the purpose of the communications and behaviours that are manifest in the data. The connection between intentionality and attuning assumes that attuning only occurs if some degree of intentionality is present. This study does not offer evidence to imply that there is a cohesive relationship between attuning and intentionality. However, most incidents where attuning is evident have a clear object to which the subject is attuning. In other words there is an aboutness characterising the process, suggesting that intentionality is closely associated with attuning. That point is fundamental. As attuning has been identified as being pervasive in the communications of people with the most severe forms of intellectual disability, it is reasonable to infer that intentionality is a similarly common feature of their communications. Both Lyons and Dennett suggest that intentionality is a graduated concept. This research supports that view, but also strongly identifies that people with PIMD demonstrate intentionality with the effect that their capability to communicate is vindicated.

7.2.10 Power in the dyadic relationship

Power is not a named concept that has emerged from the data in this study. In fact it is named in only one code: *power struggle outcomes*, which is a code of the subcore

category maneuvering. This code has three component sub codes: *physical disengaging*, *victory* and *reduced counteraction*. All three codes are based upon incidents in which the members of the dyad have diametrically opposed wishes that manifest as conflicting actions. In *physical disengaging*, one partner in the dyad wishes to hold on to something while the other wants to disengage, in *victory* one partner achieves his /her outcome and *reduced counteraction* is based on an incident in which one partner reduces the opposing actions of the other. Power is manifest in many more categories, most notably in many of the codes of maneuvering and also in the codes relating to *refusal* (negative attuning). Many of the codes in which power is displayed are to be found in maneuvering, which is a property of the category action. Action is the mechanism by which agents (people) deploy power according Giddens (1984). Power is in fact displayed in this study by one or more usually both participants and they use it to attempt to achieve their goals. Where there is an imbalance in the power, one person attains his / her goals, where there is a rough balance then an impasse applies. This may manifest as the two participants maneuvering around each other in order to achieve an advantage as in the codes *micro dance* and *positioning*.

Power appears to manifest as a fundamental aspect of social interaction and is regarded as such by Glaser, who locates it in the theoretical code asymmetrical interaction (Glaser 1998). Power appears in this study to manifest in an asymmetrical manner (where one member of the dyad achieves his or her goal at the expense of the other) and also in a symmetrical manner where neither participant achieves goal attainment and an impasse occurs. This situation is referred to as frustration by Kurt Lewin (1999). He notes that frustration is driven by a need to achieve a goal and that it occurs when there is a large distance to that goal (Lewin 1999). Lewin also notes that participants deal with frustration by taking round about routes to attempt to achieve their goal. Maneuvering is described here as each individual changing their position, in order to get into a situation where they can resist the actions of the other or where their own actions can overcome those of the other in order to achieve their goal. Maneuvering refers to a method of overcoming frustration. The tension between forces within the individual and those that come from outside underlies Lewin's thinking regarding how barriers, field forces and locomotion (action) play out in determining social processes in group conflict (Allport 1948). In all these processes, power is a central issue and it appears from this study that power is displayed largely in order to overcome barriers to the achievement of the individual participant's goal.

7.2.10.1 The place of attuning in the exercise of power

A high level of pro-attuning has a central role in the interaction process in which power is displayed. Although many of the codes in which power is noted are characterised by high levels of negative attuning, they also require high pro-attuning. In order for power to be applied effectively, it is necessary to understand how the person to whom you

are applying it is thinking and pro-attuning allows for this. There are many incidents in which each participant alters their actions in order to bring about their goal and they change the action in response to that of the other participant. As each change occurs the maneuvering process takes place. However, this would not be possible unless a good understanding of the other existed. These struggles are characterised by a constantly shifting balance of power. Power may be defined as “the capacity to achieve outcomes” (Giddens 1984:257) and it is the struggle to achieve one’s desired outcome that is the concern of the codes in which power is clearly manifest. The codes *concentrated maneuvering* and *micro dance* are based on incidents in which the person with PIMD and the staff constantly attempt to achieve their own desired outcomes. They move around each other, each attempting to induce the other to do what they want and both doing their best to frustrate their protagonist. All the time a balance of power exists between the members of the dyad. The outcomes of the various maneuverings remain uncertain until they have occurred and as often as not the person with intellectual disability achieves his outcome. None of the incidents upon which the codes are based feature challenging behaviour. However, there is a constant sense that both participants could view the other’s refusal to cooperate, their own movements to disentangle themselves from the other and blocking of the other’s actions as challenging their own norms.

To conclude, it is suggested that the imposition of power takes place at the interaction interface between individuals, the process of regulating interactions is named attuning which is a key to the imposition of power. In discussing the way in which power is exercised Foucault (1982) discriminates different ways in which power may be exercised. However, he states that “no doubt communicating is always a certain way of acting upon another person” (Foucault 1982:217). The process of acting upon is advanced by the process of attuning. When power battles take place, high levels of pro attuning and low levels of positive attuning apply. Paradoxically, in order to utilise power most effectively, it is important to attune to and understand the person against whom it is to be used so that one can adjust one’s own actions in order to thwart those of one’s opponent—or in this case, the person with ID or staff against whom power is being deployed

7.2.11 Attuning and script theory

Scripts describe habitual behaviors and patterns of behaviours that occur for and between individuals, often in particular settings and that evolve over time. They enunciate hidden patterns of behaviours that give coherence to interaction patterns. The most important elements of scripts constitute the intensity of the affect displayed in the interaction, the speed of change and the repetition of the sequences that takes place in the script (Tomkins 1998). Attuning has a role to play in the development and operation of scripts in so far as they are laid down in the interaction process which is regulated by attuning. Once a script is formed, by definition the behaviours that characterise the script are repeated. It can be postulated that a low level of intentionality is characteristic of the

attuning process as it operates after script formation, because the overall behavioural pattern is by definition largely unchanging and conscious decision making is rendered subordinate to the patterns of the script. However, the data in this study does not support such a conjecture. Indeed attuning seems to be present in equal intensity in the incidents detailed below as in any of the other incidents. A possible explanation is that when scripts are formed, the participants in them become comfortable with the interactions of which they are composed and subsequently they attune easily in those settings because they are familiar to them.

The participants in the study were filmed in several contexts where scripts were evident. The recitation of the Bertie story was one of the episodes in TK's observational data. The presence of a script was evident from the implicit humour which underpinned the interaction in the build up to TK's participation in the story. Equally, maneuvering between M, KM and JM in an effort to induce JM to walk across the room clearly suggests elements of a well-known script. All the participants appeared to be familiar with the aims of the interaction and the methods that each used to induce the other to do what they wanted. These protracted incidents suggest that, from the viewpoint of people with severe and profound intellectual disability as well as from the staff's viewpoint, scripts operate to regulate and give order to their interactions. In these scripts, everybody knows what is going on; the regulation of the relationship is achieved by a process of mutual attuning. However, this takes place in the context of the well known script. The question arises; how dynamic are the actual micro-communications of the participants within the script? Examination of the data suggests that these remain remarkably dynamic. Indeed the speed of change within the interaction that Tomkins views as being an important factor in a script is evident. In terms of the affective states of the participants, the script appears to provide the context in which the interaction plays out. It also seems to inform the participants of what they can expect to happen. The script then gives a certainty to the interaction which might not be present in a more novel interaction. It is unclear if that certainty enables the participants to engage with greater understanding of what is happening. However, such a view would be supported by the definite lines of action that each of the participants display. In short, scripts are to be found in the interactions of people with PIMD and moreover they appear to offer an element of clarity to the participants regarding the interaction. They do this because the script is located in the setting, that is, because it is a repeated series of behaviours, it forms part of the established background to the interaction and as such it may be one element of the concept of the *setting*.

7.2.12 Conclusion: Speech act theory and attuning

Attuning is a process that governs both participants in the communicative dyad. It is a dynamic process and levels of attuning fluctuate during dyadic interaction. The theory of attuning implies that a process operates that regulates the way in which people produce

speech and non-speech acts which they use to communicate. John Searle contends that using a language (which in this instance is interpreted to mean the production of verbal and non verbal communications) means that the individual possesses an understanding of and engages in “a rule governed form of behaviour” (Searle 1969:12). In other words Searle suggests that the rules that govern communication are understood by the children and the adults who use them. Implicit in this suggestion is that infants who are in a very early stage of communicative development can understand the basic rules that govern communication for them. By extension, that same capability can be attributed to adults with profound intellectual and multiple disabilities, who display behaviours at the same developmental level as infants. The theory of attuning makes the rules that govern communication explicit. It makes these rules, which appear to be understood implicitly by the person with profound intellectual and multiple disability, explicit to the carer and staff member with whom he or she communicates. An understanding of these rules has many implications for practice, which is the subject of the last section of the discussion.

7.3 The implications of the theory for practice

7.3.1 Attuning and non verbal communication

It was noted at the very start of the dissertation that the capacity to communicate is an essential requirement for humans. The theory of attuning makes certain predictions about how the communication process operates and what those engaging in communication with people with profound intellectual and multiple disability may expect. The theory therefore has implications for practice. In schools, developmental disability centres, residential institutions, respite care units, activity centres, shops, cinemas and private homes, people with PIMD interact every day. These everyday communications are the subject of the theory of attuning and it is in these interactions that the theory can make a difference.

7.3.2 The implications of the theory of attuning

The theory of attuning proposes a framework for interaction which acts as a guide to the mechanisms by which people with PIMD communicate. One aim of the research study was to explain the interaction between this group of people and their carers. The utility of the theory is that it explains the interaction processes, that is, it has uncovered the process by which people communicate. The elements that are involved in communication, the sequences in which they occur, and the nature of each element are made explicit in the theory. Those working with people with PIMD can examine the theory and locate their behaviours within it. The theory therefore provides the possibility for staff and relatives to understand the processes that determine how they interact, the nature of that interaction and, as a result, to gain insight into their interactions and therefore to develop and improve them. Better understanding of how interaction occurs can lead to better communication.

However, the basic principle that attuning is the key concept in communication can also deliver important understandings to staff and carers. Attunement (Jonsson and Clinton 2006, Caldwell and Horwood 2007), is a concept that is already in the public domain. However, it is a noun, a static concept that is identified as being a modality that is useful in gaining an understanding of how the partner is feeling and engaging in the communication process (Caldwell and Horwood 2007). Attuning is a related but different concept. Attuning is the driver for communication in its entirety. It is a process that is inherent in communication. An understanding of the concept of attuning, even if it does not extend as far as understanding the framework of the theory, may orient staff and carers to reflect more carefully on what they do and how they do it when engaging in the interaction process. As Glaser noted, the concept of attuning has 'grab' (Glaser 2007).

7.3.3 Attuning and analogic communication

Attuning has been noted as being primarily an analogic phenomenon. From a practice perspective, that means when a person wishes to engage with someone with profound intellectual and multiple disability, the person should focus their observations on the analogic (non verbal) behaviours of the other person. These behaviours indicate the relationship aspect of the interaction with the result that a high degree of pro attuning to these will facilitate the communication process.

7.3.4 Understanding the interaction process

An awareness of the analogic communications within the dyad is particularly helpful in discerning the nature of the communications of the other and the structure of the dyadic interaction process. The framework outlined in the theory of attuning makes explicit what happens when two people meet in caring, educational and informal settings. The fine detail of the relationships within and between the concepts of the theory can assist in the development of understanding of what is going on. The theory also offers many hypotheses regarding specific aspects of each concept. Two examples illustrate the point. The first, "change in the setting may induce change in the individual" (6.6.7) would appear to be a self evident hypothesis. By contrast the second "certain stimuli have a shared history and shared meaning that is developed between the participants. These function as communicators of possible future action" (6.8.3.1) is somewhat less obvious. When such a principle is examined in the context of script theory, which sheds light on how stimuli with a shared history develop and come to be maintained, a deeper comprehension of the implications of this principle for practice can become apparent.

7.3.5 Understanding the interaction process 2

Understanding how people with PIMD communicate is a very useful prerequisite for developing a comprehension of what they are communicating and developing a care plan that meet the needs of the individual. However, an even more basic fact has emerged from this study: namely, people with profound intellectual and multiple

disability can and do communicate and it is possible to comprehend and interpret their communications. The realisation of such a seemingly obvious point is not as obvious as it might seem. Numerous studies have noted the low historical engagement levels of staff and service users with severe and profound intellectual disability (Felce et al. 1991; Clegg et al. 1991b; Felce et al. 1995; McConkey et al. 1999). Observation of interaction processes in practice areas suggests that many staff still find difficult the proposition that understanding how persons with PIMD communicate is not only feasible, but that methods of achieving it are in the public domain. However, if such an understanding is developed, allied to the insights that application of the theory of attuning can elicit regarding the interaction process, then the potential to uncover the meanings of communications of people in this group can be greatly enhanced.

7.3.6 Choice, self determination and quality of life

Possessing the capability to make choices is widely regarded as being a key factor in attaining a good quality of life (Brown and Brown 2009). Choice enables a measure of control of one's own life which enhances the happiness of those who have it (Cullen 1999) and enhances self determination (Weymeyer and Bolding 2001). The possibility of achieving autonomy and a good quality of life for people with severe intellectual disabilities is best attained in the context of an interdependent relationship with others (Brown et al. 1998) and where close understanding of the other is inherent in the relationship, an example of which is what Petry et al. (2007) term 'sensitive responsiveness', which is regarded by many parents of adults with PIMD, as well as support staff, as being supportive of a high quality of life (Petry et al. 2007).

It is through the vindication of the communicative ability of each person within that interdependent relationship that choice, autonomy and self determination can occur. However, unless the partners in that relationship can meaningfully communicate what they want and what they choose, then the possibility of enabling them to self-determine is diminished. The literature offers clear guidelines regarding these matters.

In order to enable an individual to attain self determination in his or her life it is necessary to gain access to the person, respect them and nourish their point of view (Hughes and Agran 1998). Nourishing the viewpoint of others can only be achieved by listening to what they have to say (Kennedy 1998); this is the starting point. The next step involves close observation of the behaviours of the child or individual with intellectual disabilities, in turn making it possible to identify consistent repertoires of behavioural responses and initiations that express how the person feels (Coupe et al. 1988; Petry et al. 2007). These are generally micro behaviours such as "small movements, facial expression and vocalisations as ways of saying 'yes' and 'no'" (Harris 1994: 46). These reactions may be quite short (Ware 2004) and the behaviours may be difficult to interpret (Harris 1994). Furthermore children and adults with profound intellectual and multiple

disability often have secondary sensory disabilities, all of which makes communication and understanding harder.

One of the keys to solving the problem is to be alert to the responses that person makes (Ware 2003). The second important element is to obtain a wide range of data from differing sources (Ware 2004), and then lastly to process the data that the observations throw up. The data processing needs to acknowledge and explain the inferences that are made in its interpretation (Porter et al. 2001). This model leads to an understanding of what people mean in their communicative behaviours, which implies that their wishes, their wants and their needs can become clearer to their caregivers. This approach is a descriptive model of how people make real life choices, as is recommended by Harris (2003) who suggests that it can encompass the wide range of social and environmental variables that influence an individual's choices. The theory of attuning operates in a complementary manner to the model outlined above, as it can assist the non disabled partner in the dyad to unravel at both a micro and at a systems level what is happening during the interaction process and to understand what the person with PIMD is saying. Ware (2004) makes the point that learning to make choices is a task that may need to be taught to a person with PIMD over the long term. She also asserts that there is a need to be realistic about what preferences people with PIMD can clearly express. For many adults with PIMD who have rarely had the opportunity to make a choice that they see impacts on their life, it may take some time before they realise that they can actually change something. Finally, it needs to be said that being able to make real choices in important matters in one's life is a basic step on the way to self-determination, which in itself is an important tool to enhance the quality of life of a person with intellectual disability (Hughes and Agran 1998). Central to that choice making is an understanding of the theory of attuning, because it can enable the non disabled partner in the dyad to understand how the person with disability communicates, the purpose of many of those communications and the presence or absence of the implicit element of intentionality that is frequently inherent when the attuning process is observed.

7.3.7 The use of video

The detection of the attuning process was greatly facilitated by the identification of micro-communications inherent in the dyadic process through the use of video recording. This has been commented upon in the discussion of the methodology in Section 5.12.2, and the discussion of the theoretical implications in this chapter. The implication for practice of such applications is that video may be used as a powerful tool to assist staff and carer understanding of how the interaction process operates. The method by which videotaping of interaction and communication situations is carried out should be managed carefully (Finlay et al. 2008a). It should reflect the rights and dignity of the potential participants as well as fully vindicating their ability to consent to participate. It is worthwhile going to some trouble to achieve consent and cooperation of those who are

to be videoed. The reason is quite simple. Videotapes provide accurate data, a relatively complete record of the events that occur, they reduce the degree of bias in selecting events to be recorded as field notes, hence subjectivity is reduced (Heacock et al. 1996). This researcher did not find that one camera recorded the totality of the interactions, that is, every aspect of every interaction was not filmed because one camera only records one view of the scene. The use of two or multiple cameras would have enhanced the coverage of what was recorded. A further difficulty that the use of two or more cameras would have presented was the problem of coordinating the frame-by-frame analysis of the two films so that the films meshed exactly. However, it is unlikely that the narrative would have been substantially changed, simply because the one camera recorded so much. Each additional camera would only have added small amounts of extra data. For these reasons it was decided that the use of one camera was the optimum data collection method.

It should be emphasised that at all times I was behind the camera. This resulted in periodic changes of perspective and use of the zoom feature in order to identify specific aspects of behaviours that were observable. The camera was not left just to record the events, and as such, an element of researcher choice was inherent in the selection of aspects of scenes that were observed. These scenes were selected in order to obtain the clearest observations of what I considered to be the most interesting scenes where interactions were taking place and the most interesting behaviours that inputted into those interactions. An element of observer bias was clearly built into the scene selection process.

Despite the limitations of the recording process, video provided detailed data that would not have been obtainable in other way. It is therefore the method of choice in order to obtain detailed data that enhances the analysis of interaction and communication.

7.3.8 Attuning and staff training: Developing the attuned practitioner

The theory of attuning represents a development in the understanding of how people with severe and profound intellectual and multiple disability interact and communicate. The theory outlines a framework which explains the steps that occur in the process of communication. Identification of what the person with severe and profound intellectual and multiple disability does in the interaction process, that is, watching and naming the steps in the process that he or she engages in, is the foundation for the development of an understanding of how communication occurs for this particular person. Data which is derived from such an observational process could enable the way in which each individual communicates to be very clearly mapped. Such a communication map might be the basis for the development of clear individualised communication guidelines for staff and carers.

The involvement of staff and carers in the development of an observational

communication project of this type would facilitate the training project by bringing their experience to bear on the project design. The results that such a project would deliver might include enhanced staff understanding of how people with PIMD communicate and interact in general. The results might also map the communication patterns of individuals within the dyad. By implication, a deeper comprehension of each person's cognitive and affective status would be obtainable. Furthermore there would be a realisation that communication is inherently dyadic, that what each person does influences what the other does. The responsiveness of the other person would be appreciated more deeply (Dobson et al. 2002). This might lead to the alteration of communication patterns by staff and carers. Ultimately the information that an observational project could unearth might be the subject for individual or group reflection.

7.3.9 Developing the attuned practitioner: Reflection as a teaching and learning aid

Attuning as a concept and attuning as a theory are two different elements that have emerged from the study. Both inform understandings of how people in the substantive area communicate. For this study it was possible to obtain deep comprehension of the communication process only by the use of video. Therefore it is my contention that in-depth staff education on communication is greatly enhanced through the use of video. Filming short staff-service user interaction episodes and then analysing the interactions in the context of an understanding of the theory of attuning is suggested as a way of developing catalysts to group and individualised reflection. The purpose would be to develop a comprehension within each practitioner of how attuning works to inform understanding of communication and how that may impact and change his or her practice.

The outline of the theory of attuning is complex but understandable for people who are engaged in interacting with people with profound intellectual and multiple disability on a frequent basis. The theory can be used as a framework for the dissection of short excerpts of video of interactions. The processes of the theory can be identified in the video and excerpts and critical incidents analysed using the theoretical framework. Individual reflection, group reflection and expert analysis could be used as mechanisms to develop practitioners' understanding of how communication processes operate. The theory of attuning does not lend itself to didactic education of how communication occurs. It is, after all, a theory which as yet is unproven. It does, however, make clear statements regarding what practitioners may expect when engaging in interaction with people with PIMD. It is suggested that the theory is examined in the context of video recorded data that can be examined as many times as needed and at whatever speed is required. Micro-communications which constitute the major elements of the data can be examined for manifestation of communication, sequence and process. Critical incidents can be considered with a view to enhancing the understanding of the reflective practitioner of what actually happens when two people meet in dyadic interaction.

In short, the combination of an understanding of the theory and the use of video technology constitute potential educational tools that can assist the development of the attuned practitioner.

7.3.10 Developing the attuned practitioner: Strategic issues

Understanding of the theory of attuning and recognition by staff of the ability of persons with PIMD to engage in the process of attuning may assist in improving staff's knowledge of and identification of emergent communication forms. Improving the ability of staff members to recognise emergent communications is regarded as a useful mechanism to enhance their skill development (Bloomberg et al. 2003). However it is insufficient to bring about widespread behavioural change in dyadic interaction patterns (Foreman et al. 2007). Three separate but complementary strategies are suggested by Chatterton (1999). From the outset, all staff should be involved in identifying the issues and prioritising goals for the learning. Secondly managers and key clinicians should attend staff training sessions, if possible, and be supportive in encouraging staff members to implement new approaches to communication that may arise from the workshops. Lastly Chatterton (1999) suggests that training should be clearly tailored to the needs of the staff and service users. Money's (1997) finding (that dyadic communications improve most effectively where the trainer works directly with the members of the dyad) supports this view and implies that part of the training should be delivered directly with the members of the dyad to support and facilitate their mutual learning. These linked approaches offer the best opportunity to maximise staff learning and therefore impact on their practice and the lives of the service users they work with. The combination of such approaches could assist staff members in redefining the basic problems of communication practice in the context of a knowledge of the theory of attuning, and hence the assumptions that underpin their practice. This would enhance the possibility of cultural change (Schein 1993) and by implication change in practice.

7.4 The implications of the research study

7.4.1 Implications for methodological development

The research study has developed a methodology that enables the production of narrative data that is derived from video recorded observations. Furthermore this data is produced in a form that is amenable to qualitative analysis. The framework may have application in the analysis of verbal and non verbal discourse. Other implications include:

- Video is the method of choice in order to obtain detailed observational data because it makes visible micro-behaviours which would otherwise not be observable. The research study has developed a methodology that enables grounded theory to be applied to the analysis of micro-behaviours.
- The research study has developed a methodology that facilitates the development of theory in the researching of patterns of social interaction where communication

is of necessity difficult to identify, to understand and to interpret. Such an approach may have applications for many disciplines that are concerned with understanding the interpersonal process.

7.4.2 Implications for theory

The theory of attuning appears to offer the possibility of a deeper understanding of how the communication process is structured. Specific implications include:

- People with severe and profound intellectual and multiple disability communicate in the same way as people without disability. The manifestations of their communications may differ, but the processes that they engage in when communicating are the same.
- People with severe and profound and intellectual multiple disability have the capability to attune to others consistently and across multiple settings.
- Attuning is the crucial element that must be present within the dyad both in order for communication and engagement to take place, but also in order for the information that is present in the communications to be created and interpreted.
- Attuning is the key process by which people with severe and profound intellectual and multiple disability and their carers regulate their communications, their interactions and their relationship.
- Attuning is demonstrated as being a core element of how people without disabilities communicate with people with severe and profound intellectual and multiple disability.

7.4.3 Implications for practice

The theory of attuning has major implications for practice. A detailed understanding of the theory would of necessity change the way in which a person communicates and engages with someone who had a severe or profound intellectual and multiple disability.

- Attuning is the process that underpins the achievement of engagement. Attuning is necessary for the participant in the dyad to move towards the other person mentally and emotionally and to achieve an engaged event and, as such, it is a critical process without which engagement cannot take place.
- When an individual is identified as engaging in the process of attuning, the presence of *being* is clearly to be inferred and with it the presence of a fully conscious person who is incorporating a degree of intentionality in his or her behaviours.
- Engagement with people with profound intellectual and multiple disability may be regarded as a process best promoted in a natural environment where people are confident to be themselves and to use their sense of who they are (*being*) to drive the engagement and interaction process.
- Application of the theory of attuning can enable a deeper understanding of the processes of communication to be attained by the carer which can facilitate an

understanding of the choices of the person with PIMD and therefore enhance his or her capability to attain self determination and the life that he or she wants.

7.5 Recommendations

7.5.1 Recommendations for theoretical discourse

The theory of attuning is a theory of communication that reframes views as to the nature of communication. Attuning therefore should be positioned in the context of debate on the nature of discourse, the mechanics of communication and the relationship between interactions of individuals and the nature of social systems.

To that end, two courses of action should be undertaken:

- The theory of attuning should be placed in the academic arena through publication in peer-reviewed journals and in conferences that are concerned with the substantive area of intellectual disability.
- It is recommended that further analysis be undertaken of the concepts of the theory and the dimensions of each concept with a view to explicating their importance for professional practice.

7.5.2 Recommendations for further research in the substantive area

The primary recommendation for further research is to carry out further theoretical sampling to develop a formal communication theory. Further research could be carried out to test many of the propositions in the theory; a few of these are noted here.

- The theory of attuning posits the view that attuning reflects and affects how communication partners feel. Therefore further research is recommended to examine the effect of attuning on the development of the individual's intrapersonal state.
- This study identified a relative paucity of setting effects on the participants in the dyad; it also identified no effects of the dyad on the surrounding setting. Further research to examine these specific questions, using a similar methodology, might throw light on these questions.
- The theory of attuning suggests that the environment (setting) affects the communication process both directly as a result of the physical constraints it may impose and indirectly on the individual's mental state. Further research is recommended to discriminate the effects of environmental influences on the communication process.
- Further research should be undertaken with two aims in mind: firstly to test the theory in the substantive area. The aim of this research would be to test the propositions and hypotheses that form the structure of the theory. Secondly further research should be undertaken to examine the applicability of the theory of attuning

to other interpersonal situations and thus to develop a formal theory of attuning that would impact on general communication theory.

7.5.3 Recommendations for practice: Training and education

The theory of attuning suggests that people with severe and profound intellectual and multiple disability deploy this sophisticated process routinely in their interactions. Therefore attuning should be a centre piece for the education and training of staff, parents, siblings, community workers and others who interact frequently with this group of people. This could be achieved through the development of training packages for staff and carers in conjunction with voluntary bodies such as Inclusion Ireland in Ireland and Mencap in the UK. Other recommendations for practice might include:

- A staff training package based on the theory that explains the theory and its implications for communicating with people with intellectual disability should be developed. This package should be applied in the context of a comprehensive, strategic staff education and support strategy.
- An accessible training package for people with intellectual disability that explains the theory and how it may assist them to get their message across to other people should be developed.
- A training package on how to use videotape as an aide to assist in the analysis of the communications of those service users whose communications present challenges should be based on the theoretical framework of attuning.
- A course should be developed to underpin advanced practitioner roles in those professions that are concerned with communication as a central aspect of their role—such as nursing, speech and language therapy and occupational therapy.

7.5.4 Recommendations for method

The key methodological innovations of the study were the development of a structure that enabled a transcription of narrative observational data coupled with an analysis based on classic grounded theory. A methodological approach of this type has many potential applications which could be used in other domains. Further recommendations include:

- Application of the micro-observational method as a mechanism for exploratory functional analysis of challenging behaviours.
- Application of the micro-observational method as a mechanism for the functional analysis of communications of people who have communication difficulties.
- Engagement with the Grounded Theory Institute to develop studies that generate grounded theories from observational data.

7.6 Dissemination

A paper based on an initial draft of the methodology has been presented at the roundtable of the special interest group of IASSID for people with profound and intellectual and multiple disabilities that met in November 2007 in Dundee.

Dissemination of the findings will commence in the autumn of 2010 with a presentation of the main findings at the European conference of IASSID in September. I will meet with the staff of the developmental disability centre, the research participants and their relatives to explain the outcomes of the research in the autumn / winter of 2010.

Further dissemination of the findings and the methodology through publication in peer reviewed intellectual disability journals is planned for 2010-11.

CHAPTER 8

Conclusion

This study started as an attempt to elucidate the interactions of people with profound intellectual disability, it concluded some 5 years later as “Attuning: A theory of interaction of people with profound intellectual and multiple disability and their carers”. The journey across those five years has been a process of discovery of both the fascinating structure of the theory and also the process of emergence which characterised the way in which the findings were developed. It took a long time for me to accept Glaser’s injunction to ‘trust grounded theory’ (Glaser 1998:254). However, the process of applying a grounded theoretical methodology to narrative data that was obtained by video observation eventually yielded rich data and a coherent theoretical explanation emerged from the data. That explanation addressed the main concern of the participants that I had identified, namely: how do people with PIMD regulate their relationship, their interaction and their communication? The answer was that they attune to each other to a greater or lesser extent.

The concept of attuning addressed the process of communication elegantly and the theory addressed the intricacies of the communication process within the substantive area in detail. The conclusion is that a theory of communication has been developed that explains a key concern of people with profound intellectual and multiple disability. People with PIMD have enormous communication difficulties, such that they have at times been regarded as not capable of communicating or interacting in a meaningful way. This theory refutes that suggestion. The theory lays out the structure that underpins how this group of people interact with their non disabled counterparts and in many ways it suggests that there is little difference between them. The manifestations of communication may differ to some extent, but the underlying processes do not. That conclusion is far reaching as it implies that interaction is, in its essence, governed by universal principles. The theory is not presented as a formal communication theory because it is based on data from only a small section of the population. However, the data originated from both people with intellectual disabilities and those without. For that reason there is some evidence to suggest that the theory may have formal applications. In any event, the discovery that the same interaction structure underpins the communications of both groups has important implications. The most important implication is that there is no fundamental difference between the groups in terms of the structure of their interaction. Such a conclusion implies that the different manifestations (forms) of communications must be regarded as not comprising the whole story. The theory of attuning has explicated the structure of the interaction process and it implies that the form of a communication does not constitute the totality of the interaction process. A knowledge of the structure of communication makes the interaction

process explicit, but it also provides a context in which the forms that are used in communicating are to be understood. It is suggested that understanding of this context and communication process may provide clues as to the meanings of the communication forms that are expressed in that context. An understanding of both the structure and process has emerged from this research in the form of a communication theory that addresses the aim of the research which was to explain the interaction between people with profound intellectual and multiple disability and those with whom they interact. It is my hope that this knowledge will impact positively on the lives of this group of people in the future.

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APPENDICES

Appendix 1:

Project: Elucidating the interactions of people with profound intellectual disability

INFORMED CONSENT FORM for the Guardian or Parent / Sibling of the Participant with an intellectual disability.

Principal Investigator: Colin Griffiths.

***BACKGROUND:** This study aims to find out how people with profound intellectual disability communicate with others and how their communications may best be interpreted.*

DECLARATION:

I have read, or this consent form has been read to me. I have had the opportunity to ask questions and I am satisfied that I understand the nature of the project. I freely and voluntarily agree to be part of this research study and I understand that this does not affect my legal and ethical rights. I have received a copy of this agreement.

I understand that my relative is completely free to withdraw and that I am completely free to withdraw my relative from the study at any time.

Participant's name.....

Name of consenter / parent or guardian.....

Signature.....

Relation to participant.....

Date.....

Statement of investigator's responsibility: I have explained the nature and purpose of this research study, what the study involves and any risks that may be involved. I have offered to answer any questions about the study and fully answered such questions. I believe that the guardian / relatives of the participant understand my explanation and have freely given informed consent.

Investigator's signature.....

Date.....

Appendix 2:

Project: Elucidating the interactions of people with profound intellectual disability.

INFORMED CONSENT FORM for the Staff Participant.

Principal Investigator: Colin Griffiths.

BACKGROUND: This study aims to find out how people with profound intellectual disability communicate with others and how their communications may best be interpreted.

DECLARATION:

I have read, or this consent form has been read to me. I have had the opportunity to ask questions and I am satisfied that I understand the nature of the project. I freely and voluntarily agree to be part of this research study and I understand that this does not affect my legal and ethical rights. I have received a copy of this agreement.

I understand I am completely free to withdraw from the study at any time.

Participant's name.....

Contact details.....

Participant's signature.....

Date.....

Statement of investigator's responsibility: I have explained the nature and purpose of this research study, what the study involves and any risks that may be involved. I have offered to answer any questions about the study and fully answered such questions.

Investigator's signature.....

Date.....

Appendix 3:

Elucidating the interactions of people with profound intellectual disabilities: An information sheet to relatives of participants.

31st March 2006.

Introduction.

This research aims to find out what people with the profound intellectual disability do to communicate and what they mean by the communications that they make. In order to do this 10 communication pairs will be filmed in the named Health Service Provider. Each pair will consist of a person with profound disabilities in communication with a staff member. It is intended to film each pair [the person with a disability and the staff member] for 1 hour each initially. This 1 hour period will constitute separate episodes that will last approximately 10 minutes each. Each episode will focus on important interaction events between staff and service user such as mealtimes or activity sessions. It may be that extra filming will be made of each communication pair depending on the results of the first filming session. It intended to film each pair in both the living space and the activity space of the disabled person. The filming process will start in April 2006 and finish later that year.

Procedures.

The filming process will attempt to observe all the small communication behaviours that people with profound intellectual disability make and to see how they are noticed and interpreted by the staff member. This will be done by using a video camera to film the interactions and later examining the film in detail.

Benefits of the study.

At the end of the study it is hoped to produce a framework that explains the interaction process for people with profound intellectual disability. This framework could be used by staff and relatives of people with disabilities in order to understand what the person with profound intellectual disability is communicating.

Risks.

There are no risks to the persons who participate in the study as it is simply observing their normal life. In the event of the person with disability becoming distressed or upset or a situation arising that should not be filmed then filming will cease.

People who can participate.

People with profound intellectual disability.

The staff member who is a key worker for the person with intellectual disability.

Confidentiality.

The identity of your relative will remain confidential. He / she will be referred to in the data and the report by an assigned number. The video tapes will be stored under lock and key for five years and then destroyed. All computerised data will be stored on password protected computer to which only the researcher and the supervisor of the research has access.

Voluntary Participation.

You have agreed to permit your relative to participate in this study. You or he /she may decide to withdraw from the study at any time. If you decide that your relative should not participate or that he /she should withdraw from the study, or if it becomes apparent that your relative does not wish to participate or continue participation in the study then you or your relative will not be penalised.

Stopping the study.

You understand that the investigators may stop your relative's participation in the study at any time without your or his / her consent. In the event that such a circumstance should occur you will be advised regarding the reasons for this.

Permission.

This research study has received approval from the ethics committee of [Health Service Provider] and the ethics committee of the Faculty of Health Sciences of Trinity College.

Further Information.

You can get more information or answers to your questions about the study, your participation in the study, and your rights, from Mr Colin Griffiths who can be telephoned at 086-8364476 or contacted at colin.griffiths@tcd.ie. If the study team learns of important new information that might affect your desire to remain in the study, you will be informed at once.

Signed.

Colin Griffiths. Trinity College Dublin.

Appendix 4:

Elucidating the interactions of people with profound intellectual disabilities: An information sheet to staff participants

March 2006.

Introduction.

This research aims to find out what people with the profound intellectual disability do to communicate and what they mean by the communications that they make. In order to do this 10 communication pairs will be filmed in the [named] Health Service Provider. Each pair will consist of a person with profound disabilities in communication with the person whom they know and understand best who will be a staff member. It is intended to film each pair [the person with a disability and the staff member] for 1 hour each initially. The hour will be broken down into ten minute slots that will film interaction episodes such as mealtimes and activity sessions. It may be that extra filming will be made of each communication pair depending on the results of the first filming session. It is intended to film each pair in both the living space and the activity space of the disabled person. The filming process will start in April 2006 and finish later that year.

Procedures.

The filming process will attempt to observe all the small communication behaviours that people with profound intellectual disability make and to see how they are noticed and interpreted by the non disabled person. This will be done by using a video camera to film the interactions and later examining the film in detail. It is also intended to interview you for one hour with the intention of exploring your understanding of the communication process between you and the person with a profound intellectual disability.

Benefits of the study.

At the end of the study it is hoped to produce a framework that explains the interaction process for people with profound intellectual disability. This framework could be used by non disabled people in order to understand what the person with profound intellectual disability is communicating.

Risks.

There are no risks to the persons who participate in the study as it is simply observing their normal life. In the event of the person with disability becoming distressed or upset or a situation arising that should not be filmed then filming will cease.

People who can participate.

10 people with profound intellectual disability.
Each person's significant communicator [10].

Confidentiality.

Your identity will remain confidential. You will be referred to in the data and the report by an assigned number. The video tapes will be stored under lock and key for five years and subsequently destroyed. All computerised data will be stored on password protected computer to which only the researcher and the supervisor of the research has access.

Voluntary Participation.

You have volunteered to participate in this study. You may withdraw at any time. If you decide not to participate, or if you withdraw you will not be penalised.

Stopping the study.

You understand that the investigators may stop your participation in the study at any time without your consent. In the event that such a circumstance should occur you will be advised regarding the reasons for this.

Permission.

This research study has received approval from the ethics committee of [Health Service Provider] as well as from the ethics committee of the Faculty of Health Sciences of Trinity College.

Further Information.

You can get more information or answers to your questions about the study, your participation in the study, and your rights, from Mr Colin Griffiths who can be telephoned at 086-8364476 or contacted at colin.griffiths@tcd.ie. If the study team learns of important new information that might affect your desire to remain in the study, you will be informed at once.

Signed.

Colin Griffiths. Trinity College Dublin.

Appendix 5:

Ethical permission from St Michael's House



St. Michael's House

Research Approval Form

RESEARCH PROPOSAL APPROVAL FORM

Name of Principal/Lead Researcher: Colin Griffiths

Address: Trinity College, Dublin

Title of Research Proposal:

"Elucidating the interactions of people with profound intellectual disability"

Date: 13th December 2005

Dear Colin,

Thank you for your recent request to carry out the pilot from the above named study in St. Michael's House.

We have considered your request and the following is the decision reached by our committee:-

The Proposal is approved subject to the following conditions. (You can proceed once the conditions are fulfilled).

St. Michael's House will require you to liaise with Margaret Farrell as your contact person for this study and will be subject to any practicalities required by Margaret. The pilot to be based in our Southern Region.

Yours sincerely,

On Behalf of Research Ethics Committee

Appendix 6:

Ethical permission form Trinity College Dublin



THE UNIVERSITY OF DUBLIN

TRINITY COLLEGE

FACULTY OF HEALTH SCIENCES

Dean: Professor Diarmuid Shanley
Faculty Secretary: Ms. Fedelma McNamara

Trinity College, Dublin 2, Ireland
Telephone: 353-1-608 1476
Fax: 353-1-671 3956
Email: dshanley@tcd.ie
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Mr Colin Griffiths
The Croft
Celbridge
Co Kildare

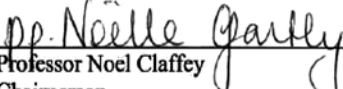
15 July 2005

Study: Elucidating the interactions of people with profound intellectual disability

Dear Mr Griffiths

Further to a recent meeting of the Faculty of Health Sciences Ethics Committee 2005, we are pleased to inform you that the above project has been approved without further audit.

Yours sincerely



Professor Noel Claffey
Chairperson
Faculty of Health Sciences Ethics Committee

Appendix 7:

Transcription sample 1. [JM]

Name. John Moore... Date.....22nd April ... Tape numbers [start / finish]....3.20-3.40. Event---Walk 1.

	Participant		JM	Participant	KM			
Recording Number	Non verbal		Verbal	Non Verbal	Verbal	Comments	My Interpretation	Staff's Interpretation
3.20	Eye Gaze	looks down at floor		Is in front of JM about 10' away but not in view.		M standing behind holding JM around the chest [r] hand and arm [l] hand. <i>Now you just go down another .</i>	Determined	
	Facial Expression	Set jaw,						
	Head Movement							
	Arm movement							
	Leg movement							
	Other	John standing in front of M. [l] arm held by M, wriggles in her grip	<i>Oooh</i>					
3.21.	Eye Gaze	looking down				M withdraws [r] hand behind JM. <i>Little bit</i>		
	Facial Expression	grin						
	Head Movement							
	Arm movement	[r] arm rises and comes across to M's hand						
	Leg movement							
	Other	Wriggles in M's arms	<i>Ooh</i>					
3.22	Eye Gaze	Looks at his [l] hand				M <i>Call him</i>		Jm is trying to get in front of M.
	Facial Expression							
	Head Movement							
	Arm movement	[r] hand goes around to catch M's [l] which is holding his own [l].						
	Leg movement							
	Other							

3.23.	Eye Gaze	Down at hands			<i>JM</i>	M. Looking forward, releases his [I] hand and pulls her [I] back <i>Now</i>	JM anticipating a routine that he knows and likes well	JM is saying 'I'll be there in a minute'.
	Facial Expression	grinning						
	Head Movement							
	Arm movement	Withdraws [I] hand from M's hold, his 2 hands come together						
	Leg movement							
	Other		Ooooh					
3.24	Eye Gaze	Looking forward but down				M. Withdraws her hands completely and watches him set off. <i>Off you go JM</i>		
	Facial Expression							
	Head Movement							
	Arm movement	Hands unclasp arms stretch out						
	Leg movement	Moves forward						
	Other							
3.25	Eye Gaze			Arms extended to catch JM	<i>JM</i>	M hand out	M as if to support JM should he stumble.	
	Facial Expression	Intent on looking at KM						
	Head Movement							
	Arm movement	[r] arm extended wide and [I] also extended						
	Leg movement							
	Other	Walks rapidly forward						
3.26	Eye Gaze	Looking at KM		----- ----	<i>That's it</i>	----- ----		
	Facial Expression							
	Head Movement							
	Arm movement	extended						
	Leg movement							
	Other	Lurches slightly to [I] as he progresses towards KM	Ooooh					

3.27	Eye Gaze	Looking directly at KM,		Leaning forward arms extended towards the oncoming JM, looking at him. Retreats back as he catches her hands and slows down.		<i>M. Oh very good JM</i>	JM delighted to be about to meet KM	
	Facial Expression	fond expression						
	Head Movement	Turns [1] to look at camera as he passes						
	Arm movement							
	Leg movement							
	Other	Moves to catch KM's hands						

Appendix 8:

Transcription sample 2. [TK]

Name... Tony Kent.. Date..... Feb---11/3/06..... Tapenumbers [start/finish... 7.20-9.20....

	Participant	TK	Participant	MD			
Recording Number	Non verbal	Verbal	Non Verbal	Verbal	Comments.	My interpretation	Staff's interpretation
7.20	Tony's head is turned to the left, he smiles and sticks out his tongue				Background noise of staff talking. Sound: <i>OH, OH.</i> Whining sound.		
7.21	He shrugs. Turns [r], eyes look at camera.				Cry from other service user.		
7.23	Gaze turns [l] to look at sound.			<i>God poor JM</i>		Reaction to sound	
7.24	Gaze turns to camera [straight ahead]						Granny told him about the camera and he is recognising it as a result
7.26	Head still turned to [l], gaze in front to camera, tongue protruding.		M walks across the camera in front of T				
7.28	Smiles , head dips and rises slightly, follows M who walks in front of him			M talking with other staff as she prepares the drink.		Reaction to being spoken to	
7.33	Head turns to [r], eye gaze looks to M		M brings over the bib, extends the string at the rear, is talking with other staff.			Looking at the conversation	
7.36	Head rises, extends neck, tongue is protruding, blinks, gaze follows M as she approaches and holds out the bib.					Anticipating M putting on the bib	
			M extends both strings of the bib.				
7.38	TK still watching M intently			M says <i>'Now TK put on your bib and have a bit of your tea'</i>			
7.39	TK looking at M						

7.42		TK makes a strained sound as his head is tilted back, mouth opens in grimace	M puts [r] hand behind his head			Reaction to being handled.	
7.44	TK's head moves down from strained position and looks up front at camera			M says 'Now just relax the head a bit'			
7.46	Moves head down to see under M's arm which is putting on the bib, grins at camera and sticks out tongue		M pulls two strings of bib together and fixes the Velcro.			Relaxes now handling is reduced.	
7.47	Looks ahead but strained			M talking to other staff, still fixing the bib.			
7.50	Head emerges from behind M's arm, calmer.						
7.51	Looking ahead		Pulls arm away				
7.53	Continues looking at camera as the chair moves. TK closes eyes.		M moves wheelchair nearer to the serving counter. As it approaches it judders. M applies the brake.				
7.54							
7.56	TK moves head [r] and looks over at the counter, then at M who is now on the stool.		M moves [r] and sits on high stool.				