

**Small Group Times in the Nursery Setting:
A Forum for Developing Children's Speech, Language and
Communication?**

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ABSTRACT

The importance of research on the unique nature of the communication supporting environment in nurseries has been heightened by growing evidence of the significance of early language skills for later academic and social development. This study focussed on children's language use during small group times. Opportunities to hear and practise language were examined, to uncover variation in conversational experiences for children with differing language needs.

Participants were a nursery key worker and 19, three- to four-year olds in two cohorts. In this mixed-method study, different measures were used to examine the relationship between participation and language level. Quantitative analysis of interaction rates was made from video recordings of small group conversations. This was followed by detailed qualitative examination of talk during episodes of more sustained conversation. Children's language levels were measured using the CELF Pre-school (2) UK and a narrative assessment. Questionnaires about children's verbal participation were also completed by practitioners and parents.

Differences were revealed in affordance of opportunity for children according to language level. Children's interaction rates were positively correlated with scores on the CELF Pre-school (2) UK at the start and 18-months later. Topic of conversation, patterns of turn-taking and repair were associated differently with participation for children according to language level. Analysis showed patterns of both formal and informal talk. Combining features from each was found to be associated with episodes of sustained conversation. Questionnaire responses confirmed differences in children's likelihood of participation in small group conversations.

Findings support the role for small group times as a forum for development of speech, language and communication, facilitating opportunities for children differently according to their language needs. This has important implications for practice in supporting children to make the transition from informal to formal talk in the educational setting.

I hereby declare that, except where explicit attribution is made, the work presented in this thesis is entirely my own.

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Chapter 1: Introduction

This chapter outlines the rationale for the current study, summarises recent research studies and policy concerns in the topic and identifies its importance as an area for further educational research.

1.1 Overview of the focus of the Thesis

There is increasing evidence that early language development has a strong association with later academic and social development. In particular research has linked early language difficulties to later reading difficulties (Botting, Simkin & Conti-Ramsden, 2006; Catts, Fey, Tomblin & Zhang, 2002; Dickinson & Tabors, 2001; Griffin, Hemphill, Camp & Palmer Wolf, 2004; Loban, 1964; Muter, Hulme, Snowling & Stevenson, 2004; Roth, Speece & Cooper, 2002; Snowling, Gallagher, & Frith, 2003). Youngsters with language difficulties also appear more likely to experience behavioural, social and emotional difficulties (Howlin, Mawhood & Rutter, 2000; Lindsay, Dockrell & Strand, 2007; Stringer & Clegg, 2006; Stringer & Lozano, 2007). The argument for promoting children's language skill in Early Years provision is further strengthened by research on social disadvantage, which has indicated that language input and language outcomes in the early years differ significantly for youngsters from more and less advantaged backgrounds (Hansen & Joshi, 2007; Hart & Risley, 1995; Roulstone, Law, Rush, Clegg & Peters, 2011). One solution to this has been to offer children earlier access to nursery education. However, there has been little research on the nature of language development in the nursery environment.

Much of the research on early language development is based on experimental studies of language use, between mother and child (Cazden, 1983; Cross 1977; Snow & Ferguson, 1977; Tomasello, 2003). Studies of other cultures or non-dyadic situations have indicated that one-to-one interactions are not the only context in which language development takes place (Hoff, 2006). There is also some evidence that children's use of language in the nursery and at home differs (Flewitt, 2005; Tizard & Hughes, 1984/2002; Wells, 1981). It may be, therefore, that the opportunities afforded for language development in the nursery are rather different from those at home and consequently have different implications for practice. Research, particularly on second language learning, indicates that children may take different paths in their language

development and develop at different rates (Muller, 2009; Tabors, 1997; Wong Fillmore, 1979). But there are significant gaps in knowledge about the needs of different children, typical paths to language and what is helpful and what hinders.

Classroom talk has been the subject of research since the 1970's, but there has been little specific research of this nature directed to conversations in the nursery for children as young as three- and four-years old, when first entering formal education. Many studies have addressed adult use of language in the classroom and with groups of children (Cabell, Justice, Piasta, Curenton, Wiggins, Turnbull & Petscher, 2011; Dickinson & Tabors, 2001; Girolametto, Weitzman & Greenberg, 2003; Pence, Justice & Wiggins, 2008; Turnbull, Anthony, Justice & Bowles, 2009; Wasik, Bond & Hindman, 2006). There are, however, few that have approached the topic from the point of view of the child's use of language in context.

Detailed studies, using Conversation Analysis (Sacks, Schegloff & Jefferson, 1974) have been applied to an educational context, including for example, one-to-one scaffolding of learning; the effects of teacher and teaching assistant classroom talk in opening up or closing down talk and analysis of small group communication tasks for young children with Specific Language Impairment (Pike, 2010; Radford, Blatchford & Webster, 2011; Radford, Ireson & Mahon, 2006). This approach has yet to be applied to investigation of the detail of moment-to-moment interactions between very young children and nursery practitioners. It is only through such painstaking research, that further understanding can be gained about the ways in which children respond to and employ language and its consequent effects on the development of communication in the nursery.

The key difference between the nursery and the home environment is likely to be that the child is, possibly for the first time, one member of a group when interacting in the nursery. This offers increased opportunities for experiencing the modelling of language, but also presents more challenges in, for example, gaining a turn to talk and having something relevant to say. This study, therefore, focused on the opportunities for talk afforded by small group conversations with a key worker in the nursery. Firstly children's verbal initiation and response rates were investigated in order to establish

who talks when, with what frequency and the occurrence of extended turn-taking. Second, these interaction rates were compared to children's language levels, to examine the extent to which children's language skills were linked to the likelihood of their taking up the opportunities that were offered for interaction. By measuring children's language skills over time it was also possible to address to some extent questions about the relationship between children's use of language in these conversations and their later progress. The third question that was addressed by the study was that of how conversational experiences differed for children of differing language ability, through a detailed analysis of selected conversations. This allowed exploration of the processes through which some children may talk more or less than others and what are the implications for practice in the nursery.

1.2 Data and prevalence: Setting the context for the debate about delay in young children's language skills

“Silence of the little lambs; talking skills in decline.”

(The Guardian 4th March 2003.)

Whatever the truth behind such headlines, they capture the public interest and reflect a general concern about children's early skills and abilities in oral communication. The focus for this concern has tended to be on children's language skills when they first join the nursery. Given that Early Years education is taking an increasingly prominent role earlier on in children's lives, it is also necessary to examine how these early educational experiences may themselves impact on the development of children's foundational language skills. It is only since April 2004 that three-year old children have been offered free nursery places, but by 2009 the vast majority (95%) of three- and four-year olds were accessing some form of free early education (DCSF, 2009a). Rather than a general lament about the poverty of children's early language abilities, what is also needed is investigation into how children are using language in the Early Years setting and what opportunities are offered for language development once they enter that setting.

Historically the specific data from population studies, involving assessment and testing of children's general language levels were few. Much of the data appeared to be based either on surveys of opinion or relatively small scale studies in particular areas, where children might be expected to show depressed levels of language because of factors associated with economic and social disadvantage. For example, investigation revealed that the headline in 2003 was based not on actual measures of children's skills, but on a survey of head teachers and class teachers in Wales, asked for their opinions and perceptions of young children's language skills on entry to school (The Basic Skills Agency, 2003). The general picture portrayed is one of poor stimulation within the home and an increasing reliance on television and the computer to entertain and occupy children. So far there appears, though, to be little evidence available to indicate actual decline in children's language abilities in the early years.

The study by Locke, Ginsborg and Peers (2002), based in Sheffield, provided some verification that, in particularly disadvantaged areas of England, significant numbers of children may show depressed measures of spoken language skills, when assessed on entry to nursery. Using standardised tests with 240 children entering four nurseries situated in an area of social and economic deprivation, they found that up to 34% of children scored 1.5 standard deviations below the mean on tests of language expression and comprehension. Given a normal population distribution, about 6.7% of children would be expected to have scores within this range on such tests. Data from the Stoke Speaks Out campaign also indicated high levels of language delay associated with high levels of deprivation. 58.6% of the 58 children assessed in one Children's Centre area showed delay in either word-finding or comprehension skills at age three-and-a-half to four years (Evans, Cooper & Convey, 2006). In both studies, however, assessments were carried out by unfamiliar testers on entry to or during the children's first term in the nursery. As discussed later in Chapter 2, such conditions may not be optimal for children to demonstrate their skills and the studies did not include subsequent follow up of progress.

A similar picture was shown for five year old children in an inner city multilingual environment, speaking English as an additional language (EAL) by Stuart (1999). She measured their oral comprehension and sentence repetition skills both before and

after a phonic teaching programme, and found that on follow-up after three to six terms in nursery, these children scored, on average, one standard deviation below the mean. Again it was a relatively small scale study of 112 children in five schools, but language skills were measured over time and provide an indication that some groups of children, in this case with EAL, living in areas of economic disadvantage, may have language delay persisting for up to a year after school entry.

The Department for Children, Schools and Families commissioned The Bercow Report (Bercow, 2008), in order to review services for children and young people with speech, language and communication needs. In defining the scope of the problem, the authors of the report used the following descriptions of the prevalence of speech, language and communication needs:

“Approximately 50% of children and young people in some socio-economically disadvantaged populations have speech and language skills that are significantly lower than those of children of the same age”

and

“Approximately 7% of five year olds entering school in Englandhave significant difficulties with speech and/or language.” (Bercow, 2008 *p13*)

The accompanying Research Report (Lindsay, Desforges, Dockrell, Law, Peacey & Beecham, 2008) clearly recognised that measures of prevalence are only approximations and depend upon the definition of speech, language and communication needs. These figures were taken from their review of current studies in the UK and USA, as the best available working descriptions of the numbers of children and young people with speech, language and communication needs. The most widely known of these studies is a large scale population study in the USA by Tomblin, Records, Buckwalter, Zhang, Smith and O’Brien (1997). From a survey of 7,884, six-year old kindergarten children, 2,084 who scored below average expected levels were followed up with a battery of diagnostic tests. Using this follow-up data a prevalence figure of 7.4% was estimated for speech and language impairment. The authors argued that this figure was higher than had been previously thought and higher than the

number that would perhaps have been identified for intervention. It is, however, within the range of 6.7% of the population that could be expected to score 1.5 standard deviations or more below the mean of a normal distribution of scores. The issues surrounding definitions and identification of children's different language needs are discussed further in Chapter 2.

One study that is frequently quoted in the context of the debate about children's early language development and disadvantage is that by Hart and Risley (1995). This US study compared language use across 42 families and concluded that the main difference was in the number of words and the range of vocabulary used. In professional families there was more talk about more things, with the result, the authors argued, that children from more advantaged backgrounds themselves spoke more in school. This difference in language input was used to account for differences in children's IQ scores at age 3 and again at age 9-10 years. The study was based on a relatively small sample, but has stimulated interest in the importance of early talk as a factor in children's later success.

More recently, as well as smaller scale studies, larger scale longitudinal studies have set out to gather data about children's development over time. One such large scale study in the UK, the Millenium Cohort Study of 16,000 families, demonstrated a difference of ten months in vocabulary scores between children of parents educated to degree level or above compared to children whose parents had no formal qualifications (Hansen & Joshi, 2007). Although scores showed a normal distribution and spread of scores overall, there were marked differences for children from advantaged and disadvantaged backgrounds. When revisited at age 7 years, differences relating to parental levels of education persisted in children's cognitive attainment scores (Hansen, Jones, Joshi & Budge, 2010). Follow up of this cohort of children born in 2000/2002 may well lead to further insights into the relationship between early vocabulary and later academic success, but there is some incongruence in the data. For example, Scottish children were three months ahead in vocabulary scores compared to English children, despite higher levels of poverty in Scotland. The picture is not straightforward and the influence of factors such as second language, family size and circumstances of interview and assessment has been identified for further investigation.

In the absence of historical data and with no comprehensive measures of children's language abilities at various points in the past, we cannot conclude that children's language skills are any worse than in previous times. Children have only comparatively recently, within the last decade, begun to access formal education opportunities from the age of three. This has been accompanied by the introduction of Early Years curriculum guidance, culminating in the statutory Early Years Foundation Stage Framework to which all Early Years providers must now have regard (DCSF 2008a; DfE, 2012). It may be the expectations and the demands of the curriculum that are increasing, rather than children's skill levels that are necessarily declining. What is needed is a clearer understanding of the opportunities that the nursery setting affords for language development and how best to overcome any limitations that may exist. Research in this respect is examined further in Chapter 3.

The debate has, however, focussed attention on the importance of early language and factors that play a role in its development. Following the Bercow Report (2008) a number of government sponsored initiatives were set up with a view to raising public awareness about the role early experience plays in children's early language development. These included the Communication Trust and in 2011 The Year of Speech Language and Communication. Further research was also commissioned to examine the nature of the relationship between early experiences and language development. New light was shed on this question recently, utilising available longitudinal, historical data from the large, population-based Avon Longitudinal Study of Parents and Children born in 1991/1992 (Roulstone et al, 2011). Researchers were able to analyse factors in the children's early communication environment that were associated with better language skills at 24 months and again on entry to school. Findings indicated that children's understanding and use of vocabulary, as well as their use of two- to three-word sentences at 24 months of age was strongly positively associated with their language performance on school entry. These effects were accounted for by particular aspects characterised as the communication environment, regardless of social class. This communication environment was measured through mothers' questionnaire reports of what they did with their children, how they felt and resources available to them. Amongst the most important factors were found to be the

number of books and toys in the home, visits to the library, teaching activities carried out by parents, attendance at pre-school and less time with the TV on. One crucial aspect of this research was that it was able to identify very particular aspects of the communication environment that were associated with better language acquisition. The research was, however, based on self-report questionnaire data rather than actual observations, leaving open the question of establishing how accurately the parental reports reflected what happened in reality. As will be discussed in Chapter 2, though, parental reports of their children's language skills have been shown to be positively associated with independent observations by a researcher (Camaioni, Castelli, Longobardi & Volterra, 1991; O'Toole & Fletcher, 2010; Ring & Fenson, 2000). The authors of the report recommended further research to investigate the communication environment in older children and over longer periods. For older children, the nursery or school itself is part of that communication environment and research is still needed to identify specific features within the nursery that are associated with the promotion of children's language skills.

1.3 The importance of language development

The recent Bercow Report, looking at meeting the needs of children and young people with speech, language and communication difficulties, emphasised the crucial nature of language in child development.

“The ability to communicate is an essential life skill for all children and young people in the twenty-first century. It is the core of all social interaction. With effective communication skills, children can engage and thrive. Without them, children will struggle to learn, achieve, make friends and interact with the world around them.”

Bercow (2008, p.16)

To be able to express oneself and be understood must surely be the basis for inclusion in any group, setting and wider society. Much work has focussed on the link between early competence in oral language skills and later school achievements, underlining the importance of talk not just for verbal communication, but also in underpinning academic and social development. More generally it has been argued that language is interwoven with the cognitive abilities of thinking, memory, reasoning and problem-solving, and as such any language difficulty will impact on all classroom learning (see

Botting & Resing, 2007). Support was added for this view by the recent finding that children's scores on the language scale of the Early Years Foundation Stage Profile correlated very strongly with all the other scales and more highly than other areas correlated to each other (Snowling, Hulme, Bailey, Stothard & Lindsay, 2011). This suggested that this fundamental ability was associated with progress in all other areas. Most of the published research, however, has been addressed to the development of literacy skills. In addition there is a growing body of research on the relationship between language difficulties and behavioural, social and emotional difficulties. Both these aspects of development are considered in this section, in the light of their links to oral language development.

1.3.1 Language and literacy skills

Language is a social and cultural phenomenon and does not merely consist of linguistic structures. Within the context of the educational system, then, it may not be surprising that those children who show good oral language skills in pre-school or nursery go on to show better skills later in reading and writing. There is a growing body of research evidence for the argument, taken up for example by the Department for Children, Schools and Families in their advice to Early Years Practitioners (DCSF, 2008b), that improving **all** children's early oral language abilities will help to improve general standards of literacy.

Children's oral language skills, including knowledge of vocabulary, semantics and pragmatic skills have been shown to underpin later reading development, and in particular the development of reading comprehension skills. Catts et al, (2002) reported a longitudinal study of 570 monolingual, English-speaking children, 208 of whom were identified as having a Language Impairment at kindergarten. Of the Language Impaired children, 50% were identified as having reading difficulties on tests of word recognition and reading comprehension when assessed later in second and fourth grades. Only 8% of the comparison group were identified with reading difficulties.

Studies working with children who had not specifically been identified with a language impairment, have indicated that the relationship between oral language skills and later

reading skills may depend on specific aspects of language, rather than general language development. Roth et al (2002), for example, conducted a smaller scale longitudinal study with 39 children, comparing oral language skills on a range of standardised measures in kindergarten to reading comprehension in first and second grades. Oral vocabulary and word retrieval were found to account for about 23% of the variance, when differences in print awareness were taken into account. A similar study using criterion-referenced measures of narrative skills found only certain, very specific aspects of narrative skills at age 5 years to be correlated positively with reading comprehension and writing measures at age 8 years (Griffin et al, 2004). The sample population in this later study, however, was less culturally diverse, consisting of 32 mono-lingual, white children. The indication may be, therefore, that within the normal population range the effects of earlier language skills on later reading comprehension are less evident than for those children who experience significant difficulties requiring intervention. Moreover, the method chosen for assessing language skills will influence the way those skills are defined and measured, as discussed further in Chapter 2.

It is also of note that at age eight years reading comprehension may not demand the kind of higher order skills that become necessary later. Loban, (1964), in a frequently quoted study, demonstrated that children with differing language abilities at age 6 years showed an increasingly wide difference in reading ability at age 13 years.

Dickinson and Tabors (2001) produced similar findings from their longitudinal study of language use at home and school by 74 children from low income families, recruited to the Head Start scheme. They found that children's scores on measures of receptive vocabulary, narrative production and emergent literacy at age 5-6 years, were highly predictive of later scores in reading comprehension and receptive vocabulary at ages 9-10 years and also at 12-13 years.

UK research has shown a similar pattern. Phoneme awareness and letter knowledge at age four years were found to be predictors of individual reading differences at age five years and for word-reading at age six years (Muter et al, 2004). Being able to recognise letters and segment spoken words into speech sounds was a sound basis for later reading development. Once differences in word-level reading were taken into account,

however, it was vocabulary knowledge and grammatical awareness that predicted later reading comprehension scores.

Looking specifically at children at family risk of reading difficulties, a study of 56 children identified at three to four years of age, found that overall 66% had reading disabilities at age eight years, compared to 13% of children in a comparison non-risk group (Snowling, et al 2003). Children with poor phonological skills but good vocabulary and wider language skills, though, did better with reading at age eight years, than those who also had poor spoken language skills as well as phonological difficulties. The Nuffield Reading study, which followed 152 children identified as being at risk of later literacy difficulties on the basis of poor vocabulary and verbal reasoning skills, showed that children who were given intervention to develop their phonic skills improved in letter-sound knowledge and phoneme awareness. Of the children 20 to 30%, however, continued to have reading difficulties. These children also had poor oral language skills in vocabulary and grammar (see Carroll, Bowyer-Crane, Duff, Hulme & Snowling, 2011). This study is discussed further in Chapter 3.3.2, in the context of the interventions used to address these difficulties.

There is, therefore, research demonstrating a strong link between early oral language skills and later development of reading skills and in particular reading comprehension skills. The Better Communication Research Report (Snowling et al, 2011) showed, in the light of this, that Literacy skills and Language skills can be grouped distinctly. In a large scale study involving three cohorts of children in one local authority, they considered the relationship between children's attainments in communication, language and literacy (CLL) as assessed on the Early Years Foundation Stage Profile (DCSF, 2008a) and then again at the end of Key Stage 1. Attainment in this sphere of development was found to be highly predictive of development in all other spheres and to account for just less than 50% of the difference between children's scores two years later. This finding reinforced the importance of language development as a linchpin to later academic success. Further, on analysing children's scores, and isolating distinct factors, skills such as letter and sound knowledge were shown to be separate from language skills such as retelling narratives or using the language patterns of stories. It is talk that is associated with the development of oral language

and later reading comprehension, and specific phonological knowledge which is linked to decoding for reading.

Botting et al (2006) demonstrated a relationship between narrative language skills and literacy skills, in a study of 200 pupils with identified speech and language impairment (SLI). 80% of the pupils identified with SLI at age seven years showed reading comprehension difficulties at age 11 years. When the data were controlled for age, IQ and early reading accuracy measures, language skills at age seven years were shown to have an important part to play in predicting later reading skills. These difficulties were associated with oral language difficulties with syntax and language structure, rather than expressive vocabulary as such. The authors do caution, however, that the specific measures used could have contributed to the particular pattern of associations revealed to be implicated. Early reading accuracy and higher sentence-level oral comprehension skills were found to be associated with those 20% of children who did not show reading comprehension difficulties in this sample.

Looking at curriculum achievement in English tests for pupils with English as an Additional Language from Bangladeshi and Pakistani communities in Bradford, research showed that pupils tended to score within the national average at age 7 years, but “results plummet at age 11 years” (Kotler, Wegerif, & LeVoi, 2001, p. 404). The authors offered explanation for this apparent decline in literacy skills, by suggesting that bilingual learners may not have had sufficient opportunity to develop familiarity with academic registers of language, and so had difficulty with higher order skills involved in reading comprehension. This, they argued, reflected the lack of opportunity for bilingual learners to develop the oral language skills that support comprehension and more complex use of language for reasoning and reflection in the language of instruction.

1.3.2 Language and behavioural, social and emotional development

It is not just children’s academic skills and development that are influenced by their language skills and abilities. Lindsay et al (2007) conducted a longitudinal study with 69 children who had an identified SLI. They found a high proportion of children with specific speech and language difficulties also scored highly on measures of

behavioural, emotional and social difficulties, which persisted over the period of middle childhood. Peer relationships were also found to be related negatively with poorer language development, in particular pragmatic ability. However, the rate of difficulty identified varied between school and home, with the implication that context and rater may play a role in the identification of difficulties. Nevertheless, in all cases the identified rates were higher than the expected population level of 10%. Around 37% of eight-year olds, rising to 52% of 12-year olds, were identified by parents as having difficulties. For teachers, the identified rates were lower; 35% for eight-year olds and 17% at age 12 years.

Research has also demonstrated the link between language and behavioural, social and emotional difficulties, through studies of the population of children with identified behavioural problems. Stringer and Lozano (2007), for example, found that the rate of prevalence of language impairment in one school for children with emotional and behavioural difficulties was as high as 74%, with less than half these pupils having been previously identified with speech and language needs.

The nature of this relationship, however, is far from clear. Howlin, et al (2000), in a longitudinal study comparing a group of boys with autism and a group with Speech and Language Impairment, found that for the latter group the behavioural difficulties did not emerge until after the age of 8 years. This may be an indication that the social difficulties were not a part of the Speech and Language Impairment per se, but perhaps developed as a result of its impact on social interactions. The co-morbidity of Emotional Behavioural and Social Difficulties with Speech and Language Impairment is estimated to be around 40 – 60%, so by no means all children with speech difficulties also develop behavioural problems (Stringer & Clegg, 2006). It has been noted that differential outcomes for children appear to be linked to three factors: the nature of the language difficulty, cognitive ability and socio-economic status, with speech difficulties rather than receptive language difficulties being associated with better outcomes (Clegg & Ginsborg, 2006).

There is a complex and reciprocal relationship between language development and positive social development. Pro-social behaviour is not necessarily based solely on

oral language; physical gesture as well as language is used to encourage social participation with others and so lack of verbal language need not inhibit social interaction, particularly in very young children (Bateman & Church, 2008). However social skills and language skills are mutually supportive. Good language skills facilitate social interaction, but equally, social skills support language development. Spere and Evans (2009) reported that shyer children had lower language scores, when comparing receptive and expressive vocabulary as well as phonological skills for 89, four- to five-year olds. The suggestion was that shyness had a negative relationship to language development. When the children were re-tested at age six- to- seven years, however, this difference was no longer evident. Amongst limitations of the study was that there were no observational measures of children's interactions, relying on parental questionnaires to assess shyness. Neither was there a measure of children's narrative language skills. Nevertheless the findings are pertinent to the current study, in that the implication is that, for very young children at least, reluctance to interact because of shyness may impact on language skills in the nursery, but that this difference may be expected to resolve itself later.

A study by Pellegrini, Galda and Flor (1997) added a further dimension to consideration of the relationship between the development of social skills and language. They found that young children used more expressions of 'literate language' (talking about their talk and thought processes) when with friends than in non-friendship pairs, indicating that close social relationships with peers provide opportunities for practising the type of language that is associated with success at learning. As language skills develop, a growing meta-linguistic awareness is reflected in children's talk. Being able to use spoken language confidently, to have an understanding of and ability to reflect on language itself, may help to make for a smoother transition to the literacy skills involved in reading and writing that underpin formal education. It is possible that, where children do not have good language skills, this can lead to more difficulty in forming friendships and so, in a downward spiral, providing them with fewer opportunities to explore and use the 'literate' language associated with success in school-based literacy tasks.

The opportunity, then, to develop good communication skills is crucial to children's development, both academic and social.

1.3.3 Limitations of the research

Much of the research reviewed here compared children with an identified SLI or as at risk of later difficulty to matched control groups. The evidence, however, that a similar effect would be shown for children without identified, specific difficulty is often lacking. Where studies have been conducted with a wider population, in the case of some of the studies on early literacy development for instance, there has been some evidence of effects, but it is not clear to what extent children might be expected to overcome any early language delays and what specific factors may cause children to experience continued challenges to their academic and social development. More research is needed on typical paths to language development. Part of the difficulty lies in the definition, identification and measurement of speech and language difficulties, which can differ from study to study. It is to the definitions of and reasons for delay in language development that more attention will be given in Chapter 2.

1.4 Differences between the home and nursery settings as a context for language learning

1.4.1 Studies comparing use of language in the home and school contexts

For several decades now attention has been drawn to the requirement for language to become less ego-centric and more disembedded of the context once children start school (Wells, 1981). This becomes necessary as they are involved with conversational partners who are less familiar with the contexts that they may wish to talk about. Arguably, one of the most influential studies on the use of language by children in the nursery was that by Tizard and Hughes. The study was carried out in 1984 and was reported in their book "Young Children Learning" (Tizard & Hughes, 2002). Comparison was made of 30, four-year old girls' use of language at home and in nursery with the conclusion that it could not be assumed that because girls did not speak much in nursery, that their language skills were poorly developed. At home the girls engaged in an average 27 conversations per hour with an adult; at school there were, on average, 10 conversations per hour with an adult and these conversations comprised fewer

turns than conversations at home. The girls asked on average 26 questions per hour at home, but only 2 questions per hour in nursery. Asking questions is often used in conversation as a way of introducing a topic and so this difference may possibly imply that the girls took fewer opportunities to direct the conversation at school than they did at home (Ochs & Schieffelin, 1983).

This study illustrated well the differences referred to earlier by Wells (1981) between the experiences of language at home and in the nursery and the influence of the setting on language use. The girls' role at school was mainly to answer questions asked by the adult. At home there was more talk and it focused more on people and past and future events. Perhaps surprisingly, in the light of evidence from studies referred to in Section 1.2, no significant social class differences were noted at home in number or length of conversations, number of words in a turn, frequency of questions or controlling talk. Some small differences were noted in middle-class mothers' tendency to use language for more complex purposes, to use a wider vocabulary and join in more role play. In the nursery, however, there were significantly fewer verbal contributions by girls from working class homes. That is, they spoke significantly less than they did at home and less than the girls from middle-class homes. Teachers tended to underestimate the abilities of the girls, particularly the girls from working class homes, based on what they saw in nursery. Tizard and Hughes concluded that the structure, organisation and curriculum of the nursery provided only limited opportunities for children to talk with adults and demonstrate and practise their language skills.

“Our study suggests that the exchange of views and questions, equally balanced between adult and child, that makes up conversation at home is better attuned to young children's needs than the question-and-answer technique of school.”

Tizard & Hughes (2002 p. 224)

Another way of looking at it might be to say that the nursery setting was not able to capitalise on the home experiences of the girls, but particularly the experiences of the working class girls. What is of importance is that, not only may the nursery offer fewer opportunities for adult-child talk generally, but also that differences in children's

previous social experience are likely to affect the affordance given by those opportunities that do exist.

As Wells (1981) explained, the relationship between language and context is one of the aspects of the child's experience which can change most when the child starts nursery. Evidencing research from his Bristol language development study, he argued that at home most talk "arises out of contexts of practical activity, often ones which the child himself has initiated" (Wells 1981 p.18). In nursery, activities are led by the learning experiences made available in the nursery, often planned in advance by the adults and children have to accommodate to different social relationships and expectations. The research by Flewitt (2005) on non-verbal communication, discussed further in Chapter 2.2.5, showed that children may not use talk to communicate equally in different settings. In a case study of four three-year-old children, using video observations, Flewitt discovered that all four children communicated mainly through talk at home and used gaze, facial expression and body movements for emphasis. In the playgroup, however, talk was used mainly for specific purposes (e.g. to be polite, precise or give emphasis) and gaze, facial expression and body movement were the primary means of communication.

1.4.2 Implications of the studies for language development in the Nursery setting

The nursery setting is very different from the home in terms of the availability of adults as individual conversational partners. If one-to-one adult-child interaction is the means by which children come to acquire skills in the use and understanding of language, then it is unlikely that the nursery setting can provide the same opportunities as home. If Tizard and Hughes (2002) are correct, and conversation at home is more attuned to the child's needs, it will be difficult for children arriving at nursery with poorly developed language skills, or little knowledge of the language of instruction, to acquire and develop these skills.

More recent work, such as that of Flewitt (2005), has begun to question the idea that lack of speech by children in the nursery necessarily indicates pathology. Challenging the interpretation of previous pre-school studies, which used audio-recordings, and gave primacy to speech as the main channel of communication and learning, Flewitt

(2006) argued that the use of video observations has allowed new insights into the way children and adults negotiate and construct meanings jointly in different social situations. Chapter 2 reviews current knowledge on early language development and its basis in dyadic interactions. It is necessary to extend knowledge of the ways in which children communicate and acquire language, in order to understand and promote children's language development in the nursery setting.

1.5 Investigation of talk in the classroom

Linking ideas about education, language, literacy and disadvantage, children's talk at school became the focus for much research and debate from the 1960s on (see Freebody, 2003). Early observational studies in the classroom produced conflicting evidence about the effect of adults on children's language use and conversation. For instance, Atkin (1978) concluded that children talked more and engaged more with a given topic when talking to other children than in the presence of the teacher. Cooper (1979), however, came to the conclusion that children talked more and used longer utterances when talk was directed to an adult. It was the work of Wells (1978; 1981; 1992) that developed the idea that the style of language used by teachers in the classroom inhibited children's use of language, mainly through the use of a question and answer format, where the teacher already knew the answer and the child's task was to guess the right response. This theme became the starting point for many sociolinguistic classroom based studies throughout the 1980s and 1990s (e.g. Cazden, 2001; Hughes & Westgate, 1988; 1997; Maclure & French 1981). Language was analysed in terms of features such as turns in talk, length of utterance, initiation of talk and the function of the talk. One method frequently applied to the categorisation of classroom talk was the IRF or IRE exchange (Mehan; Sinclair & Coulthard, cited in Mercer, 2010, p. 7). Devised from educational research in the second half of the 1970's, this triadic exchange was characterised as the basic unit of teacher-pupil talk. The teacher was observed to initiate (I) typically by asking a question. This was followed by pupil response (R), usually an answer to the question and the teacher responded with feedback (F) or evaluation (E).

These studies painted a largely negative picture of adult-child interactions and opportunities for language development in educational settings; adults mainly asked

questions, often working towards a correct answer and there was reported to be little reciprocity in the communication between adults and children. In part, this picture may have arisen from the static, pre-determined categories used to code the interactions. The focus being on, for example, frequency of turn-taking, mean length of utterance or a categorisation of the purpose of the utterance, rather than exploring process or outcomes (see Freebody 2003; Westgate & Hughes 1997). In 1987 the four year National Oracy Project was set up to encourage the development of pupils' skills in speaking and listening throughout the school curriculum (see Norman, 1992). However, still in 1997 the view was expressed that the UK National Curriculum and its revisions

“has threatened to narrow the conceptualisation of talking and listening and to locate these skills within ‘English’ rather than the curriculum as a whole”

Westgate and Hughes, (1997, p.129).

In other words, although speaking and listening skills were now a recognised part of the educational curriculum this did not necessarily reflect an understanding of the critical nature of language development in underpinning learning. Nor, they argued, had there necessarily been a broadening of the range and nature of opportunities for oral language expression and development; rather it may possibly have led to a pigeon-holing of these skills as just an aspect of the English Curriculum.

It could be argued that the more recent evidence on the importance of early language development has led to the beginning of a shift of understanding in this regard. Fresh attention has been given to the Early Years setting as an environment for language development as discussed in the next section.

1.6 The quality of the language environment in the Early Years setting

The move, more recently, to change the emphasis within the Early Years Curriculum at least, and to stress the importance of the development of oral language as a precursor to literacy skill development, can be traced back to the body of research from the USA on the importance of language experiences in the pre-school years for later reading development (Dickinson & Smith 1994; Dickinson & Tabors 2001; Hart & Risley, 1995). Research by Snow, Tabors, Nicholson and Kurland (1995) is cited in DCSF guidance,

where “clear guidance on the development of children’s speaking and listening skills” is included as one of the six key elements of best practice in the development of early literacy skills (DCSF, 2009b p.3). An increased emphasis on oral language skills can be seen to be explicitly developed through DCSF initiatives such as “Communicating Matters” (DfES, 2006) and later “Every Child a Talker” (DCSF, 2009c) and now the Early Language Development Programme sponsored by the Department for Education through the communication charity I-CAN (2012). Specific reference is made to the current increased awareness of the crucial role that language skills play in supporting children’s later development. The “Every Child a Talker” materials talk about disadvantaged children being especially prone to language delay and to go on, therefore, to experience difficulties later in reading and writing. These programmes aim to improve practitioner knowledge about early language development and go some way towards helping to define and create the good language environments deemed to be part of the universal provision necessary to meet children’s speech, language and communication needs (Lindsay et al., 2008). For instance, “Every Child A Talker” includes an audit process for settings, to help practitioners to set up a communication-friendly environment, top tips for effective communication as well as guidance on working with children with English as an Additional Language, using language in everyday activities and involving parents.

The latest research in the UK has provided evidence indicating a direct link between both quality and quantity of adult-child interactions in preschool settings, and outcomes for children. The Effective Provision of Preschool Education (EPPE) project is a large-scale, longitudinal study on quality pre-school provision. Sylva, Taggart, Siraj-Blatchford, Totsika, Ereky-Stevens, and Gilden (2007) concluded that in higher quality day care, that is, day care associated with better cognitive development and later achievements for children, there were both more interactions between children and adults, more social conversation as well as sustained shared thinking, and also more direct teaching and small group involvement from teachers including modelling, questioning and demonstrating. The implication is of a possible difference in the nature of interactions between adults and children in higher quality Early Years settings at least.

Whilst the focus is on the importance of high quality interactions in settings, the evidence about the specific nature of these interactions is still sparse. Most of the advice that is offered to Early Years practitioners on how to help young children to develop language skills appears to be based on research with mother-child dyads, as will be further discussed in Chapters 2 and 3. This is evident in initiatives mentioned earlier; Communicating Matters (DCSF 2006), Every Child a Talker (DCSF 2009c) and the Early Language Development Programme (I-CAN, 2012). Indeed, scaffolding talk is listed as one of the key elements of practitioner knowledge in DCSF guidance on “Best practice in phonics and early literacy” (DCSF 2009b). However, the vast majority of this research to further our understanding of how children develop language skills has been carried out through experimental studies, looking at dyadic interactions predominantly between white, western middle class mothers and their babies and young children.

Research from the USA characterised the quality of language instruction in Preschool classrooms in 135 publicly funded settings as poor, in terms of practitioner’s application of specific strategies advocated on the basis of such studies. For example, few practitioners were observed to use open-ended questions, repetition and extension of children’s utterances or modelling a wider vocabulary (Justice, Mashburn, Hamre & Pianta, 2008). Following training, they found curricular fidelity to the programme to be high, but this was not necessarily associated with a higher quality of talk, which cannot be scripted as such and depends on practitioner’s responsiveness to children. They also found that having an advanced degree was associated with *lower* ratings of quality instruction, rather than higher ratings as might be expected from the research discussed earlier on the link between higher parental educational level and better cognitive and language development in children. Clearly the link is not straightforward and the nursery environment may present rather different opportunities for language development than 1-to-1 talk, with a parent at home. It is important then, to be cautious when applying advice from one situation to another. More research is needed into precisely how talk is used in context before drawing conclusions about what contributes to a good language environment in the nursery.

There have been many contributions, in an attempt to develop a range of evidenced-based approaches to classroom intervention to promote children's early language development. Firstly through skilling up the adults who work with them and also through targeted additional support for specific groups of children who may be thought to be at a disadvantage in developing language skills. Few of these studies however have included a focus on the child's use of language. Classroom pedagogy and the evidence base for the efficacy of these approaches are further examined in Chapter 3.

1.7 Conclusions about language development for 3- and 4-year olds in the nursery

There is a growing body of evidence that early language development makes an important contribution to later academic and social success (Botting et al, 2006; Carroll et al 2011; Catts et al, 2002; Dickinson & Tabors, 2001; Lindsay et al, 2007; Roth et al, 2002; Snowling et al, 2003; Stringer & Clegg, 2006; Stringer & Lozano, 2007). As children are being admitted to nursery at an increasingly early age, it is vital that the nursery should also stimulate and support the development of early language skills in preparing children for school. Studies have demonstrated that language use at home and in the nursery can be very different, with some children at least using spoken language less in nursery than at home (Flewitt, 2005; Tizard & Hughes, 2002; Wells, 1981). Much research on classroom talk has painted a picture of the educational context as one that may discourage rather than encourage talk, with an implicit criticism of practitioners themselves as unable to put into practice the necessary techniques or strategies (e.g. Hughes & Westgate, 1988; 1997; Justice et al, 2008; Wells, 1978). There is little research, however, with a focus on the specific nature of the communicative environment in the Early Years setting. More research is needed which focuses on interactions in context in order to examine what is happening in the nursery, the opportunities afforded for children to hear language and to practise their language skills and how contextual factors interact with children's different language needs.

Expanding on the issues explored in this introduction, the next two chapters set out the parameters for the current study in more detail. Chapter 2 defines the terms for

the study and the aspects of language development to be considered. Some of the current themes and relevant research on early language development are then summarised and consideration is given to developmental differences and the communication needs of different groups of children. Finally in this chapter attention is turned to the different methods for assessing early language skills and how this affects what can be measured. Chapter 3 examines language development as it relates to the educational context, particularly for very young children. Models of pedagogy are discussed, with a focus on the social construction of learning, the role played by the curriculum and the social context as well as the adult. The case is then set out for applying an interactionist approach to language development, which allows the opportunity for focussing on communication in context. Studies that have employed such an approach are reviewed along with their relevance to the present study.

Chapter 2: Early Language Development

2.1 Definitions of speech, language and communication skills

Language is essentially a symbolic, rule-governed system for the expression of thoughts and feelings, which can be realised through sounds, print or gestures. Oral language is produced through speech (Ezell & Justice, 2005). With reference to the Early Years classroom and the skills that children are expected to have achieved by the time they start school, four aspects of spoken language are considered relevant (Carroll et al, 2011). Phonology concerns the system for mapping speech sounds on to meanings (e.g. the difference between 'bat' and 'pat'). Grammar relates to the structure of language; the way words and parts of words are combined to give meaning. Semantics corresponds to the content of language, that is, meanings and vocabulary. The fourth area is pragmatics, or the way language is used to communicate, and depends on a shared understanding of what is being talked about and what is relevant. It is this last aspect of language development that the present study is concerned with, in particular the way children are able to use language to communicate their needs and ideas in the nursery setting.

Communication and Language is one of the three prime areas for development in the Early Years Foundation Stage (DfE, 2012). During this stage children are expected to develop skills in listening and attention; in showing understanding by following instructions and answering questions, and in speaking. This includes being able to express themselves effectively, showing awareness of the needs of the listener as well as developing their own narratives and explanations. The focus of these goals is very much on the child's use of language both for communication and for learning.

2.2 Social interaction and language development

One of the key issues in current research in the field of early language development is the role played by different experiences in children's development (see Shatz, 2007). Whilst the literature clearly highlights the importance of social interaction in the development of language, the relative role played by input addressed specifically to the child has been the subject of much recent debate within the field. This issue is clearly of relevance when considering children's language experiences in the Early

Years setting and the need to engage children in direct conversation one-to-one or otherwise.

2.2.1 Child directed speech, joint-attention and scaffolding

Taking a formative view of language development, focusing on the prerequisites and processes for learning language rather than the formal structures of language itself, Bruner (1974) proposed that the social context for language learning is crucial to children's language acquisition. Wood, Bruner and Ross (1976) used the metaphor of *scaffolding*. Building on Vygotsky's (1934/1986) idea of the Zone of Proximal Development, adult and child can be seen as engaging in a reciprocal, joint interactive relationship through which instruction occurs. During scaffolding the adult, or more skilled partner, provides intentional assistance to enable the child (or less skilled partner) to perform that part of the task that is within their range of competence, thus enabling the child to complete tasks that are within their comprehension but just beyond their current ability.

"What the child can do in cooperation today he can do alone tomorrow. Therefore the only good kind of instruction is that which marches ahead of development and leads it."

Vygotsky, (1934/1986, p. 188)

Thus the adult makes a bridge between old and new learning for the child, enabling them to operate at a higher level of competence than otherwise possible and to develop competence in the task at a faster pace than through unassisted practice. The two-way, interactive nature of adult-child relationships in teaching and learning is explored in more depth in Chapter 3.2.

Developing the work of Bruner, Tomasello (2003) proposed a framework for language learning to help explain how young children achieve the complex and seemingly impossible task of acquiring language. He argued that there are certain prerequisite and foundational conditions and abilities that a child needs, which play a crucial role in the acquisition of both meaning and grammar. These are summarised in Table 2.1 along with the adult behaviours that help to create these conditions.

Table 2. 1: Summary of research on the role of Child Directed Speech and other supportive factors in childhood language development

Supportive factors	Research evidence
1. The establishment with a communicative partner of a joint attentional frame of reference and an understanding of communicative intent and role-reversal.	Akhtar, Dunham, & Dunham , 1991; Tomasello & Farrar, 1986
2. Hearing language appropriate to the child's level of understanding e. g. predictable units of sound, sequences and stress patterns and language constructions.	Brown, 1957; Naigles, 1990; Ninio, 1992; Naigles & Hoff-Ginsberg 1998
3. Language linked to concrete situations, where the non-linguistic elements of the situation can support understanding.	Cross 1977; Snow & Ferguson, 1977
4. Restricted topics of conversation linked to the child's interest and focus of attention.	Akhtar et al., 1991 ; Carpenter, Nagell & Tomasello, 1998; Tomasello & Todd, 1983
Adult behaviours	
1. Engage in cultural routines that provide predictable scripts and opportunities for repetition of language games and patterns.	Ninio & Bruner, 1978; Snow & Goldfield, 1983
2. Simplify speech (Child Directed Speech) in terms of restricting vocabulary and attending to topics of interest to the child; recast (repeating and slightly expanding or rephrasing the child's utterance) to provide a better language model whilst preserving the perceived meaning; request clarification from the child.	For discussion see Haggan, 2002; Saxton, 2008; Saxton, Houston-Price & Dawson, 2005
3. Repeat verbal routines and new vocabulary over several different occasions; introduce new vocabulary in the context of known verbal routines or explicit context.	Cameron-Faulkener, Lieven, & Tomasello, 2003; Farrar, Freund & Forbes, 1993
4. Fine-tune their speech to the child in terms of the child's own level of complexity of speech and by using stress patterns to emphasise units of speech, using fewer words (shorter Mean Length of Utterance) to match the child's own utterance.	Snow, 1972; Snow & Ferguson, 1977

Such research as summarised here in Table 2.1 identified some of the adult behaviours that may act to support children's language acquisition, aiding understanding of the way in which the language input that children have to learn from is not as complex as typical adult conversation. The simplified nature of this input was used to help to explain how children could use their general perceptual, cognitive and social skills to build up their understanding of language, within the context of direct one-to-one interaction with an adult.

The construction of such a joint attentional frame has been an important focus in experimental studies on children's language development. The ways in which adults or older children can help to scaffold the young child's language learning, by maintaining the conversation and establishing a shared context for understanding, checking out potential misunderstandings and providing opportunities for repairing them have been demonstrated early on in children's language development, typically in the first two or three years of life. Children who spent more time in joint attentional engagement with their mothers at 12 months of age showed a larger vocabulary in the following few months (Carpenter, Nagell & Tomasello, 1998; Tomasello & Todd, 1983) and children were able to learn language more rapidly in repetitive, scripted events (Farrar, Freund & Forbes, 1993). At around the same age children typically begin to understand others' intentions and internal emotional states. For example, Carpenter, Akhtar and Tomasello (1998) demonstrated that 16-month-old children were able to distinguish between intentional and accidental actions language-marked by different vocal exclamations. When given the chance to perform the actions themselves, the children mainly reproduced the actions marked by language as intentional, rather than those linked to language indicating that the action was accidental. Child and adult establish a common understanding as to what is pertinent about the situation and this common understanding becomes the basis for the child's understanding and learning of new words.

Tomasello (2003) reasoned that, sounds only become language when the child understands that the adult is making the sound with an intention that the child attends to something. Language learning does not occur merely by a process of association between sound and object, but is an inter-subjective process, involving both the self

and another in giving meaning. Tomasello went on to argue that this ability to establish a joint attentional frame may become even more important as more complex language is acquired. The use of pronouns, grammatical markers and word order, for example, requires considerable skill in taking the other's perspective and knowing what information needs to be supplied to set the context for the listener. More recent research has, however, suggested that language learning can occur without shared joint attention as a prerequisite as discussed in the next section.

2.2.2 Overhearing and language learning in non-dyadic situations

To be addressed as conversational partners by adults or older children from the start is by no means a universal feature of children's early cultural experience. In contrast to the adult scaffolding described above, research has shown several different cultures in which children's early attempts at vocal communication are not treated as intentional and are not responded to conversationally or clarified with the child, until at least around the second year of life (Ochs & Schieffelin, 1995). Experimental studies have also shown that children as young as 18-months-old can demonstrate later understanding of words they have only overheard in a conversation (Akhtar, 2005; Akhtar, Jipson & Callanan, 2001; Floor & Akhtar, 2006). Akhtar and Gernsbacher (2007) have argued that there are examples of word learning occurring without joint attention, both in typical development and with children showing atypical development (e.g. William's Syndrome) and that shared attention does not always enable language learning, such as in children with Down Syndrome.

In a number of laboratory studies, where new language can be introduced in a controlled environment, word-learning has been demonstrated through overhearing, without the child being directly engaged in the talk. Scofield and Behrend (2011) compared four different conditions for language learning of novel nouns in two-year-olds under experimental conditions. This randomised controlled study assigned 32 children to an experimental condition, with a further 16 acting as a control group. In the control condition objects were commented on but not named. Naming of the object, i.e. the experimental condition, was found to be associated with significantly greater likelihood of the object being selected in later trials when requested, whether the object was named directly to the child or overheard. When neither the

experimenter nor the child was attending to the object during introduction of the name, however, the likelihood of later selection by the child, although still significant, was reduced.

Similar ability to learn from overhearing has also been shown for children as young as 18-months (Gampe, Liebal & Tomasello, 2012). Here the infants were reported to learn the nonsense-words equally well, and better than chance, whether they were addressed directly or overheard the word used by two adults. Recognising the possible limitations of the simplified learning situation in the laboratory, this study also introduced a greater degree of complexity to the word learning situation. In one condition the new word was introduced only indirectly as part of a game, either in direct interaction with the child or between two adults without involving the child. Again the children learnt the novel word equally well in both conditions and better than chance. The suggestion from all these studies was that joint attention may play a helpful part, but is not essential for word learning. Scofield and Behrend (2011) suggested that the type of speech and its relevance to the child and the situation may play a part in such learning. In these experimental studies, findings were limited to the learning of single words in children of 18-months to two-years.

Foster and Hund (2012) investigated the relative importance of direct prompting and overhearing in older children. This was a large scale experimental study with 180, four- and five-year old children, looking at their learning of two spatial terms (between, middle). Children who overheard the terms in the teaching phase used them more than those who did not, but those who were directly prompted with the term used it far more. It seems then that direct scaffolding may be helpful, but not necessary for language learning.

Revisiting the studies from other cultures may lead to similar conclusions. Shneidman and Goldin-Meadow (2012) carried out a longitudinal study over 3 years, comparing language input during daily life for fifteen children in a Mayan speaking village to children in a US city. Although the overall language input for Mayan children was less (which the authors considered could have been a function of unfamiliarity with being video-recorded), speech directed to them individually or as part of a group increased

significantly between the ages of 13- and 35-months. This initial indication that directed speech could play a significant role in language development was further strengthened by the finding that word types directed to the Mayan children by adults at age two-years were predictive of their receptive vocabulary when tested at age 35-months. In contrast, word types that were overheard or directed from other children were not found to be associated with later vocabulary development. The authors considered that the direct adult speech contained more nouns and verbs than overheard speech or speech from other children, so simplifying the context for learning.

The focus of the child's attention on the social situation itself has been shown to be a relevant factor (Shneidman, Buresh, Shimpi, Knight-Schwarz, & Woodward, 2009). Working with 50 children aged around 20-months, participants were randomly assigned either to a direct or an overhearing condition for the introduction of a nonsense-word labelling of an object. In the direct condition the experimenter made eye-contact with and spoke directly to the child. During the overheard condition two experimenters spoke to each other without looking at the child. There was no significant difference in children's ability to identify the object in a later trial and both groups identified the object more frequently than expected by chance. Learning from overhearing, however, was shown to have a positive association with the child giving attention to the adults involved, rather than the object itself. A daily activity interview with the parent was also used to establish the child's usual experience of spending time in the company of one or more than one adult. Children who spent more time with multiple adults were shown to spend more time watching the adults in the experimental situation. In addition, a positive relationship was shown between the amount of time the child typically spent with multiple adults and their ability to learn from overhearing. The authors argued from this that children are likely to allocate their attention differently if they are in a situation of overhearing or direct involvement with an adult and that this is linked to their previous experience of such situations. Clearly, if this is the case, children are likely to interact and respond differently to opportunities for language learning in the nursery depending on their previous experiences outside of the setting.

Shneidman, Arroyo, Levine and Goldin-Meadow (2012) failed to replicate any effect for overhearing in a naturalistic study with 30 families in the US. Whilst the amount of direct speech to the child at age 2;6 was predictive of receptive vocabulary at age 3;6, the amount of overheard speech was not found to be a significant factor. They did, however, find that in households where children spent most of their time with more than one person (adult or older sibling), more variance in scores was accounted for when the total speech to the child from all household members was taken into account, not just the primary caregiver.

Shneidman et al (2012) speculated that the quality of the overheard speech and the attentional focus of the child may indeed play an important part in learning. The indication is at least that not all speech is equally useful in developing children's language skills. It could be that much overheard speech in natural household situations is either too complex or not explicit enough in referencing what is being talked about for children to pay attention or benefit from it. During small group conversations in the nursery, although children may not participate themselves, speech is directed to them as a member of the group and would be considered to be directed speech.

As the study by Shneidman et al (2012) suggested, dyadic speech is not the only situation in which children's language learning occurs. This has been demonstrated in other studies also. Indeed it has been suggested that, although more research is needed, children who regularly spend time in polyadic situations may be able to attend to and learn from overheard speech, benefitting more than those who spend most of their time alone with one adult. Floor and Akhtar (2006) for instance conjectured, from their research, that the young child's ability to determine the attentional focus of the speaker may play a more important role in word learning than the creation of joint shared attention with them by an adult.

Barton and Tomasello (1991) provided evidence from an experimental study of 19- to 24-month old children in triadic conversation with their mothers and an older sibling of between three- and five- years of age. They found that the younger children were quite capable of participating in a triadic conversation and that the conversations were three times as long as dyadic conversations, with all three participating and the adult

taking 50% of the turns. Strapp and Federico (2000) demonstrated that children between two- and three-years old responded to recasts and corrected their speech equally in family interactions involving one, two or three other family members.

It is a common experience for children to grow up in a family with siblings, where much of the language they hear is not addressed directly to them. Two- to three-year olds have been shown to make skilful intrusions into conversations between their mother and an older sibling, successfully intervening and turning the topic from other to self in a relevant manner (Dunn & Shatz, 1989). However, conversation with a parent may encourage more talk than conversation with an older sibling. Hoff (2010) found that children aged between 20 and 36 months asked more questions and used richer vocabulary when talking with their mothers than with an older sibling.

Hoff (2006) proposed, from a re-examination of the evidence on the role of social context in language learning, that language development may take a different course depending on the nature of the child's earlier experiences. For example children may start to talk later but to use more whole phrases rather than single words, a pattern reflected in differences between first-born children and their younger siblings (Goldfield & Reznick, 1990). Further, a certain level of complexity may be beneficial. Hoff (2006) also noted that, within the range of child-directed speech, simpler maternal speech is not associated with more rapid language learning. As she pointed out, children may be able to filter out speech that is too complex, but are not able to compensate for input that is too simple. Other cross-cultural studies have also been used to argue that overheard speech could play an important part in the development of more complex language such as humour or narrative structure (Blum-Kulka & Snow, cited in Shneidman & Goldin-Meadow, 2012 p. 671).

The literature, therefore, has indicated that one-to-one interaction and scaffolding are helpful, but not essential, in development of language. Factors such as the child's developmental level, previous experience and the specific relevance of the overheard speech all play a part. These factors all contribute to the likelihood of the child accessing the learning opportunities offered.

2.2.3 The development of discourse skills, individual differences and the role of feedback

The focus of this study is on children's development of discourse and use of language for communication. Everyday language involves not just learning about words and sentences for their own sake, but also being able to apply them in dialogic exchanges and recounting narratives about events and stories. Learning about the basic principles and rules of dialogue begins before speech develops, as infants learn about turn-taking in very early exchanges with their primary caregivers. (See Hobson, 2002, for a summary of research by Brazelton, Koslowski & Main, 1974; Meltzoff & Moore, 1977; Trevarthen, 1979). As children's language begins to develop their exchanges consist mainly of initiation-response sequences referring to an overall topic. For example, before the age of two-years, their answers may consist of a repetition of part of the adult's initiating utterance or a routine, expected response associated with the circumstances. Conversation is associated with the here-and-now context and all "wh" questions are treated as "what?" or "where?".

From the age of three years children develop a wider understanding of specific meanings and use of language, but conversation still tends to consist of short, closed pairs of responses to comment or answer questions, without opening up the topic or inviting further response. It is only from about the age of four or five that children may start to develop more sophisticated discourse skills, involving the making of links between exchanges to keep the dialogue going on a defined topic (Karmiloff & Karmiloff-Smith, 2001). It is these skills therefore which children would be expected to start to develop during their time in nursery, at age three to four years. Initially they may require the scaffolding of a known initiation-response sequence. Later on they are able to consider a wider range of possible meanings and respond by constructing more complex sequences of language to, for instance, verbally acknowledge others' answers and make links with earlier utterances. The key milestones in the development of the relevant skills are summarised here in Table 2.2. Although there is a wide range in normal development, during this period children's language can typically be expected to increase in complexity and to be used for a wider range of more abstract purposes.

Table 2. 2: Summary of milestones in early communication development in pragmatics and semantics

Typical Age	Language ability
18-24 months	Frequency of word use increases over preverbal communication. Language used to request information; answer questions; acknowledge. MLU 1-2 words.
24-30 months	Frequency of topic continuations increase, mostly through repetition. Language used for symbolic play; to talk about absent objects; misrepresent reality (e.g. teasing). Understanding and use of “what?”, “where?”, “who?”. Narratives are primarily labels and descriptions. MLU 2-3 words.
30-36 months	Topic continuation nears 50% and new information added. Some requests for clarification provided. Use and understanding of “why?”. Narratives are sequences with theme, but no plot. MLU 2-4 words.
36-42 months	Indirect requests increase and are used more flexibly (e.g. can you?) Narratives have a theme and some temporal organisation. MLU 2.3-4.6 words.
42-48 months	Language used for new functions: reporting on past events; reasoning; predicting; expressing empathy; imaginary roles; maintaining interactions. Use of conjunctions, and, because. MLU 3 – 5.3 words.
48-60 months	Increased ability to address specific requests for clarification. Narratives are chains with some plot but no high point or resolution. Use of conjunctions when, so, because, if. MLU 3.5 – 6.8 words.

Adapted from Paul, R. (2007) *Language Disorders from Infancy through Adolescence*

Language development usually takes place without the need for explicit teaching. The role of feedback, though, in facilitating this development is still a subject for research. As discussed in Section 2.2.1, previous work has placed an emphasis on the importance of adult responses in providing feedback to children about their own use of language (see Table 2.1). The literature, however, also suggests that children’s own characteristics may influence these interactions and later outcomes. One laboratory study, for example, confirmed a positive association between parental joint attention at 18-months in a laboratory situation and children’s language skills at 24-months

(Markus, Mundy, Morales, Delgado & Yale, 2000). In addition, a separate measure of the infant's own ability to respond to or engage joint attention (RJA) was found to be independently related to mother-child joint attention, reflecting individual differences in infant responding. Child measures at 12-months (expressive language and RJA) and mother-child interaction measures at 18-months both appeared to contribute independently to later language development. The small sample size (21 children) may, however, have limited the power to find significant relationships in this case.

In the light of this finding of independent measures of child responsiveness and caregiver-child joint attention, it might be expected that, if children are less responsive in conversational interaction, adults may give less input and so children receive fewer opportunities to receive feedback in turn. The research, though, with children following an atypical path of development does not appear to support a difference in initial adult input at least. Siller and Sigman (2002), for instance, compared caregivers' synchronisation in the giving of attention during play with the child, for 25 children with autism, 18 with developmental delay and 18 typically developing children matched for developmental and language ages. They found no differences between the groups in the caregivers' rates of offering or showing the children toys or in referring verbally to the toys. A later study, with a separate group of 20 children with autism, showed the rate of language growth between the ages of three- and eight-years old, was predicted by both the children's own responsiveness to others' attempts to establish joint attention and the parent's responsiveness to the child during play (Siller & Sigman, 2008). This was independent of factors such as the child's initial language ability.

The evidence supports, then, the idea that both the adult's input and the child's ability to respond will play a part in the creation and uptake of opportunities for language learning. Further support for this view is provided in respect of children with identified language impairments. Donaldson, Reid and Murray (2007) compared causal sentence production in 30, five- to seven-year old children with Language Impairment (LI) and 30 age-matched children. They found that even when examples were modelled for them, the children with LI found imitating or producing causal sentences difficult, even though they were able to show understanding by answering questions and sentence

completion tasks. No such difference between receptive and expressive skills was shown for the children without LI and they were able to imitate model sentences.

There is, then, research evidence to indicate that the child's skills have a part to play in shaping the interaction, but that essentially the initial adult input does not differ between typical and atypical children. If child-directed speech is to be facilitative it needs to be tuned to the child's level of receptive language. Because this level tends to be lower (relative to chronological age) for atypical language learners, it follows that adults will tailor their speech accordingly. As the child may not respond to whatever linguistic input is received, this adds further to the difficulty in maintaining dialogic exchanges. More in depth discussion of children's differing speech, language and communication needs is considered in Section 2.3.

2.2.4. Participative models of language and conversational competence

Taking an ecological perspective, language can helpfully be viewed as part of the context (the medium or habitat) in which people live, rather than something that exists in their heads (Bronfenbrenner, 1979; van Lier, 2000). Skills develop through the individual's interaction with the environment, which in turn affects their ability to access the potential meanings that exist in the language. Considering the role of social context in language learning as part of the gradual building of knowledge and understanding, can help to account for the role of cultural experience on language use and move away from a view of language as a static entity to seeing it as a dynamic tool. Martin, in considering cultural diversity in language learning, argued for a co-constructionist model of language development based partly on the work of Gordon Wells, amongst others (Martin, 2009). The advantage of such a participative model, she argued, was that it allows for the understanding of language abilities and learning within their historical and cultural context. It also moves away from a deficit model. These ideas are returned to in Chapter 3.1 in relation to the pedagogy and language of the nursery environment.

Halliday (1975) offered one such participative account, in his framework for language development, based on observations of a child called Nigel on six different occasions between the ages of 9-18 months. Halliday posited that, from the child's desire to

interact socially and emotionally with key caregivers, came the development of language for different functions; Instrumental (I want..), Regulatory (Do..), Interactional (Me/you), Personal (Here I am), Heuristic (Tell me why?), Imaginative (Let's pretend) and later on Informative (using language to convey information, the only function that is, he argued, purely confined to language itself). He observed grammar to be generated out of these functions, in response to the need and desire to express a wider and increasingly complex range of ideas and feelings. From this he suggested that the social context actually generates the meaning that is learnt, rather than being seen simply as the condition in which learning takes place. In this account, then, the child's intrinsic motivation for language development comes from the desire for increasing control over their environment, for more complex social interactions and to express more complex thinking and ideas. As children interact with an increasing number of less familiar people, who are less likely to anticipate and understand the child's needs and wants or to cooperate with them, spoken language becomes more important for communication (Peters, 2009). This is perhaps most obviously the case as the child enters the nursery and begins to interact in a formal, educational setting.

A framework of particular pertinence to the skills that children need to accomplish when developing discourse is that of conversational competence (Ochs & Schieffelin, 1983). Studying the development of her own twin boys from the ages of 2;9 years to 3;9 years, Elinor Ochs set out to look at the development of children's language skills in a naturalistic setting. She analysed monthly recordings of the boys talking both to their adult carers, to each other and other children. She examined the role of repetitions and sound play in their conversational interactions. From this body of conversations, prerequisite skills for conversational competence were identified. In becoming skilled communicators children need to develop the ability to: gain the attention of the listener; articulate clearly so that they can be understood; provide enough information to enable the listener to identify the topic and reconstruct the semantic relationships between the elements involved. The first of these, being able to purposefully attract and engage someone's attention, is key to initiating a dialogue and taking an active role in communication.

Ochs demonstrated how, as children are learning and developing these skills, they are reliant on the adult or more competent conversational partner to do much of the work in establishing understanding. Adults frequently use clarification questions (interrogatives) both to help to establish attention and to clarify the topic of conversation when the child cannot establish this clearly. Rather than being a sign of the adult dominating the interaction, questioning can be taken as a sign of collaboration in conversation (see also Radford et al, 2006; Wells, 1992).

2.2.5 Other factors supporting language development

Rowe and Goldin-Meadow (2008;2009) showed that children's use of gestures at 18 months, and their parent's use of gesture with them, was predictive of their language outcomes at 42 months. They speculated that this could be because use of gesture reflects a potential for learning particular aspects of language or possibly that gesture is actually playing an active role in eliciting a response from others that is helpful to support language learning.

Gesture may play a relevant role in children's communication and language development in the nursery. Flewitt (2005) used video to show that children do not just communicate with words, but they are able to express themselves through the use of body movement, looking and facial expression. Her contention was that it is equally as important to attend to these ways of communicating as it is to consider talk. Using a case study approach she showed that one child in particular who was considered by her mother to have good language skills, but in the Early Years setting to use little spoken language, was using non-verbal communication effectively in the setting where she felt less familiar. One of the strategies that children have been reported to use to foster communication with their peers, where there is no common shared language, is the use of "pantomime and gesturing to concrete objects" Fassler (2003, *p. 90*).

2.2.6 Limitations in application to the Nursery context

Although much of the research on early language development has been carried out largely within the context of mother-child dyadic interaction, it would be pertinent to apply the findings specifically to explore the nature of the nursery as a unique context for children's language development. For example, research has yet to be done

examining the relative simplicity or complexity of the input offered and how this may meet the needs of different children within the group. The comparative effects of individually directed feedback and speech directed to the child as part of the group also require further investigation. Applying the findings on differences in input for typical and atypical learners to the nursery setting, one hypothesis would be that those children with lower language abilities would receive restricted feedback and restricted opportunities in the nursery and this may further restrict their language development. An alternative hypothesis might be that the level of input to children with lower language abilities is beneficially increased by the group setting, by allowing them opportunities to hear more complex language. The present study set out to examine the interaction patterns in the nursery, both in quantity and in the quality of those exchanges, and make comparisons between the input to children, their language output and language levels.

The opportunities offered by the nursery may be more similar to opportunities provided in communal cultures, where children are exposed to frequent polyadic interactions, rather than the dyadic interactions studied in Western language development. Nevertheless, Hoff (2006) reminds us that **both** access to a language model that can be analysed as input **and** opportunity for communicative experience are necessary components for language learning. The data suggest differences in language acquisition reflective of variances in opportunity and language models between cultures. Children require the opportunity to use the language they have heard to communicate at some point. The impetus to communicate might need to be stronger in the group setting though, as the child has to compete with others for a turn.

Extending Ochs and Schieffelin's (1983) model of conversational competence to the nursery, the detailed work of examining dialogue in context can usefully be applied to analysing talk in the nursery as well as the home setting. This may help to uncover the extent to which communication with less familiar conversational partners can challenge or support the development of children's discourse skills. Amongst the challenges might be the need to communicate with a wider range of people, with whom children may have less shared background and contextual understanding. In

addition language input will be less individually directed and there is a need for the child to be able to focus attention on social interactions between others in the conversation. Other factors though could be supportive of language development, such as a greater amount of child directed speech, as talk takes place between the adult and the group as well as individually. Moreover, this may open up opportunities for developing shared experiences to talk about involving new and more complex language, in addition to offering the possibility of hearing language modelled by other children as well as adults.

2.3 Developmental differences

2.3.1 Definitions of need

Contributing to the recent Bercow Report, the research report to the DCSF, identified four different reasons why children may have speech, language and communication needs (SLCN) and pointed out that some of these reasons may overlap. These needs may arise as a result of:

“A developmental difficulty relatively specific to the speech and/or language systems, a primary speech and/or language difficulty; another primary developmental factor, such as a significant hearing impairment which detrimentally affects speech, language and communication (SLC) development, in this case speech, language and communication difficulties are secondary to the primary difficulty (hearing impairment in the example); reduced developmental opportunities limiting the child’s learning of language, mainly linked to social disadvantage; English as an Additional Language (EAL). In this case the language system may be developing normally but the child has SLCN as a result of being in an environment where the home language is not spoken – the situation of many children immigrating into England.”

Lindsay et al., (2008, p. 16)

The authors went on to point out that children for whom English is an Additional Language (EAL) are not classified as having a speech, language and communication

need, but that children with EAL may, nevertheless, have SLCN for one or more of the other three reasons.

As indicated earlier, therefore, those children who do show delayed language skills on entry to the Early Years setting are not a homogenous group. There may be a range of reasons for the delay, including: lack of experience generally with language and communication; lack of experience with English although language and communication skills are developing well in the language most frequently used at home; or a specific speech, language and communication disorder.

Gender differences have also been noted in typical language development. Boys have been reported to score consistently lower on early language development, as on all aspects of the Early Years Foundation Stage Profile. According to statistics for 2010/11, just under 90% of girls but only 82% of boys were reported as having achieved a good level of language (six points or more) on the EYFS Profile at the end of Reception so that gender may be expected to be a factor in language development (DfE, 2011). The population studies referred to previously in Chapter 1.2 also identified differences between boys and girls in language development. The Millenium Cohort Study reported girls to be on average three months ahead of boys in their vocabulary skills at age 3 years (Hansen & Joshi, 2007). Boys were identified as three times more likely than girls to have a speech delay at six-years old, with 4.5% of boys and 3.1% of girls having delayed speech and 8% of boys and 6% girls meeting criteria for having a Specific Language Impairment (Tomblin et al, 1997).

It should be remembered, however, that children's needs vary along a continuum within each of the dimensions identified by Lindsay et al (op cit) and categorising them is not a simple matter. Researchers have, for instance, long highlighted the differences in criteria used to identify children as having a Specific Language Impairment, so that there is no generally agreed method or definition for identification (see Dunn, Flax, Sliwinski & Aram, 1996; Lindsay et al, 2008). Criteria used will depend upon the purpose of the identification, for example clinical or research investigation, and either an exclusionary or a discrepancy model may be applied. Use of exclusionary criteria involves differentiating children with other conditions which may account for their

speech delay; discrepancy criteria are applied in terms of the difference between expected and actual language performance. The application of such criteria, particularly where the use of language testing is involved, is by no means straightforward, as discussed later in this chapter (Section 2.4).

2.3.2 EAL as a specific need

It could be argued that the needs of children learning English as an Additional Language are very different from the needs of a child who has had little opportunity to develop basic language skills or a child who experiences a specific problem in learning language. For example, children learning English as an Additional Language will already have learnt many of the conventions of communication and the structural properties of language and may need to focus more on learning the specific patterns, vocabulary and intonation of the new language (see Genesee & Nicoladis, 2004; Siraj-Blatchford & Clarke, 2000) .

Whether bilingualism is viewed as an asset or a barrier to language development within the educational system depends in part on the effects of dual language acquisition. Genesee (2010) highlighted the need for more research on dual language learning and in particular the differences between simultaneous and successive acquisition. The indication is that preschool children who learn two languages simultaneously learn each language separately and that this does not impinge on their overall language competence (Hoff, Core, Place, Rumiche, Senor, & Parra, 2012). Certain vocabulary and syntactic structures, however, may be restricted to one language or the other depending on exposure and input and where one language may be more dominant or stronger. Genesee identified that little is known about the effects of dual language learning with regard to children who learn a second language successively to the first, perhaps after starting preschool or nursery. Frequently data have been combined for simultaneous and successive bilingual children, though the challenges faced may be very different. It might be expected certainly initially that those children beginning to learn a new language would be at a disadvantage in understanding and communicating in the nursery.

Muller (2009), in summarising her longitudinal study of two girls learning German and Italian simultaneously, argued that different children have different paths to bilingualism. She viewed the lexicon and the syntactic system as developing separately. Initially these develop as a single system across both languages, accommodating properties from the two languages. Separate language-specific lexicons then develop, but the syntactic system still underpins both. Finally two separate syntactic systems also develop. During their language development, bilingual children can be at different stages within the development of lexical and syntactic systems. So for example, Muller illustrated how some children may assume the two languages to be independent in both syntax and vocabulary and learn each language separately, whereas other children use a monolingual strategy across both languages as if there is only one system. Alternatively, children may also treat the languages separately in one domain (e.g. syntax), but as part of the same system in the other (e.g. the lexicon).

A series of large-scale, longitudinal studies by Gathercole and Thomas (2009) suggested that, for English and Welsh language learners between 3- and 11- years-old, the context of the language being learned can play an important part in development. In the early stages, language development was related to the amount of input (i.e. whether the language was spoken at home as well as at school). Measuring understanding of vocabulary and aspects of grammar, level of exposure gave an early advantage in learning language structures. Over time, however, all children learnt the dominant community language to equivalent levels regardless of whether it was spoken at home or not. The data suggested that, despite a slower start, long term acquisition may not be affected for languages that are prevalent outside of home. This difference in rate of development needs to be taken into account when assessing academic performance (see Section 1.3.1).

A similar pattern was found in the US by one recent large scale study, which set out to establish the typical profiles of dual language learners (Collins, O'Connor, Suarez-Orozco, & Nieto-Castanon, 2012). They identified the difficulties in determining the precise language profiles of dual language learners, relying as it does usually on self-report data collected from parents. They divided a sample population of over 200 Latino-English speaking children into four groups on the basis of their assessed

proficiency in each language. The finding was that, measuring each language separately, 63% of children scored two standard deviations below the mean in Kindergarten (six years old). They cautioned that although scores were low, overall language proficiency taking into account both languages may have been significantly higher (cf Hoff et al 2012). When reassessed two years later 64% of the children now achieved proficiency in at least one language, and 21% reached proficiency in both languages.

So, although children may make a slower start when learning English as an Additional Language in Nursery, as long as exposure to the language is continuous, eventually differences in language levels may disappear. Research suggests that a rather mixed picture might be expected for three- and four-year olds, with each developing their language along slightly different paths. Case studies, whose value lies in their detailed analysis of strategies used by children learning a second language, have shown certain common features in the pattern of development, but that individual differences are to be expected (Tabors, 1997; Wong Fillmore, 1979). For example, many children go through a silent or mute period, when they may communicate through non-verbal means rather than by talking. The stages that follow include telegraphic and formulaic use of learnt phrases, much like typical first language learning followed by productive use of language (see Section 2.1). At this point the child will have both acquired enough vocabulary and useful phrases to begin to build their own sentences and also gained sufficient motivation to undertake the difficult task of dealing with acquisition of a new language. Personality factors, such as shyness will play a role here (see Section 1.3.2). Such case studies though cannot reveal how typical these patterns of development may be.

2.3.3 The implications of different needs

It follows, therefore, that outcomes for different groups of children may also be very different despite apparently similar initial low language levels in English. Additionally, it is acknowledged that many children's early speech and language difficulties resolve themselves and the role of specialist interventions has yet to be fully evaluated.

Lindsay et al (2008) in recognising this, recommended the adoption of a tiered model of intervention, offering universal, targeted and specialist support to children

depending on need. Universal support was seen as the provision of a good language environment, benefiting all children and giving opportunities to develop vocabulary, grammar and narrative skills. Within the provision made under the general umbrella of universal support, it is far from clear though what constitutes a good language environment and there may in fact be specific approaches that are more helpful for some groups of children than others. Some of the research in this area is examined in the next chapter (Section 3.3).

When looking to meet the needs of children in any of these groups it may be that the same activities in the nursery would support them, but in different ways and for different reasons. Conversely, it may be that activities that are supportive of some of these groups of children are unhelpful to other groups. Before examining this further, in Chapter 3, issues pertaining to the measurement and assessment of language skills need to be addressed.

2.4 Assessing and Measuring Language Skills and Development

2.4.1 Types of measure

Paul (2007) identified several methods for assessing children's developing language skills. Each serves a different purpose and has its own distinct strengths and drawbacks, which will be discussed here. The methods include standardised tests, criterion-referenced measures, interviews and questionnaires and behavioural observations.

Standardised tests are designed to assess a child's language skills in comparison to the population as a whole, although in practice this will depend on the sample of children on which the test has been standardised. The advantage of such measures is that they give a set series of items that can be used in the same way for every child, if the test is administered strictly according to the test guidelines. Scores can then be used to make comparisons among children and in particular to assess the extent to which performance is in line with typical developmental expectations. Standard scores have been set so that the mean score is 100, with intervals at one age being equivalent to the same interval at another age. Thus use of standardised measures can allow comparisons to be made between age groups and for the same child over time. A

change in Standard Score indicates a change relative to the child's age group. It is important to remember, however, that the tests are intended to express performance in terms of central tendency and variability, following a normal distribution or bell-shaped curve. Standardisation is designed so that a certain proportion of scores (68%) will fall within one standard deviation of the mean, but inevitably then 16% of the population would fall below this range, and 16% above. In choosing a test it is important to ensure that it has been well standardised on a population that is representative of the child being tested (Laing & Kamhi, 2003).

Factors such as the child's cultural knowledge and linguistic experience, in particular, may differ from that population and in this case the test may not give a fair measure of the child's competence. Wheldall, Gibbs, Duncan and Saund, (1987) for example, in a study of 172 children, reported that Panjabi speakers learning English as second language showed inferior performance in a sentence comprehension test in English until the age of about five-and-a-half years. Pena, Bedore and Rappazzo, (2003), in a comparison of 55 Spanish, English and Spanish/English bi-lingual children, concluded that differences in scores between groups were influenced by task familiarity as well as language ability. Equally, children may be more or less familiar with the type of formal testing procedure involved and relate more or less well to an unfamiliar tester, all of which could affect performance under test conditions (see Laing & Kamhi, 2003). One large scale study, in 24 UK primary schools, indicated that shyness can have a negative influence on children's performance on tests of vocabulary (Crozier & Hostettler, 2003). Year 5 children rated as shy by their teachers in comparison to their peers, performed less well on tests of vocabulary, when tested one-to-one, but not on group tests. The suggestion was that performance is affected by face-to-face interaction, possibly relating to a dislike of being the focus of attention. This seemed particularly to pertain to anxiety about competence with vocabulary (in making a either spoken or written response), in view of the additional finding that the effect did not appear with regard to a test of arithmetic.

The content of the test itself will influence the way in which language skills are defined and measured. Tests are able to capture some elements of language more easily than others, but this does not necessarily mean they are most relevant to language

development. Equally a child may be able, for example, to fill in a sentence following a given example in a test item, but not use this form themselves in other contexts. Standardised tests tend not to be sensitive to higher order expressive speech skills or pragmatics of language use and measures of syntax, particularly Mean Length of Utterance (MLU) have been shown to be more accurate indices, at least in identifying language difficulties (Dunn et al 1996).

Criterion-referenced measures, such as MLU, focus on assessing a child's skill in a particular aspect of performance, in order to determine whether they can perform certain skills and what level of attainment they have reached. This differs from standardised testing in that the aim is not to compare their performance to that of the general population or to describe it in terms of difference from other children's performance. Such assessments can encourage the use of more informal and naturalistic language as they do not require the same limits on specific items and administration as apply to standardised testing. They also allow more in-depth assessment of a specific area of performance. However, if administered by an unfamiliar person, some of the same limitations apply in that a child's performance may be inhibited by the assessment situation. Two year-old children, for instance, have been shown to talk more to their mothers than to an unfamiliar researcher (Bornstein, Haynes, Painter & Genevro, 2000). Equally, if the content and form of the assessment are less familiar to the child with reference to their previous cultural experience, then it may not give a fair measure of the child's abilities. This is discussed further in relation to the measurement of narrative skills in Chapter 4.

In comparison then, one advantage of questionnaires and interview schedules is that they draw on the knowledge of those who know the child well and have seen the child's language performance in a variety of familiar situations. Studies have shown a positive association between parental reports of children's language skills using questionnaires and observer reports. For example, a study of 23 Italian families found that reports from parents of children aged 16- and 20-months were positively associated with observations by a trained researcher for estimates of whether the child used vocalisations, pointing and words, words or sentences (Camaioni et al, 1991). A significant correspondence has also been demonstrated between parent

estimates of children's receptive and expressive vocabulary, at age 20-30 months, and the child's performance in a laboratory setting, where the child's response might perhaps be expected to be inhibited by the unfamiliar surroundings (Ring & Fenson, 2000). O'Toole and Fletcher (2010) demonstrated positive associations between parents' reports about their children's language abilities and samples of spontaneous language in children up to the age of 3:4 years. The authors collected data over six-monthly intervals from 21 children, in 16 Irish-speaking families and concluded that parental reports using a recognised communication inventory showed accurate estimates of children's word use and vocabulary development. There is then, some evidence of the reliability of parental reports of children's language skills, contrary to a view that a halo effect may result in parents over-estimating their children's abilities.

Questions, though, are open to interpretation however precisely they are worded and may be judged differently by different people. One person's assessment of whether a child performs a particular skill and with what frequency and consistency may differ from another's, meaning that the questionnaire does not necessarily provide information that is comparable from one child to another. Nevertheless, the information provided can be useful in giving a broader picture of the child's use of language in a variety of situations.

Behavioural observations are only concerned with describing a child's actual performance. There are no set criteria against which the child is being measured, as there are in the case of both standardised and criterion-referenced assessments. Observations can be used to sample specific behaviour and the contexts associated with it. This allows a focus on how the behaviour may vary with the context and factors that may facilitate the behaviour. It is possible, therefore, to collect information within a setting with which the child is familiar, so eliminating effects of an unfamiliar tester and set of materials. It is still possible that the context does not afford the opportunity for elicitation of the child's full range of performance.

2.4.2 Limitations in measuring children's language competence and performance in the nursery.

In assessing language skills it is only possible to observe and measure overt behaviours and not underlying knowledge. This raises questions about the extent to which the

overt behaviours reflect some actual knowledge or core competence. It is important to remember, though, that competences can be viewed as located not so much within the individual as a body of knowledge, as they are a product of individuals situated within a certain context (van Lier, 2000). An important part of that context is social and cultural understanding (Martin, 2009). In the case of language assessment this would include the understanding between the child and the assessor as to the purpose and nature of the interaction. Norm-referenced tests are useful for providing baseline data of the child's knowledge of pre-specified aspects of language comprehension and expression. They do not, however, provide a context for the child to use language to communicate. They may under-estimate language competence, particularly, for example, in those children for whom the language in which they are being assessed is not their first language. Criterion-referenced assessments, such as assessments of narrative ability, allow the child to generate their own language and demonstrate their skills in communicating ideas to another person. The child's cultural experience and expectations associated with this type of communication, and of the assessment situation itself, may still influence performance differentially. Even observation may underestimate competence if the context does not allow for the elicitation of a particular skill or set of skills.

It has been argued, therefore, that the distinction between competence and performance may be unhelpful. Language is "performance within context" (Evans, 2009, p.142). As discussed previously in this chapter, the role of context in supporting language learning of nonsense words, for instance, illustrated that children demonstrate understanding from context alone (see Gampe et al, 2012; Scofield & Behrend, 2011; Shneidman et al, 2009; Tomasello, 2003). As the child's language skills develop, they may be demonstrated with more stability across a wider range of contexts, but language is essentially an activity within a context and the notion of competence itself as a stable entity becomes redundant. Nevertheless, some contexts may be more likely to support certain language skills and this is likely to vary with children's experiences and understandings. It is this variation that is of interest in studying children's language development. Contextual factors, such as those discussed in the section above, are therefore an essential consideration when assessing and

measuring language skills. There is no one, best way to assess language performance. The method chosen depends on the purpose of the assessment and often a combination of measures can help to provide a fuller picture of the child's performance within different contexts; either compared to a normative peer group, or a set of expected skills or simply as a sample of behaviour within a given context.

An interactionist approach conceptualises language as a dynamic process in a specific social context within which meanings are generated. The main focus becomes the way in which language is being used and what is achieved, in order to examine how learning takes place. Such a framework was adopted in the current study, consistent with participative accounts of language and centring on the development of participants' dialogue in particular contexts. Through this approach the study aims to address some of the issues about early language development outlined in this chapter, with specific reference to the nursery setting. The following chapter will consider language development more specifically in relation to teaching and learning in the classroom.

Chapter 3: Language learning and pedagogy in the classroom

In the last chapter definitions and measures of language were considered, along with the nature and variation in typical language development. This chapter will examine the relevance of such knowledge as it applies to children's language learning once they become involved in the educational setting of the nursery. Having first considered the nature of pedagogy, the role of adults, the wider social context and the influence of the curriculum will be explored. Specific approaches to intervention are then reviewed, from the perspective of both children's and adult's skills. Finally the argument will be made for taking an interactionist approach to learning, focussing on language as a dynamic process, in order to build up an understanding of children's emerging competence as it develops through opportunities for participation in conversations in the nursery.

3.1 Definitions of pedagogy and the concept of affordance

Pedagogy refers to the process by which teacher and learner interact within a particular learning environment, which also takes in the wider context of family, culture and community as emphasised by Bronfenbrenner's ecological systems theory (1979). Siraj-Blatchford (2009b), in writing about quality teaching in the Early Years, made a distinction between pedagogy and curriculum. The curriculum encompasses what children are meant to learn in a particular context. Pedagogy is the practice of teaching within that context; everything the adult does to initiate or maintain learning processes, with the aim of achieving educational goals (Siraj-Blatchford, 2009a). Provision of an environment that can foster that learning is one pedagogical strategy. Also of crucial importance are the ways in which adults model, demonstrate, question and instruct.

The summary of case studies for the EPPE Project concluded that, within Early Years provision in England,

“effective pedagogy includes structured interactions between staff and children, traditionally associated with the term “teaching”, the provision of instructive learning environments and ‘sustained shared thinking’ to extend children’s learning.”

Siraj-Blatchford et al (2003, p.56)

Enabling children's progress was therefore linked to positive pedagogical practices in the quality of adult-child interactions as much as the nature of the activities provided. Siraj-Blatchford (2009b) went on to relate effective pedagogy to three particular areas which are common themes within internationally recognised models of good Early Years practice. These are considered to be: the use of instructional techniques; the encouragement of affective involvement and the encouragement of cognitive engagement or co-construction. These themes will be considered in later sections of this Chapter.

In considering what is effective pedagogy it is important to remember the child as a partner, as well as the adult. Opportunities for learning are shaped by the scope that they *afford* to the child (van Lier, 2000). The concept of affordance has its roots in ecology; the study of organisms in interaction with their environment. Van Lier (2000; 2004) applied the idea, combining it with the consideration of how meaning is made and communicated (semiotics), to elucidate language learning. He argued that context is central to teaching and learning. The activity of a particular individual and the meaning that they make of events within a specific environment, interact to produce particular patterns of behaviour and learning. The concept of affordance, in common with Bronfenbrenner's (1979) ecological systems approach, therefore placed the focus on the complex and subtle interrelationships involved in development. Learning is seen as the ability to adapt successfully and operate increasingly effectively within one's environment.

The following illustration is offered using the analogy of lined writing paper, which placed horizontally may invite or afford opportunities for writing in alphabetic orthography, but would need to be turned vertically to afford opportunities for writing in logographies such as Chinese (Martin 2009). The nature of the opportunities for learning depends on the previous cultural and linguistic experiences and understandings of the learner and it is this that determines what affordances new learning experiences offer. With regard to language learning in particular, communication and interaction are viewed as central to language development. Van Lier (2004) argued that language is always about something, within a specific socio-cultural context. The exact meaning of that context, and so the learning opportunities

offered, will differ depending on how it is perceived, the tools that mediate (e.g. a scripted test or a conversation about family experiences) and the constructions that the individual brings to the situation.

Framing teaching and learning in this way enables a shift from viewing the success or otherwise of the child's engagement with an activity as a deficit or disadvantage in the child. Rather, it enables a focus on the activity itself and how this can be constructed to enable the child's learning. The role played by adults, curriculum and peers in the social context in affecting the affordances offered for language and learning will be considered in the next section.

3.2 Teaching and learning in the nursery environment

3.2.1 The role of adults: Co-constructing and shared thinking

The notion of scaffolding children's language learning was introduced in Chapter 2. A critical review of studies that have explored the role of adult-child scaffolding in children's learning, proposed that, if the metaphor of adult support as a scaffold to learning is to be useful, it needs to be enriched (Stone, 1998). This is to see scaffolding in a wider context than just the adult assistance to the child. Stone argued that in order to provide an explanation of how learning is occurring, the work that the child is doing also needs to be recognised. It is essential to consider the part played by the child in constructing their own learning. Baldwin and Meyer (2007), in their consideration of evidence on the role of social factors in shaping language acquisition, argued that it is information constructed by the child as a social being, as well as information from the socially rich environment, that plays an important part in the language acquisition process.

"By crediting the learner with an ability to capitalize on social knowledge from the very start, rather than positing the adult as the sole source of social support, contemporary accounts envision the child as an active and skilled participant in the language learning task. A child operating on the assumption that others intentionally use language to communicate has a substantial leg up on the classic Brunerian child, who is benefiting in a more passive sense from parental social support."

Baldwin and Meyer (2007 p. 97)

Although Bruner (1974) clearly did recognise the reciprocal nature of the adult-child interactions, the concept of scaffolding itself refers to what the adult does, with the danger of neglecting the role played in learning by the situation and the child (Wood et al. 1976). Baldwin and Meyer rightly drew attention to a wider view of scaffolding, involving the situation and the skills that the child brings. Dickinson & Tabors (2001), for example, reported that the variety of words that children themselves used when speaking to their teachers was a more important predictor of later literacy development, than the fact that the teacher herself used a varied vocabulary in speaking to the child.

One such extension of the scaffolding metaphor is provided in research by Barbara Jordan, drawing on earlier work on collaboration and co-construction (see Jordan, 2009; MacNaughton & Williams, 2009; Rogoff, 1998; 2003). Teachers were involved in identifying and working with their own best dialogues with children to develop an insight into the ways in which talk and learning were co-constructed. Moving away from the model of scaffolding where the more competent person may be seen as having control of the task and the definition of success, to a more collaborative problem-solving where both partners aim to reach a joint goal, Jordan focussed on how all participants, both adult and children, contribute to learning. In her research she identified three different types of interaction, each with its own place and purpose. The first she characterised as co-construction, where adult and child act as equal partners in interactions. During this type of interaction, both partners act as experts and each listens to the other's contributions, and contributes their own understanding to create a "transformation of participation" as described by Rogoff (1998). With co-construction, an emphasis is placed on adults and children together making sense of the world. The child's own knowledge and experience is validated by the adult and the adult shares their own thinking with the child. This can happen whether the child or the adult initiated the topic. It is not necessary then for the topic always to come from the child in order for the conversation to be one of co-constructed meaning.

In the second type of interaction, the adult directs interactions and scaffolds learning for the child. The adult is in control and leads the discussions. The child's contributions

are heard, but within the context of the adult's aim for the activity. The adult is organising the thinking and conversation, and the child's task is to work hard to understand what the adult is talking about. In this type of conversation the adult wants the children to gain specific understandings from the activity and interaction. The third type Jordan characterised as one where the child directs, being in control and leading the discussion. The adult observes and supports but with minimal input, for example they do not give their view or ask questions. Jordan (2009) acknowledged that there is a place for all types of dialogue for different purposes, but argued that co-construction allows for continuity of learning to occur as links are made between the children's different experiences. Home and school become more connected and adults and children can both contribute from their own fund of experience. Children are able to engage in higher-order thinking, because they are able to use their own experiences and interests. Jordan goes on to outline some of the different skills required for scaffolding and co-constructing and these are considered further in Section 3.3.1. In applying such a model to the present study, the questions focus around children's developing understandings of the function and use of verbal language through co-construction in conversation.

A similar construct of collaborative problem-solving is also proposed by Siraj-Blatchford (2009a). The EPPE Project findings indicated that excellent settings have a balance of adult-led and child-initiated interactions, play and activities. Looking at adult's individual interactions with children, the finding was that the most highly qualified staff provided both direct teaching and also interactions that enable guidance without dominating the child's thinking. These latter interactions are more likely to be episodes of 'sustained shared thinking' which are characterised by adult and child working together in an intellectual way to solve a problem, clarify a concept, evaluate activities or extend narratives (Siraj-Blatchford, 2003; 2009a). Attention is drawn to the EYFS curriculum guidance (DCSF, 2008a) which specifically encourages Early Years practitioners to develop 'language for thinking' and promote episodes of 'sustained shared thinking' between adults and children and children and their peers.

Siraj-Blatchford (2009b) drew out some of the implications for children learning English as an additional language, in particular. Research has shown that children with EAL use

much more complex language when they use their home language in play situations (Clarke, cited in Siraj-Blatchford, 2009b p.154). She proposed, therefore, that it is unlikely that conversations in English will provide such children with opportunities to demonstrate or practise their skills in terms of higher-order thinking and language. The purpose of the conversation is likely to be very different for them, with the focus being on understanding of vocabulary and use of English syntax and structure. The research on different purposes for different children in language learning is explored further in the next section.

3.2.2 The role of the curriculum

It has also been argued that the metaphor of scaffolding needs to be expanded to include the ways in which the context and curriculum activities scaffold learning (see Cazden 2001; Palinscar, 1998). Scaffolding is an interactive process that takes place in a particular context, to which the different participants bring their own skills and understanding. A clear example of this is provided by Vernon-Feagans (1996). Writing about a study on the effectiveness of a compensatory pre-school education programme in the USA, she compared language use in different contexts for different groups of children. The study considered three different groups of children. One group of children of African-American heritage received compensatory day-care from eight weeks old and were referred to as the Abecedarian children, to denote “learning from the beginning”. Comparison was made, at age five, with a second group of African-American children who did not receive the intervention and a group of white, Caucasian children, referred to as “mainstream children” in the study. There were no significant language differences observed in terms of complexity, length of talk or total talk between the groups at home. Although Abecedarian children did not have the same experiences of bedtime story reading, visits to the library and other types of educational experiences as the mainstream children, they had other experiences which provided rich opportunities for language development, including creative storytelling and rhyming games with adults and other children.

In the same way that Tizard and Hughes (2002) found a difference for different groups of girls in the amount of talk at home and at school, Vernon-Feagans (1996) found that at home the black boys talked more than any other gender or cultural group, but

talked least in school. Out of school, Abecedarian children had more language interactions with older children and used language for more imaginative storytelling and high quality pretend play. In school this disadvantaged them because, when asked a question by the teacher, they tended to elaborate their own stories rather than focusing on the answer expected by the teacher. Vernon-Feagans looked for mechanisms by which these differences may be operating to limit the opportunities of the Abecedarian children, and noted differences in non-correct responses to teachers' questions. Abecedarians tended to give their own, irrelevant response if they did not know the answer; whereas mainstream children tended to give more non-responses, i.e. indicate that they did not know the answer. Teachers were better at teaching to the non-responses, but found it harder to pick up and teach from the irrelevant responses and tended to ignore these. This gave fewer teaching opportunities for the Abecedarian children to be guided to the correct answer. The child and teacher had failed to set up a joint shared context for teaching to occur. It is therefore in studying the interaction among people in context, rather than focusing on either the individual or the context itself, that we can begin to learn how development is taking place and what is fostering or hindering development.

In arguing that the interaction among people in context, rather than each individual or the context itself, needs to be the unit of analysis, Vernon-Feagans (1996) referred explicitly to the early work of Barbara Rogoff. These concepts of cultural transmission discussed by Vernon-Feagans, were later developed by Rogoff herself to consider how language learning is supported by both biological and cultural processes. From a socio-cultural model such as espoused in the work of Vygotsky (1934/1986), she developed the idea of *guided participation* as a process of learning.

“(Children) learn the skills and practices of their community by engaging with others who may contribute to structuring the process to be learned, provide guidance during joint activity, and help adjust participation according to proficiency.”

Rogoff (2003 p.69)

Rather than studying in isolation either the individual or the people involved or the activity itself, a certain amount of information is needed about each within the specific

context, as well as information about the cultural background, in order to understand what the individual is doing and learning. Rogoff (op cit, p. 56) called this the “transformation- of-participation-perspective”.

Connor, Morrison and Slominski (2006) investigated the differential impact of classroom language and literacy experiences in the kindergarten on the development of children’s vocabulary and emergent literacy skills. They reported a positive association between the amount of time spent in particular activities and the development of particular skills. The growth of some specific skills (e.g. alphabet and letter-word recognition), was related only to time spent in teacher-directed and teacher-child-directed activity but child-managed experiences, including play, were also associated with vocabulary growth. They also noted, however, that the impact was related to children’s knowledge of vocabulary and emergent literacy skills on entry to kindergarten. In her earlier unpublished study, Connor(2003) reported an interaction between activity type and cultural group. Analysing the children’s progress on a range of standardised language assessments and teacher reported assessments, she concluded that children for whom English was a second (additional) language tended to make more progress on these language measures where there were more opportunities for scripted and predictable teacher-child interactions during whole class activities. In contrast children from a Standard American English cultural heritage and those from an African-American cultural heritage achieved more progress on these measures in classrooms that were “more interactive and less scripted” (Connor, 2003, p. 207). She argued that children from each of the three groups had different implicit goals, either to master English, develop literacy skills or to learn school-based ways of talking, and that these cultural differences were as important as the match between their home discourse environment and that of the classroom in influencing progress.

How the activity itself contributes to development may well operate differently for different children, depending on their earlier experiences and expectations, affording different opportunities for developing reciprocity and synchronicity and operating in different ways to promote language development within the cultural context. For example, Rogoff (2003) identified certain cultural practices as being widespread and

crucial to learning development; conversation, narrative and story-telling, daily routines and play. She described the ways in which these situations are structured differently in different cultures and how this affected children's learning. She argued that the structuring of learning opportunities occurs both through adult's choices about which activities children have access to observe and engage in, the ways in which adults and children interact together during the activities and also the extent to which children choose to participate or not.

3.2.3 The role of peers and the social context

As noted in Chapter 2, much of what we know about children's language development is based on the investigation of mother-child dyads. But in the nursery, adult-child interaction differs in two important respects. First, opportunities for sustained one-to-one interaction are severely curtailed. The current recommended adult-to-child ratio is 1 to 13 (DfE, 2012), and in practice, children frequently participate with a key worker in 'family groups' of between 10 and 15 children. Second, the nursery teacher is naturally less familiar with the child than the parent. Both of these factors are likely to influence both the amount and quality of talk witnessed in nursery settings.

One study on the relationship between language development and interactions during group teaching was included in Dickinson and Tabors' (2001) Home-School Study of Language and Literacy. This study found that certain kinds of interaction in large-group settings were predictive of progress in language and literacy two years later.

Facilitative interactions included those where teachers avoided extended interactions with just one child or on the same topic. Benefits were also witnessed in cases where teachers engaged in cognitively challenging, explanatory talk in which new ideas were introduced, with reference to past and future events, and with new facts and rare words being introduced. Examination of the variables involved revealed a positive association between teacher's use of rare words and children's later receptive vocabulary, although not their narrative production skills. This is of particular interest in the light of the research on learning from overhearing discussed in Chapter 2.2. The implication was that children benefited from these types of conversation, irrespective of how frequently they themselves participated. However, there could be mediating

factors involved, such as the possibility that teacher's who used more rare words also gave children more opportunity to talk themselves.

Turnbull et al (2009) explored the effect of group size on adult's use of language further, demonstrating that certain pre-defined language stimulation techniques were more likely to be used by practitioners where children were in groups of between one and five, rather than with larger groups of between six and ten children. Group size could however have been confounded with the type of activity, as different activities would occur within different social contexts. For example, role play would involve smaller numbers of children than a more formal story recall activity. A further limitation of the study was that there was no measure of children's responses to the use of the language stimulation techniques, giving no insight into how these techniques impact on children's language in the nursery classroom.

Cazden (1983) argued that such group conversations play a vital role in preparation for the school classroom situation. In her work on Classroom Discourse, Cazden (1983; 2001) drew on the parallels between pre-school parent-child interaction and interactions between adults and children in the classroom, directly linking this to scaffolding and the Zone of Proximal Development. She drew attention to the similarities in the ways that adults support children to participate in and learn the rules for social interactions and also in their use of discourse. However, she highlighted the difficulties in assuming that all learning takes place through direct adult-child interaction, when busy teachers frequently need to work with children in groups as well as individually. She argued that scaffolding can occur in group situations and that children may even benefit from the variety of experience within the small group. She also reminded the reader that the term *scaffolding* can only be properly applied if it can be demonstrated that, as well as completing a particular task successfully, the learner's skills and competence develop over time.

Wasik (2008) argued that teaching children in small groups was a valuable, but under-used method of organising within preschool, in the US at least. Such groupings enable children to each take turns and receive more individualised feedback than in whole class groups. In order to achieve this, however, she considered that the group should

consist of no more than five children. Research on small group situations offers the suggestion that, as well as being necessitated by the system, small group interactions could offer benefits in their own right. An early study looked at children's story recall when the story had been read to them either in a group of three, individually or in a group of 15 or more (Morrow & Smith, 1990). The 27 children showed better recall on later testing when they heard the story in a small group, than either one-to-one or in a large group. Observations revealed that the adult's verbal behaviour differed between the different situations, with children receiving significantly less praise and hearing more negatives and directions during the large group. Children themselves made more comments and asked more questions in both the individual and small group situations than in the large group where they made very few verbalisations. The implication is that the children benefited from the presence of other children in the small group, as well as from receiving more individualised attention. The use of book reading and other specific language interventions that involve small group teaching are discussed in Section 3.3.

Some large scale studies in the US have investigated the relationship between peer group expressive language skills and children's language progress during pre-kindergarten. When demographic factors and prior language skills were controlled for, peers expressive language skills were found to make a small but significant contribution to children's receptive language progress (Mashburn, Justice, Downer & Pianta, 2009). Such peer effects were found to be more significant for those children with low initial language skills with lower language peers (Justice, Petscher, Schatschneider & Mashburn, 2011). The authors urged caution in interpretation of these findings, however, as there may be limitations in the operational definition and measurement of demographic and language-environment factors. In addition, such studies did not attempt to show how these effects might be operating.

One study which did examine how children may act to support each other's language development was that by Fassler (2003). Extending the scope of scaffolding, Fassler investigated the importance of peer relationships in a multilingual nursery class of four-to-five year olds in the USA. The study was descriptive and proposed, from observations of six of the children, that the children used specific strategies to foster

communication with peers who spoke other languages, to induct each other in to English as the common language and to support each other's use of language or draw on others to support them. Strategies used by the children included developing and using a shared pool ("minireservoir") of vocabulary based on their interest in each other's lives; using onomatopoeic sounds and gesture to support communication; establishing English as the common language during play; drawing others in to play by taking on key roles such as teacher or doctor and describing one's own actions. Two of the children were noted to use restatements and expansions of another child's talk which provided feedback to the child. The generalizability of these strategies to other Early Years settings and groups of children remains to be investigated.

3.2.4 Implications for language learning in the Nursery

Children need to be recognised as partners in creating joint shared contexts for developing their communication skills. They will be using different strategies depending upon their needs and language levels and may be benefiting in different ways from opportunities afforded by the Early Years setting. By learning more about the different strategies that individual children use and the mechanisms that may be supporting or inhibiting their language development within the nursery curriculum, it may be possible to achieve a more detailed understanding of what is happening in the Early Years settings. Further exploration is needed of which experiences are most supportive in meeting the needs of children from different starting points, be it level of language ability, shared cultural experiences or language of instruction.

One key difference between the home and nursery is that children are frequently interacting as a member of a group in nursery, whereas at home there may be more individual adult-child interaction. Being part of a small group conversation may be of benefit even where children do not necessarily contribute verbally themselves. As discussed in Chapter 2.2, regardless of the need to rehearse language skills, the importance of modelling input for language development is clear (Hoff, 2006). Children in the nursery may be reluctant to talk or unsure of what to say. Being included in group conversations gives the potential for them to hear language modelled for them. Conversely, some children may feel inhibited or not find the topic of interest, and this should not be taken as an indication that they wouldn't talk in other contexts. Given,

however, that the small group may be one of the best opportunities for hearing language modelled and joining in with talk, its potential to include and encourage talking needs to be explored further.

In the following section research on specific approaches that have been taken to targeting children's language development in an educational setting, either indirectly by focussing on adult's interaction skills or by direct classroom intervention, are reviewed along with the evidence of their impact on children's progress.

3.3 Approaches to Classroom Intervention in Language Development

3.3.1 Developing adult's skills

The need to focus on the relationship between individual child characteristics and the benefit of different types of scaffold in instruction has been highlighted in extending the concept of scaffolding as discussed in Section 3.2.1 (Stone, 1998). The skill in scaffolding is in matching the assistance offered to the child's needs. As described earlier, Jordan (2009) drew a distinction between practitioner skills that helped to scaffold children's learning and skills that led to the promotion of co-construction of learning with children. The following observations were made from action research carried out with teachers in four nursery centres in New Zealand. In all cases a warm, trusting, reciprocal relationship, questioning techniques, use of artefacts, encouraging children to work together and verbalising for children during activities were noted. With regard to scaffolding, questioning was related to knowledge already in the teacher's head, specific facts and knowledge were told to children, skills were demonstrated and modelled and feedback was provided to children about their cognitive skills. Co-constructing learning was characterised by questioning with no particular knowledge outcome in the teacher's head; children were not interrupted and silences were allowed; children's leads were followed; links were made for children across time and activities. This research provided an important insight into practitioner interactions and the impact of different interaction styles on the immediate outcomes for learning. The link between these practitioner interactions and impact on children's overall long-term progress has yet to be demonstrated.

One area which has been the focus of investigation, particularly in the USA, with regard to adult intervention and children's longer term progress is that of emergent literacy; the use of shared book reading to promote children's oral language and literacy skills. Drawing on the link between oral language and later literacy skills as discussed in Section 1.3.1, a programme called Dialogic Reading was developed, involving specific advice to adults on how to encourage children's language development during book sharing. This approach has been evaluated, showing that Dialogic Reading did promote children's vocabulary skills and that such effects were still evident six months later (see Lonigan, Allan & Lerner, 2011; Whitehurst & Lonigan, 1998). However, the specific scaffolding skills associated with this progress are harder to pin-point.

Building on the research on Dialogic Reading, the work of Laura Justice and colleagues has provided advice to practitioners on sharing book reading as a way of promoting early language and literacy skills in the classroom (Ezell & Justice, 2005; Justice & Sofka, 2010). They suggested, importantly, that use of strategies needs to be planned rather than left to chance and so should be incorporated into regular book sharing sessions. Strategies were recommended such as the discussion of rarer words and encouraging prediction, along with the use of open-ended questions, pausing to wait for the child to respond, repeating and extending the child's contribution, which might be expected to develop oral language skills, as well as drawing the child's attention to specific book concepts. Justice went on to differentiate different levels of scaffolding; low support, including asking questions such as "How am I going to....?", "What would I have to....?" and high support where a correct answer may be modelled. There is, unfortunately, no strong evidence base offered for the efficacy of these specific strategies.

Evidence of a change in specific practitioner skills along with an impact on outcomes for children was presented in an exploratory study by Girolametto, Weitzman and Greenberg (2003). Numbers were small, with 16 Day Care staff taking part, but participants were randomly assigned to an experimental or a waiting-list control group, thus strengthening the findings. Those in the experimental group took part in training which taught firstly, child-oriented responses (e.g. waiting for children to initiate,

following their lead, being face to face); secondly, interaction-promoting responses (e.g. waiting and using questions and comments to encourage turns and scanning the group to involve all children in interaction); thirdly, language-modelling responses (e.g. labelling, expanding and extending). Pre- and post-training videos were made of the practitioners from the experimental and control groups during book-reading and a play-dough activity. Practitioners who had taken part in the training showed an increase in waiting for children to initiate and following their lead, increased face-to-face interaction, extended turn-taking with children and an increase in their scanning of the group. There was no difference in their adjusting of language to match more closely that of the particular child, although the authors speculated that this may already have been appropriate to the setting. At the same time, children in the experimental group were shown to have increased their overall talkativeness to both adults and peers. The study did, therefore, show that practitioners could change their interaction skills in response to training and that this was associated with higher levels of language output from the children. One limitation of the study was that the practitioners were self-selected to participate in the training and were already very experienced in their practice. Further, larger scale studies would be needed into the effects of such training with a wider audience of less experienced practitioners from a variety of settings where support from the setting may be less strong.

In this vein, a further study by Wasik, et al (2006) explored the change in Early Years practitioners' verbal interactions and the link with development of children's language skills. Ten teachers in one Head Start Centre were trained in the use of Dialogic Reading and also an oral language intervention encouraging active listening, use of richer vocabulary and providing feedback to children in response to conversation. Six teachers in a second Centre were provided with the materials, but no specific training and this acted as a control or comparison centre. Results indicated a significant increase in the use of the strategies by those practitioners who received the coaching, compared to those in the control group, over a six month period. In addition there was a significant difference in rate of children's progress in receptive and expressive language skills over six months. Correlating specific strategies used with children's test scores, however, gave a rather mixed picture. For example, of the conversation

strategies used outside of book reading, 'providing feedback' and 'descriptive questioning' were positively correlated with receptive language skills only; 'use of complete sentences' was the only strategy which correlated positively with expressive language skills and 'open-ended questioning' was not positively correlated either to children's receptive or expressive language. As the authors noted, further work is needed to develop understanding of precisely which strategies impact on development and why, with exposure to the same language environment, different children make variable progress.

There is, then, evidence that practitioners can change their verbal interactions in response to training. Evaluation of the longer term impact of this training and the intensity of the support required have indicated, however, that it is difficult to sustain this change without a high level of specialist support. The study by Wasik et al (2006) showed no significant change for the practitioners who were provided only with the materials compared to those also given coaching. Other studies have shown that there may be little difference in practitioner skills up to one year after such training or where less intensive training is offered to a wider audience (Cabell et al, 2011; Pence et al, 2008). Indeed, the study by Cabell et al, which included practitioners from 19 Centres and a randomized control group from 19 other Centres, concluded that teachers' use of responsivity strategies in their interactions with children was related to children's vocabulary development, but this was independent of whether teachers had received training or not. The conclusion to be drawn may be that practitioners are able to match their feedback to children's own language levels without the benefit of specific training, and that it is children's own skills that have the bigger part to play in their language learning.

The development of checklists of adult behaviours which are supportive of children's oral language development has been a feature of some other recent research and training initiatives, particularly in the USA. For example, using The CIRCLE Teacher Behaviour Rating Scale, teacher ratings on the Oral language scale were shown to correlate between .60 and .63 with children's scores on tests of auditory comprehension and expressive vocabulary (Assel, Landry & Swank, 2008). The indication was, therefore, that between about 35 to 40% of the variance in children's

language scores could be accounted for by ratings of the teacher's interactions. The Oral Language Scale, however, has seven items, each of which is quite broad in its description e.g. 'speaks clearly and uses grammatically correct sentences'; 'models for children how to express their ideas'. The way that this translates into the quality of moment by moment interactions between adult and child is not easy to capture. Dickinson, Watson and Farran, (2008), speculated that the two things that make a significant difference to children are increased opportunities to hear and use new vocabulary and engaging in multiple-turn conversations. However, they also acknowledged that the collection of data on such detail of practitioner interactions is a lengthy process. Longer and more complex checklists do not, they argued, necessarily offer a way forward, particularly if feedback is not readily and immediately available to the practitioners involved. But without further research on what actually helps children to develop in their language skills, giving feedback to practitioners is not necessarily helpful and may not be encouraging adults to do more of is actually helping children.

3.3.2 Developing children's skills

An alternative approach to the development of children's oral language has been the development of specific intervention programmes targeting the needs of particular groups of children. For example, it has been argued that social disadvantage is associated with differences in language competence between children and that intervention is necessary in order to allow children who are thus disadvantaged to "make full use of the educational opportunities available to them." (Ginsborg, 2006, p.22). That is to suggest that the same activities will not necessarily afford the same opportunities for talking to all children. Depending on the children's previous experiences and understanding of talk, something additional and different will need to be done to create that affordance of opportunity for some groups of children.

Evaluation of the effectiveness of such interventions depends on an appropriate evidence base. Guidance in the US and the UK has set out certain standards and expectations for robust evaluation (Institute for Effective Education, 2013; What Works Clearinghouse, 2013). For best evidence, programmes need to have included a

randomised or quasi-experimental large scale study (i.e. 250 pupils or 20 classes) or several smaller studies; a control or comparison group; effect sizes of at least +0.2 on a relevant measure of cognitive or academic outcomes. In practice relatively few evaluation studies with this degree of robustness are available.

Interventions such as the Talking Partners programme in Bradford have been developed to support progress in oral English language skills for bilingual learners (Kotler et al, 2001). Small scale evaluation using random assignment of children to either a target or control group, demonstrated that extra sessions with adult talking partners improved spoken English skills for children between five and eight years old. The sessions incorporated games planned to extend the use of different language structures (syntax) and vocabulary. Evaluation was over a relatively short period of time and the control group were selected from within the same school, meaning that effects of the training could not be isolated to the experimental group alone. A similar intervention, aimed at improving the spoken language skills of children in two Reception classes was evaluated by Riley, Burrell and McCallum (2004). This was a small scale study, pupils were not randomly assigned but results were compared to pupils in a control school where no intervention was made. Pupils in the intervention groups showed positive progress but no significant differences when compared to the control school. The differences could have reflected differences in the classroom teaching. Rather than the need for further small group interventions, the study may have demonstrated the requirement for more quality first teaching which engaged and supported the learning of all children in the classroom. This is supported by the authors themselves, as they identified that the sessions were most successful where they were linked to and embedded in the ongoing work of the class. Further support for this interpretation is lent by findings from the Better Communication Research Report discussed in Chapter 1.3.1 (Snowling et al, 2011). Indications were that up to 16% of the variance in EYFSP scores in Language for Communication could be accounted for by school factors, whilst 8.5% of the variance was accounted for by individual child factors such as gender, EAL, SEN or Free School Meals.

Dockrell, Stuart and King (2006) evaluated the impact and efficacy of small group Talking Time sessions, in which adults were trained to use specific types of language to

support children's communication skills. There were three separate groups of children, 142 in all, and a comparison school which received no intervention, but no details of randomisation are given. Outcomes were compared with a story-reading intervention, in which children were not necessarily required to talk, and a control group. Despite some specific positive changes in children's language performance for the Talking Time group, staff found it difficult to sustain the intervention. In conclusion, the authors drew attention to the importance of ensuring that interventions are systemic and take into account the wider context and needs of both the children and the adults in the nursery.

Intervention has also been shown to be effective in promoting oral language skills for those children identified as at risk of later reading failure (Bowyer-Crane, Snowling, Duff, Fieldsend, Carroll, Miles, Gotz, & Hulme, 2008). Those eight children identified as performing least well on measures of verbal language on entry to school were selected in 19 schools. They were then randomly assigned to one of two small group interventions; Phonology with Reading or Oral Language. When the two groups were compared after the 20 week intervention, the children on the Oral Language Programme had made more progress in vocabulary and grammatical skills and these effects were largely maintained five months after the intervention ceased. This finding was significant because of the impact this increase could potentially make in improving children's reading comprehension skills (see Section 1.3.1). The programme covered four key elements; vocabulary training, independent speaking, listening skills and narrative. The authors themselves, however, highlighted the fact that there was no clear evidence base for selecting the content of the programme and that although it was effective, it was not possible to identify precisely what elements of the programme were linked to progress.

3.3.3 Limitations in the approaches taken

The literature on interventions supportive of children's oral language development has demonstrated evidence that practitioners can change their interactions in response to training and children can make concomitant progress in response. There is also some evidence that additional small group work can enhance children's oral language

development. However, what precisely is helpful and to which particular children remains far from clear. Lonigan et al (2011) published a review of the body of research available on preschool children's development in oral language skills and the links to early literacy skills. They concluded that despite a lot of discussion around the issue as to how Early Years professionals should promote children's oral language skills, there is still "little of the type of research that allows causal conclusions to guide selection of instructional activities that will achieve this outcome." (Lonigan et al, 2011 p. 490). With regard to the nursery classroom, research is still unclear as to which specific activities will best promote children's oral language; what is necessary and what is sufficient.

Additional support for this view was given by Cabell et al (2011) in their study on teacher responsiveness education. Demonstrating no clear link between training and impact on teacher behaviour or child language outcomes, they argued that research has not yet clearly established to what extent the strategies generally advocated are essential for children's language development in a preschool setting, being developed as they are from research on parent- or therapist-child dyads. This is particularly important as it appears from the research that the impact of training may not be sustained without intensive, on-going support. It seems likely that improving quality first teaching is the most important contribution to be made to affording opportunities for language development in the nursery classroom. However, there is still a significant gap in knowledge about exactly what makes a difference. Studies focused on the detail of children's use of language in context could help to inform understanding of the factors that challenge and support them in their moment to moment interactions with Early Years practitioners specifically in the nursery setting.

Communication necessarily involves an interaction; there has to be something to communicate about and someone else to communicate it to. Studies which locate the use of language within the child, such as early work by Joan Tough (see Tough, 1976) or the study by Locke et al. (2002), also locate the *problem* of language development with the child, although clearly the adults are still charged with providing input for the child's development. Such models are likely to lead to an emphasis on specific speech and language interventions. Once the view is taken that, in some settings at least, a

large proportion of children have a delay in their language development, specific intervention becomes an inefficient way to address the issue (cf Dockrell et al, 2006).

“Instead of the developmental model of intensive, one-to-one intervention, we need an educational or curriculum model where spoken language is promoted for all children through normal classroom teaching and activities and the normal school curriculum.We need to establish how these skills can best be taught in classroom settings.”

Clegg and Ginsborg (2006, p.219)

In order to be effective, then, it is necessary to establish what skills need to be taught and give children the chance to talk in the classroom. More investigation is still needed on how children use language in the classroom; how they respond to adult interaction; what promotes and what inhibits language in different situations and for which children.

Just as a within-child model can lead to a focus on the need for intervention in development, it has been argued that taking a sociolinguistic perspective inevitably led to a critique of adult roles, as the role of the student and the interaction as a whole were neglected (Freebody, 2003). As discussed in Chapter 1.5, studying educational interactions through the use of pre-arranged coding schemes with a focus on teacher talk meant that teacher talk was viewed as problematic, looking as it did only at the effects of the social context on language use, without also taking into account the perspective of typical language *development* and developmental complexity. Freebody (2003) argues that an interactionist approach is required. Rather than starting from the assumption that something needs improving, educational events themselves become the focus of study in their own right. The potential of this move is explored in the next section.

3.4 Applying an interactionist approach to learning

Such an approach takes everyday interactions as examples of social practice and analyses them in detail with the aim of understanding how language is being used and learning is taking place.

“Debates about the efficacy, efficiency or social justice of any given practice need to begin with detailed understandings of the activity in question, as it is acted out in a variety of cultural places and times.”

Freebody (2003, p. 212)

This is to say that it is necessary to explore the work being done through talk in the classroom, rather than starting from the presumption of the effects of culture or disadvantage.

Through focussing on the explicit, fine detail of the conversational process, it is possible to build up an understanding of how participants demonstrate and develop their understandings about the nature and purpose of the conversation. As Forrester (2010) proposed, by framing the conversation in terms of a participant-oriented developmental focus one does not have to consider that skills are missing or deficient. Rather, with analysis centred on what people do and say and what is accomplished by that, the focus is placed on how understandings develop and the significant factors that affect language performances associated with those particular understandings. Children’s language development can be viewed from the point of view of creating shared understandings and how these understandings develop and influence conversation. This then, in turn, offers possibilities for looking at classroom practice and how shared understanding can be promoted to afford opportunities for children’s learning.

3.4.1 Definitions of key terms and concepts

Conversation Analysis (CA) had its roots in the work of American sociologists Harvey Sacks, Emanuel Schegloff and Gail Jefferson, as developed, for example, in their classic paper “A simplest systematics for the organization of turn-taking in conversation” (Sacks, et al, 1974). Here they outlined the basic features of natural conversation as a model for the analysis and understanding of conversational interactions and what is accomplished through the talk. Talk is viewed as essentially an interactive process. Both speaker and listener(s) determine the course of conversation through juxtaposition of the starting and stopping of turns. The turn-taking systems in operation through conversation are about participants making their meanings clear and developing understanding about the work being done through the exchange. One

turn builds on the next, showing how the speaker understood the previous turn. As this is made evident to the participants, it also becomes available for analysis making the understandings available for analysis by the researcher too. The next-turn-proof procedure is one of the basic tools of CA, used to orient the analysis towards what is demonstrably accomplished by the talk rather than relying on the assumptions of the analyst (see Hutchby & Wooffitt, 2008). Through this procedure the next turn is considered as a display of the speaker's understanding of what the previous turn was about. Meaning can only unfold through the talk and so it is *sequences* of talk that are the focus for analysis.

Sacks et al (1974) uncovered basic rules and conventions that are followed in naturally occurring conversations as characteristic of daily interactions. These taken-for-granted conventions may seem obvious when stated, but it is through their observance or non-observance that social understandings are built. Examples would include observances such as, one person talks at a time and the number of possible ways in which the next speaker may be nominated or self-selected. The occurrence and role of features such as overlapping speech and tag questions (You know? Isn't it?) to effect transitions from one speaker to the next are given prominence. Each turn is analysed in detail, with every pause, word and emphasis being considered for its significance.

Have (2007) considered how CA can be a tool for looking at talk itself as an object for analysis. He made a distinction between this so-called pure approach and applied CA. The focus in the latter approach would be on employing the practices of CA to look at how talk influences institutional interactions in the hope of providing new insight on the activities and, he argued, perhaps how things might be done differently. The focus is not necessarily on the talk in its own right, but on what it can tell us about the practices and understandings within the interactions of a particular social situation. CA can be applied to help explicate both routine practices in a particular context and also some of the problems (troubles) that arise and how these might be resolved. These data are presented through the transcription which details the ways in which the words were spoken and, through the sequence of talk, how they were understood. A central principle of CA is that nothing in talk is incidental, every detail signals something about the interaction, what is occurring and how that is brought about.

3.4.1.1 Turns, topic generation and repairs

What CA offers is a common language for analysing and discussing interactions. It puts forward themes within which to frame the analysis and insights, focussing on the detail of *how* this happens. The themes of turn-allocation and repair mechanisms act as a focus in such work. By focusing on the detail of conversation it is possible to trace the subtle ways in which topics are generated and continued. Through examination of who initiates and who responds to that initiation, turn by turn, participants' understandings of the purpose of the conversation and their acceptance or otherwise of those understandings can be uncovered. For young children, part of that understanding would include their development of an understanding of the conventions of conversational interaction.

Considering conversations through this lens, allows for examination of how the number of participants in a conversation may affect the rights for turn-taking, changing the rules of interaction that participants need to follow. Sacks et al (1974) explained how the last-next speaker rule that usually operates for turn-taking in everyday conversation means that in two-party interactions participants would get equal turns to speak. If there are three or more participants, however, this rule means that no one person has a guaranteed next turn and conversation has a tendency to be concentrated among just a few of the participants. The application of such understandings about turn-taking has been explored in the classroom, as discussed in the Section 3.4.2.

As the key purpose in conversational interaction is taken to be the display of understandings between participants, mismatches in understanding and the ways these are dealt with are important features. In CA, restoring the smooth running of the interaction is studied with regard to turn-taking and transfer of turns and how repairs to conversation are made within those turns (e.g. clarification of a word). Recognition by one or both participants that the interaction needs repair is also a relevant feature when analysing their understandings and the shape of the conversation as it unfolds. Repairs are of particular significance for early language learners, as they are points at which the child's meaning is being negotiated. As such they offer much potential for language learning (Radford, 2008).

3.4.1.2 Distinctions between institutional and naturalistic talk

Drew and Heritage (1992) took the work of CA a stage further in differentiating the features that make talk in a formal context different from natural, informal conversations. This they characterised as institutional talk. They noted the traditional Initiation-Response-Feedback/Evaluation (IRF/ IRE) categorisation of classroom interactions as too general and imprecise to fully capture the understandings of the participants and the work accomplished by the talk (see Cazden, 2001; Hughes & Westgate, 1997; Wells 1978). Instead they proposed certain features which may act to distinguish the context of classroom talk from natural conversation, as a particular example of institutional talk. These features are related to three aspects of the talk. First there is a clear goal orientation from at least one of the participants. In the classroom it is usually the adult who sets the goal. Second, this will set constraints on what one or both participants will treat as allowable contributions. Third, then, this may also be associated with certain distinctive features of the talk, setting understandings about what one or both participants may be expected to do (e.g. whether displays of emotion are to be expected). Such contexts may, by convention, influence, for example the choice of words used, with slang being acceptable in natural conversation but not in certain institutional contexts. The shape of the conversation, that is the sequencing of turns, will also be influenced, as the work to be accomplished by features such as overlaps, repairs and topic is different from that found in less formal conversation.

Generally then, turns in formal situations will have more defined boundaries. Drawing on the work of Drew and Heritage (1992), several ways have been proposed in which educational activities can differ from “mundane conversation” (Freebody, 2003, p.127). Differences are visible through the ways that turn-taking is managed; the construction of purpose-built exchanges; the kinds of interactional “troubles” that arise and the repairs that are used, as well as the systems of preferred and dispreferred responses that are developed. In respect of the shape of the conversation, classroom interaction can often be characterised as a two-party system. The talk is organised in such a way that the teacher is one participant, taking every other turn and one or other of the students has a turn in between. In this way the

students as a group can be characterised as the other participant in the conversation. This is not fixed in any entirely predictable way, but develops as a reasonable means of managing the situation. Roles can be taken on or not, and contributions may be preferred or dispreferred. That is to say that it may be the type of response that was expected or not. A feature of informal conversation is that declining a contribution, as dispreferred, is often accompanied by a softening, such as pauses, apologies or explanations. In establishing a conversation as an educational activity, the roles of teacher and learner may involve the use of more direct replies to signify a dispreferred response, for example the use of a direct “no”.

The classroom context may present limitations for interaction, but both participants have to recognise and operate within the rules that set these limits for this to become the case. This is all part of the interactive nature of the conversation and it is by looking at what happens through the different contributions that the analysis is made. Thus, in the classroom, an understanding is built between participants as to what is relevant to the general goal of “doing educational activities” (Freebody, 2003, p. 127). Conversation can, therefore, be to degrees either more or less like institutional or natural conversation; it does not have to be categorised rigidly as one or the other. The focus is on the actions of the participants that work to create an understanding.

3.4.2 Application to early language development and classroom pedagogy

CA has been applied to the study of the development of very young children’s language skills, offering promising insights into the complexities of the inter-subjective nature of feedback, repair and the development of self-repair (see papers by Tarplee and by Laakso in Gardner & Forrester, 2010). Such studies have added to understanding of how the adult response has implications for the child’s next action in talk and for defining the nature and role of input and feedback within parent-child interactions. One of the original proponents of CA, offered the following illustration from children’s early language development, showing the influence of the role taken by participants on the use of language in conversation. Sacks (cited in Forrester, 2010 p.47) noted that, in conversation, children have fewer rights to hold the floor than do adults. He demonstrated how they will often employ their understanding that the open question “what?” acts to gain the next turn in speaking and so use questions

such as “do you know what?” to gain speaking rights. It is necessary therefore to take account of context and participant membership in considering the nature of the language skills deployed in a particular conversation. The language used tells as much about children’s understandings of the nature of conversation and the roles to be played as it does about linguistic development. This example also acts as a further reminder of language as activity in context rather than a specific set of competences or performances (see Chapter 2.4.2).

CA has been applied to give insights into the nature of adult-child interactions during learning tasks, both one-to-one and in the classroom. Pike (2010) used CA to analyse a series of one-to-one teacher-child interactions during a mathematical problem solving task. Using this method enabled a focus on the nature of misunderstandings as they arose, showing how the child did not necessarily orient to the adult’s attempts at repair as such. Analysis illustrated how the participants may jointly create scaffolding through their use and interpretation of language. The creation of such understandings has been applied to interactions in the classroom. Radford et al (2011) used CA to compare the effect of the talk of teachers and teaching assistants in opening up or closing down contributions from students, by looking at turn allocation, topic generation and repair. Data were taken from audio recordings of classroom lessons made as part of a large scale, longitudinal study. Analysis showed that teachers tended to adopt talk strategies which encouraged oral participation, whereas teaching assistants tending to use talk to emphasise task completion, which had the effect of inhibiting further student talk. Emphasising the important implications of these findings for future training of teachers and teaching assistants, the authors also recognised the need for further research on the relative impact of these interactions on student learning outcomes.

Teaching interactions were also the focus of a study employing the principles of CA to analyse the opportunities offered for the learning of language skills during three different communication tasks (Radford et al, 2006). The participants were three teachers working with children between four- and eight-years old who had identified speech and language impairments. Comparison was made of video-recordings of the three different tasks, carried out either in dyads or in groups of five or six children,

with a specialist teacher. Initial quantitative analysis indicated that where the speaking turn was allocated in strict rotation, as in circle time, the number of teacher questions was much lower than in the other two tasks, reducing to almost nil. This could be taken as an indication that the children therefore have more opportunity to talk, as the teacher talked less. Further qualitative analysis, however, revealed a rather different picture. Reducing the number of turns from the teacher was shown to inhibit her opportunities to offer repair for children. Examining the work done by each turn showed that during these activities, where the aim was to encourage children to speak and not to test pupil knowledge, the teacher's follow-up turn was used in different ways to affirm, incorporate and extend pupil responses. Under these certain conditions, teacher questions were found to be associated with increased contributions from children; where children could self-select to talk with teacher follow-up or where children's personal news, ideas or opinions were invited. This study offered a focus on the potentially useful work done by different dialogic practices; no link was made, however, to longer term progress in children's language skills. The implication is that a similar effect would apply to young children's use of language during typical classroom conversations. The extent to which this would be evident in the nursery, where practitioners are not specialist-trained and have the joint aims of imparting knowledge and encouraging children's language, requires further investigation.

Jones and Thornborrow (2004) built on the notion of the group as a participant in a two-party system to explore interactions in the classroom using a CA approach (see Section 3.4.1.2). Working with two groups of 10- and 11- year-old pupils in different schools, they broadened the focus for the work from turns and sequences to examine the way patterns differed and the activities in which different patterns occurred. This involved characterising the conversational floor as a collaborative space for participation, rather than a turn with one person speaking at a time. In this way a turn can be shared by more than one person and participation can occur through active listening, interruption and simultaneous talk as well as a single-person speaking. Using this interpretation the researchers were able to show how the participants developed understandings of what was permissible at different times, arguing that each created a

different conversational floor. Floors were described as being relatively tight or loose depending on the degree of formality. Similarly, the present study aims to investigate adult and child interactions during small group activities, including the effect of the type of discussion on both quantity and quality of initiation and response.

3.4.3 Limitations in application of the approach and implications for further research

Forrester (2010) cautioned about the importance of preserving the integrity of the original ethno-methodological roots of CA when employing the methodology. There is a danger of interpreting the performance of certain skills in conversation as a developmental phenomenon, but what is more to the fore are the participants' understandings that play a significant role in that performance. The method does not view the language of conversation in terms of formal linguistic skills, but as a dynamic process aimed at creating shared understandings. The interpretation, therefore, needs to focus on the significant factors at play in the interaction. These will include participants' understandings of the roles that are being taken in the conversation, which may influence performance, rather than solely reflecting competence in language skills. Only by keeping the participant orientation when mapping out how conversation develops, is it possible to avoid implying a deficiency when discussing development.

Keeping this in mind, the CA framework offers the tools for further exploration of several aspects of children's verbal interactions in the nursery setting. First, it allows the possibility of examining the extent to which small group conversations in the nursery differ from natural conversation and how this might affect children's understandings and use of language. The nature of nursery conversations has still to be explored in terms of the characteristics of natural or more educational talk and the implications this may have for young children's understandings of it as a place to talk. Equally, research has not yet explored in fine detail the understandings three- and four-year old children have of the differences between natural conversation and institutional talk as experienced in the classroom. For three- and four-year olds, part of the work of conversation may be to develop their understanding of the rules for classroom interactions.

The extent to which these conversations offer potential benefits, such as developing children's understanding of the nature of institutional talk and, through their structure, offering opportunities for each child to participate or to hear and rehearse new vocabulary, has yet to be examined. Equally, the degree to which these conversations may restrict opportunities or inhibit children from talking has not been detailed. CA offers a method of analysing the work that various conversational moves may accomplish in the nursery and how this is linked to affordance of opportunity for interaction.

Second, there are implications about the differences between dyadic conversation and turn-taking where more than two participants are involved, that have yet to be explored in the context of the nursery setting. Young children learning the rules of conversation and wanting to contribute may find it hard to negotiate or know when to take their turn and also when to exit and let others have a turn within a group interaction. Natural conversation may not, therefore, be the most equitable pattern of conversation for a group situation and may not encourage young children to talk, depending on their prior experiences of conversation and their understanding of the rules of turn-taking.

Lastly, as the work of talk is to create an understanding between parties, the ways in which mismatches in perception and understanding are dealt with are an important focus for analysis. These mismatches can be at the level of understanding about the joint purpose, but for three- and four-year olds who are still acquiring basic language skills, repair would also focus on expressive language skills per se. The conversational competencies of securing attention, articulating clearly enough to be intelligible and providing sufficient contextual information through semantics and syntax, discussed in Chapter 2, are all very closely related to establishing understanding (Ochs & Schieffelin, 1983). CA offers the framework for detailed analysis. Looking at the details can help to move beyond assumptions about the nature of the interactions, to uncover what exactly is happening in context (Freebody, 2003).

One potential weakness of CA as a method is that it focuses on the process, but not the product of learning. Studies offer evidence of the impact of conversations as they

develop, on children's immediate language. The method, by its very principles, cannot establish whether learning has occurred; it can only treat the talk-in-interaction as evidence to suggest that it has (Pike, 2010). Evidence of longer term impact on learning however is far harder to demonstrate and may not be seen as within the scope of such studies. By illuminating the processes of learning, CA can though be a first, essential step towards making explicit focus on features of the learning context, of which participants themselves may not be aware.

3.5 Children's language development and the Nursery context; Summary of the literature reviewed and implications for further research

This review of the literature has indicated that, despite the wealth of research on children's early development of oral language skills, there are still considerable gaps in the understanding of how children's language skills develop, particularly outside the frequently researched context of one-to-one interaction with an adult. The relative importance of overhearing and opportunities to speak and practise skills has not been fully established. Alongside this, further understanding of the role of adult feedback, including scaffolding, co-constructing and creation of shared participation and sustained conversation is required. The argument has been put forward here to suggest that where language is analysed as an interaction in the particular context of its use, a deeper understanding of how language is practised and develops may be reached.

It is particularly pressing that further research be carried out in this area with relevance to the Nursery setting. Early Years practitioners are frequently reminded of the importance of oral language skills for later academic and social success and called upon to measurably improve children's progress in this area of development.

Examination of the literature shows that, before drawing conclusions about the training needs of practitioners or offering advice on activities to promote language skills, there is a need for further research on the nature of the opportunities for verbal interaction provided in the nursery and how these opportunities are taken up by children with differing language needs and abilities. Review of the research indicates that children take different paths in learning language and that differences are to be

expected. Situating language development within the framework of conversational competence offers new ground for developing understanding of children's likelihood of taking up opportunities to talk and, in turn, their later development of skills. The current study was intended to address some of these gaps, through a detailed analysis of adult and child conversational interactions in the context of small groups as characteristic of the typical nursery setting. Taking an interactionist approach, detailed analysis can be applied to address the neglected question of how conversational experiences might differ for children with different language levels and implications for supporting their conversational skills in the nursery.

Chapter 4: Investigating language in the nursery; rationale for the study

4.1.1 Focus of the study

This study focussed on children's detailed conversations in the nursery setting, to inform understanding of children's language development in a formal, educational group setting. The aim was to gather and analyse data about the ways in which children join in conversations, specifically how often and under what circumstances and further to explore the relationship between these interactions and children's language skills and development. In addition to measured language levels, other characteristics that may possibly be expected to have an influence, including whether English was a first or an additional language, age and gender were analysed also.

The numerous studies on early language development in the nursery/kindergarten (e.g. Dickinson & Tabors, 2001; Dockrell et al 2006; Hart & Risley, 1995; Locke et al, 2002; Griffin et al, 2004; Snow et al, 1995; Tizard & Hughes, 2002; Wells, 1981) are a clear demonstration of the high value placed on oral language learning in the early years. Many of these studies have sought to evaluate interventions or assess the relationship between curriculum or adult input and children's progress. There are few studies, however, that have examined the detail of interactions in this age group, to unravel some of the specific conversational factors at work for individual children, which may be enhancing or hindering their use and development of language. Dockrell and Law (2007 p. 23), in their discussion on the difficulties of evaluating language interventions, highlight the need to "gain a greater understanding of what is a *typical* developmental trajectory", before we can draw conclusions about the specific effects of any interventions to promote language development. This study was designed to uncover more detail about the relationship between talking in the nursery and children's language development, adding more to the body of knowledge about the typical paths and variations within children's language learning.

First it was necessary to consider a range of methodological issues, reviewed here, before then outlining the decisions made in the design of the current study.

4.1.2 Methodology

The different ways of assessing and measuring language were discussed in Chapter 2.4. These measures can be characterised by different under-pinning assumptions about language development. A fundamental dichotomy has been drawn between methods which are derived from a view of language as an essentially individualistic process and those which adopt an interactionist perspective (see Chapter 3.4). Painter (1999), for example, has highlighted the contrasting perspectives of these two approaches. From an individualist approach, language is seen as a representation of the external world; ideas are external to the speaker and are *expressed* through language. Language is viewed as a cognitive, context-free phenomenon. The assumption is that there is an unchanging body of knowledge that represents the same formal system of language, a set of structures acquired once and for all. Standardised tests, for example, could be said to have developed from such an understanding. Concomitant with this approach is the view of learning as a linear process, which can be measured in stages. Social-interactionist approaches, in contrast, characterise language as existing in a context, for a purpose. Social dimensions influence the understanding and use of language and it is through language that ideas *become*, are internalised and learning occurs. Language learning is viewed as a spiralling process and stage will depend on the context.

Viewed from an ecological perspective, through the lens of affordance, however, it is possible to synthesise both approaches. Bronfenbrenner's (1979) theory of human development encapsulated individual development as an interrelationship between different processes and contextual environments. At the centre is a person actively shaping and responding to systemic factors operating at different levels of proximity, thus creating unique ecological niches in which particular processes and outcomes will be observed (Darling, 2007). Characteristics of the individual, the process and the environment will all play a part in development. Each of these unique contexts will offer particular affordances depending on differences in experience and individual development, as discussed in Chapter 3.1.

Any attempt to capture language will inevitably involve the influence of context and will vary in affordance of opportunity to different individuals. In operationalising

language for any study, whether language is viewed as a body of knowledge or a dynamic activity, it cannot be accessed independently of context. The difference in approach between different measures could be considered as one of focus, rather than necessarily dichotomous. Painter (1999 p.30) herself drew a distinction between what the child can do on their own (monologically) and jointly through scaffolding with others (dialogically). The focus for tests either standardised or criterion referenced, is on independent ways of doing language; there is minimal input from the adult. This context, nevertheless, may present different opportunities for different children. As discussed in Chapter 2.4, expectations and familiarity with such situations and content, will affect how children respond. This can be compared to observations of classroom conversation, as a situation in which the focus is on jointly-scaffolded use of language, in a context with which children could be expected to be relatively familiar. But equally here, children's different understandings and experiences will affect the opportunities that are afforded.

The focus of this study was to combine both individual and social approaches, considering each method as offering its own particular affordances and ways of doing language. Combining approaches in this way, the intention was to utilise different methods to study the different layers involved in language learning. At the centre is the actively developing child, within the local nursery context (microsystem), influenced also by the nursery curriculum and expectations derived from national context (exosystem). The aim was to examine what both monological and dialogical measures can tell about children's language in the nursery, providing new insight into the individual and contextual factors that interact to help or hinder language use in the nursery.

4.2 Using mixed methods in research design

Quantitative and qualitative methods each have their strengths and weaknesses and both have been applied to the field of children's language development and the analysis of classroom talk (see review in Chapter 3). Mertens (2010) suggested that there is considerable value in using mixed methods. Although quantitative and qualitative methods could be viewed as incompatible, coming from different paradigms and ways of framing the research question, they can be used in

combination to strengthen a study. Complementing the relative strengths and weaknesses of each approach can enable an issue to be explored from different perspectives. For example, qualitative studies can give rich descriptive data and a focus on content, but report on selected examples rather than the whole data set, with the result that the representativeness of the examples may be questioned. Quantitative analysis, on the other hand, allows consideration of a larger data set but focuses on the final outcome. This may not give scope for illuminating the processes of learning (see Jadallah, Anderson, Nguyen-Jahiel, et al, 2011). The nature of mixed method research design is such that each component is chosen to supplement and enhance the other, to build a richer understanding of a complex phenomenon (Morse & Niehaus, 2009).

There are various ways to combine the use of quantitative and qualitative methods, depending on the questions to be addressed. In a parallel design form the two methods are used in proximity, with, for example, qualitative data being collected and analysed shortly after quantitative data, to help to explain and develop the quantitative findings (Mertens, 2010). Neither method takes prominence over the other, but data from each complements the other. Mixed method research has been closely associated with the notion of triangulation of data. Triangulation involves the collection of data from at least three different perspectives or sources on the same issue for the purposes of cross-checking and evaluation (Somekh & Lewin, 2005). The data can then be analysed to further validate and illuminate each other.

4.3 Measuring language competence and performance

4.3.1 Standardised measures

The use of a standardised measure allows for comparison of children's receptive language and vocabulary knowledge with a normative sample of others of their own age, as discussed in Chapter 2. Standardised tests are specifically designed to show whether a child's language skills differ from a normal population (Paul, 2007). There are difficulties, however, in using standardised tests to evaluate change in development over time, including the differential sensitivity of test items to change and problems in assuming that changes for different children at different starting points represent a comparable amount of development (Dockrell & Law, 2007). There

are also likely to be possible linguistic and cultural biases in tests standardised on monolingual populations and this must be considered in the selection of appropriate test materials (Martin,2009). As Dockrell and Law (2007) demonstrated, it is important not to rely on any one measure or technique when trying to measure changes in development, and early language development in particular.

4.3.2 Narrative measures

Berman (2009) proposed that conversation-embedded narratives are an integral part of children's pragmatic language development and the ability to tell a story is an important aspect of growing communicative competence. Narrative elicitation is frequently used as an assessment of language skills, both in research and clinical practice and a summary of such studies is given in Appendix 2. This can act as a criterion-referenced measure, supplementing the information from standardized tests, to find out what a child can actually do with language. The story-telling task demonstrates both flow of language and an ability to relate experiences. These skills are vital to the development of conversation and usually start to develop between the ages of and three and four years (Botting, 2002; Dickinson & Tabors, 2001; Stadler & Cuming Ward, 2005). Westby (cited in Paul, 2007, p. 438) also suggested that narrative discourse forms a bridge between the oral skills of informal communication and the formal literate style encountered in reading and writing in school. Elements of familiar formal story structure begin to be combined with use of repetitive and predictable language found in informal conversation, to support understanding for both listener and narrator. In narrative, discourse begins to centre on a pre-determined topic, rather than being based in the here-and-now flow of talk between the participants.

Narrative is a universal type of discourse and can be observed in both oral and literate cultures, with young children having stories either told or read to them (Berman, 2009). The use of narrative as an assessment tool, however, is not culture free. Different cultures have varied styles of narrative and ways of telling stories (see Stadler & Cuming Ward, 2005). Martin (2009) cautioned that although narrative is widely used in intervention, the development of narrative skills for children in the process of becoming bilingual, for instance, is under-researched. Care is therefore necessary in interpreting results especially in the light of limited data about the typical

development of second-language narrative skills for children learning English as an additional language.

In their original use of narrative assessment, as a cross-linguistic comparison of the development of linguistic forms, Berman and Slobin (1994) introduced a story called "Frog, where are you?" (Mayer, 1969). Their focus was specifically on qualitative analysis of syntactic constructions. This has since been developed, however, as a tool for the assessment of linguistic structure and pragmatic language skills and various methods of scoring have been devised (Botting, 2002; Heilmann, Miller, Nockerts, & Dunaway, 2010; Hoffman, 2009; Norbury & Bishop, 2003). Although other studies have used a variety of materials, the Frog Story has been frequently used and gives scope for comparison with previous studies. (See Appendix 2a for a comparison of studies using different methods of analysis of narrative abilities.)

4.3.3 Questionnaires and checklists

Within the field of assessment of early childhood development, questionnaires and checklists act as a recognised method of eliciting reports of observations from adults familiar with the child (Cohen & Swerdlik, 2005). Responses are usually marked to indicate the presence or absence of a specified behaviour, thought, event or circumstance. An indication of frequency or magnitude of the observable behaviour or event may also be elicited, such as through use of a rating scale. Survey questions need to be designed to answer the specific research questions and be demonstrably relevant to the goals of the research (Robson, 2008).

The reliability of an instrument such as this will be increased by increasing the number of items (up to a certain length), attention to the wording of questions as well as standardized administration and careful scoring (Wilson & MacLean, 2011). Questions need to be clear and unambiguous and the response scale needs to allow for straightforward analysis, where response options are given (Somekh & Lewin, 2005). In constructing an effective questionnaire there is no recognised consensus on the number of categories to include for response (Peterson, 2000). A relatively small number of categories may suffice where the information is to be used to make comparisons between groups of participants. It should be noted, however, that the

fewer the number of categories used the lower will be the power of any correlation coefficient, regardless of the relationship between the variables concerned.

In addition, attention needs to be given to the confidentiality or anonymity of the responses. Hoff and Rumiche (2012) reportedly found that parents gave fuller information in response to a questionnaire when it was filled in with them during a face-to-face interview. Working with a Spanish-English bilingual population, the researchers piloted a questionnaire asking about children's exposure to each language and this was later compared to a language diary kept by the parents. Positive correlations were reported for the two methods in this study, although the focus was on reporting the methodology at that stage, and numbers of participants were not given, nor direct data on responses from questionnaires not completed face-to-face.

4.4 Observing language use in the Nursery

4.4.1 Naturalistic observation

"Conversations provide the primary tool for oral language development in the preschool classroom."

Dockrell, Stuart and King (2010, p. 499).

It is through everyday dialogue with young children in the early years that the work of language development must take place. As the primary aim of the present study was to explore the nature of children's everyday conversations in the nursery, it was decided to use data from naturalistic observations rather than setting up an experimental situation. Historically research on children's development of language has examined both experimental situations, where conversational variables can be manipulated in a controlled way to see the effect on children's understanding and use of language, and also, importantly, data from spontaneous speech in natural situations. As Karmiloff and Karmiloff-Smith (2001) have elucidated, children may be able to perform skills in more natural circumstances that they may not demonstrate under the demands of an experimental situation. Observing children's language in a situation with which they are familiar, means that the clues to joint shared meaning normally provided by the social context are available to them in order to support language understanding and interpretation. The social context underpins

understanding, supporting the processing of language by reducing the information load that the child is required to manage.

4.4.2 Using video recording

Video has been widely used to examine communication in an educational context (see Derry, Pea, Barron et al 2010; Goldman, Pea, Barron & Derry, 2007). The introduction of now readily available digital video technology and transcription software has enabled the individual researcher to study events which would be too quick to capture through real time observation and to review them from multiple perspectives. Video recordings are not in themselves data, but are a source of data, being open as they are to reviewing, coding and analysis in different ways on multiple occasions (Erickson, 2007). The use of video allows visual cues to support observations in a way that is not possible with audio-recordings alone. Goldman & McDermott (2007, p112) however, counselled that "Video records do not make analysis easier. They provide no short cut." A number of decisions have to be made about what and how to record and analyse and the amount of data to be analysed can be vast. One significant advantage, though, is that it enables one to look at the complexities of communication, layer upon layer, as part of an iterative process. Derry et al (2010) set out a comprehensive analysis of the principles, strategies and issues that need to be considered when using video in educational research and these guidelines were consulted when reviewing the decisions made in the current research design. The authors point out that video has opened up what they describe as unrivalled possibilities for analysis, but at the same time this poses new challenges. The first of these is selection, initially of what to observe and, then, what to analyse.

4.4.3 Small group conversations

One very important opportunity for conversations in the nursery is the daily discussion that nursery practitioners have with small groups of children in their key groups. The Early Years Foundation Stage Framework (DfE, 2012) stipulates that each child be assigned a key worker and also that the curriculum must be delivered through a mix of adult-led and child-initiated activity, but specific guidance is not given on the organisation of teaching groups within the nursery. Case studies for the Effective Provision of Pre-school Education project (Siraj-Blatchford et al, 2003) revealed that,

although different pre-school provisions were each organised rather differently, most involved some element of group time, although numbers in the group varied from 25 to five. Activities at these times included registration, adult-led activities, talking about activities and story-times. In their follow-up study to look at factors associated with settings that provided higher quality day-care, Sylva et al (2007) concluded that one aspect of organisation associated with better outcomes in terms of children's cognitive development and later achievement, was a mix of adult-led and child-led activities, with involvement of children in small groups for some of the time. A small group was considered to be between three and eight children.

Given the adult-child ratios in the nursery, adult availability for conversation is likely to be considerably reduced from that in the child's home. Small group times, present an important opportunity for children to listen to adult language, and potentially take part in conversation. For some children this may be the first time they have been part of a group conversation. Whilst research indicates that within the family context children are capable of participating in conversations with more than one conversational partner (Barton & Tomasello, 1991; Dunn & Shatz, 1989), a study by Hoff (2010) indicated that it is such talk involving an adult that produces more responses to questions.

4.4.4 Different discussion types

Within the research on teaching and learning in the nursery, different forms of discussion have been identified in Early Years settings as providing differing opportunities for children to participate (see Chapter 3.2). The EPPE Project, for example, identified the importance of including both teacher- and child-initiated activities, as part of children's learning (Sylva, Siraj-Blatchford, Taggart, Sammons et al 2004). Connor et al (2006), in a study of emergent literacy skills in American preschool, distinguished between teacher-managed and child-managed activities as being associated with different aspects of literacy skills growth. In an earlier unpublished thesis, on preschoolers talking with adults, a distinction was made between scripted, predictable interactions and those that were less scripted and more interactive as playing a different role in language development for children from different language backgrounds (Connor, 2003). Jordan (2009), from her research with

teachers in four New Zealand early childhood centres, developed a model proposing three different types of interaction, building on the work of Vygotsky (1934/1986), Wood et al (1976) and Rogoff (1998). Each interaction type involved different levels of shared understanding. Adult and child may be equal partners, each contributing their own ideas and understandings, as in co-construction. Alternatively, interactions may be adult-directed, with the adult choosing and controlling the topic or child-directed where the child leads the discussions and the activity.

4.5 Analysing video data

4.5.1 Quantitative analysis: Manifest features of interaction

As Mercer (2010) proposed, quantitative methods allow the analysis of large sets of data, without necessarily requiring lengthy transcription, so enabling the representativeness of the entire data set to be captured. In addition, numerical and statistical comparison can then be made to look for relationships and differences across and within the data (Lewis & Miller, 2011). When analysing video, an initial content analysis would take as the focus the manifest or obvious, surface features of communication such as who is speaking or the focus of gaze, with the aim of gaining a systematic, objective and quantitative description (Jewitt, 2009, personal communication). There needs, however, to be a clear rationale for what is counted and any categorisation or coding used, as discussed in Section 4.6.8 below. An initial content analysis may be followed by a deeper analysis of particular events, or the relationship between events and focus on the meaning of those events.

4.5.2 Qualitative Analysis: Content and process in interactions

Qualitative methods allow for analysis of meaning and the nature of the talk but tend to be too time-consuming to allow analysis of large sets of complete data and may not be open to statistical comparison or generalisation. One disadvantage of quantitative analysis, on the other hand, is that valuable content in the data is lost (Mercer, 2010). In looking at the processes by which children and adults develop conversation in the classroom, it is essential then to include qualitative analysis alongside any counting of categories of interaction.

4.5.2.1 Selecting cases

A comprehensive and systematic strategy needs to be in evidence whenever selecting cases for analysis (Derry et al, 2010). Two possible methods are suggested for selection of episodes for analysis. Firstly they may represent a particular set of practices, for example the opening of a lesson. The second method of selection has been characterised as focussing on “virtuoso moments” in which some particular accomplishment is in evidence in the talk (Freebody, 2003 p. 98). Have (2007) stated that conversation analysis (CA), like all transcription systems, is necessarily selective and is specifically designed to capture the sequential features of talk.

“...if you are after a particular kind of interactional feature that happens now and then in a large corpus of video tapes, you should rather transcribe only those relevant episodes.”

Have (2007 p. 111).

As long as a *sequence* of talk is subject to analysis, how much is transcribed and in what kind of detail is dependent on the precise research focus.

4.5.2.2. Choosing a method: Conversation Analysis (CA)

The case for the importance of using a recognised method for transcription is increasingly argued (Davidson, 2010; Lewis & Miller, 2011; Mercer 2010). Firstly, it makes explicit the underlying epistemological standpoint connecting the theory and method within the study, in this case the social construction of the interaction by the adult and the children together. Secondly, focusing on particular features of talk allows comparison with other studies that have analysed talk in a similar way and revealed the function of these features, see for example Davidson (2010). In addition, following a particular method implies that certain recognised methods and principles have been followed, increasing the potential for generalizability of any findings.

Conversation Analysis (CA) is one such recognised method and was developed as a way of analysing social activities; how the social world operates through people’s actions (Mercer, 2010). Originally developed by Sacks et al (1974), CA embodies an essentially constructionist view point, that realities are constructed through interactions, and takes as its focus, the way in which this is achieved. It is concerned with natural conversation and how utterances in context achieve a particular outcome, through

focusing on the *sequence* of conversation. The goal is explicitly to describe and explicate the competences that speakers demonstrate when participating in social interactions (Have, 2007). As such it lends itself well to exploring children's growing conversational competences and what their talk signals about their understanding of the use and purpose of language in these small group conversations in the nursery.

CA is a transparent and recognised process of iterative analysis, achieved through repeatedly viewing and adding detail to the transcript, with a clear focus on the development of the sequential nature of the talk across turns and how this is accomplished by the participants. The method is interpretive and through a process of induction, involves the discerning of patterns, looking for cases and exceptions. Clearly the researcher brings their own frames and lenses to the task, but the burden of proof rests in the next-turn-proof procedure (see Hutchby & Wooffitt, 2008). The basic unit of analysis is a turn of talk. By focusing on the next turn as a display of the speaker's understanding of the prior turn, the analysis is oriented towards what is accomplished through the interaction; to the participants' understandings rather than resting on the interpretation and assumptions of the analyst.

Through the use of very detailed and specific codes, representing features such as over-lapping speech, pauses, pitch, intonation, as well as non-verbal features such as gaze and gesture, conversation is transcribed line by line. "The purpose of the transcription is to make *what* was said and *how* it was said available for analytic consideration" (Have, 2007, p.29). It forms a visual representation of the events that happened in time. It is therefore very important to represent pauses, overlaps and stretched speech in the transcription.

Analysis is, then, focussed on interpreting the significance of these features in signalling patterns in conversation, and how these are linked to achieving different tasks (or competences) for the participants. What is looked for is what is represented and achieved by the speech and how that happens. Following the transcription, detailed analysis is needed, with the aim of finding patterns and using these patterns to guide understanding of what is happening in the particular context and how this is achieved. It is then possible to look to see if this is replicated across other instances.

So, how, for example, messages about turn-taking are communicated; how topics are generated (who by); how this affects the length of answers, the likelihood of return response, and the introduction by children of their own vocabulary. It does not focus on interpreting underlying intentions or interpretations, but on how talk achieves a specific task. Transcription conventions are designed to focus on turn-taking, sequences of utterances across turns and identification and repair of breakdowns in interaction. As such, it was directly relevant to the analysis being undertaken in the present study of children's conversational competence in action.

4.5.2.3 Reliability and Qualitative Analysis

The issue of reliability in a qualitative analysis of this kind has been addressed in several ways by different authors. The first method is to make the data available in a way that allows the reader to see for themselves the link being made between the data and the interpretations made (Flewitt, 2006; Davidson, 2010). The passages selected for presentation must be informed by the analysis and it is the responsibility of the researcher to be clear about the reasons for their choice. In CA this is achieved by reproducing the transcribed episodes alongside a commentary on their interpretation, so demonstrating accountability whilst also making the data available for possible alternative analysis by the reader.

Secondly, use of a recognized transcription method, can act to enhance the consistency of transcription in reporting study findings (Davidson, 2010). This is particularly the case where the approach demonstrates a clear relationship between the transcription conventions and the theoretical underpinning to the analysis, such as CA. In this way comparison with findings from other studies using the same method is allowed for and the possibilities for replication and generalizability are enhanced, as mentioned in the previous section. A third, additional method of demonstrating reliability with this type of analysis is through discussion of the data and findings with others. This can be achieved, through discussion with adult participants, fellow researchers and supervisors and from feedback through presentation of the work (Flewitt, 2005; Have, 2007; Lewis & Miller, 2011). This can serve to confront the data with alternative interpretations and develop credibility for the findings through the feedback received.

4.6 Design of the Current Study

4.6.1 Research questions

The primary aim of the current study was, then, to explore the relationship between children's language abilities on entry to nursery and their language experiences within the setting. The research questions addressed by the study were:

What opportunities for children's verbal initiation and response were afforded by small group conversations in the nursery?

To what extent was the likelihood of children taking up these opportunities linked to their language skills and was there a relationship to later language development?

How did conversational experiences differ for children of different language abilities and what implications are there for supporting language development?

The review of the literature led to a number of decisions about the methods for data collection and analysis and these are set out below.

4.6.2 Mixed methods

A parallel design mixed method approach was taken in the present study. To examine the opportunities that were offered for verbal initiation and response, interactions in the nursery were initially coded and analysed quantitatively. Quantitative data were collected and analysed to give a measure of children's language skills and progress over time, to address questions about the interaction between children's language skills and development and their rates of interaction. To address questions about how conversational experiences might differ for children it was necessary to supplement this analysis, so that data were then considered qualitatively in order to answer questions about the detail of the content and process of interactions. The observational data were triangulated with questionnaire data from the children's parents and nursery/ Reception school staff, to establish whether the children's interactions in the videoed sessions were typical of that reported in a range of other situations.

4.6.3 Definition of language skills

A definition of language as conversational competence was taken as the focus in this study, since it was considered highly relevant to language development in three- to four-year olds (Ochs & Schiefflin, 1983). This model is outlined in Chapter 2.2.4. The original research, documenting the development of discourse skills, was carried out in the context of the home. The skills of gaining attention, articulating clearly, providing enough information for speaker in identifying topic and semantic relations would all seem to be highly relevant in the context of children's developing language skills in an educational context.

4.6.4 Measuring language performance

Assessment measures were selected for the study with the purpose firstly of giving background information about the children's language skills early on in nursery and then to follow their development through nursery and into full-time school. The intention was not to try to demonstrate any causal developmental link, but rather to investigate any relationship between children's language interactions and willingness to talk in the nursery and their language levels. Measures were taken of the children's language skills at the start of the study then at the end of nursery and again one year later at the end of Reception, as a measure of their language development.

Whilst bearing in mind the limitations of different standardised measures, it was necessary to gain some comparative, norm-referenced measure. The decision was made to use a well researched test, that was frequently used by clinical practitioners and researchers and to supplement it with other more criterion-referenced measures as discussed in Chapter 2. It was also desirable to try to gain a measure of the children's own use of language as well as their responses to the pre-ordained items of the standardised test. Combining the use of the two measures provided an assessment of a broader range of aspects of language ability.

A measure of children's narrative skills and development was also felt to be important in view of the fact that narrative discourse is an aspect of language ability showing the most change at the developmental age of three- to four-years (see Table 2.2). During small group discussions in the nursery, children heard stories and talked about shared experiences. The narrative assessment tool gave a measure of the extent to which this

may then be reflected in their language development. As discussed in Chapter 2, narrative represents a social construction, communicating because you have something to say to someone else. In this sense, standardised tests do not involve language as a communication. It might be expected that children who participate more in dialogue in the nursery would gain more experience in linking ideas for communication, so acting as a scaffold for their skills in narration. In this case it would be expected that children with higher rates of interaction during the nursery conversations would also show better scores on the narrative task. The Frog Story (Meyer, 1969) was chosen as the tool for generating children's narratives as it has been frequently used and gives scope for comparison with previous studies.

4.6.5 Making observations

A naturalistic, rather than an experimental approach was taken, in order to investigate the everyday language experiences of children and the adult working with them. As the purpose of this study was to discover how children respond to and use language in the nursery setting, observations needed to be made as natural as possible. This involved the identification of a Nursery Key-worker and group of children with whom she worked consistently, who were willing to have video observations made of their conversations in the nursery.

4.6.6 Selecting the situation

Preliminary observations in the nursery identified daily, organised small group conversations for children with their key worker as part of the nursery routine. Frequently the adult introduced a topic and structured an activity in this situation, in which the group was small enough to allow for each child to be acknowledged and make contributions which could be responded to either individually or on a group basis. Such situations, whilst representing a comparatively small proportion of the children's time in nursery, were noted to be the time at which the children would have the most readily available access to quality talk with an adult. In addition, this arrangement offered the potential for the same few children being present together with the adult on each occasion, which was not necessarily the case during other activities. This allowed for building a bank of recordings of the same participants together.

These conversations were chosen for videoing, therefore, as affording the best chance to record conversations between the same adult and children, whilst representing a situation that is fairly typical in nurseries on a daily basis (e.g. Barratt-Pugh, 1994; Siraj-Blatchford et al, 2003). As discussed in Chapter 3, the literature suggests that small group conversations may offer particular benefits in support of language development and it was therefore considered appropriate to focus on group conversations in the present study. It should be noted, however, that the size of the group, whilst smaller than whole class groups, was somewhat larger than has been considered in the literature as a small group.

4.6.7 Using video recordings

In the present study, detailed analysis of conversation was made possible by the use of video recordings, which could be subject to repeated viewings, from each individual child's perspective. Video was chosen as it was possible to build up a richer picture of interactional detail, to see who was talking and follow direction of gaze to see who they may be talking to, in order to facilitate later coding and transcription. This was particularly important where children's individual voices may not always be audible. It also meant that the video could be reviewed from the perspective of each child in turn to capture their individual interactions.

Making the recordings involved decisions that would influence what would be observed; when to start and stop recording, how to record and from where. For the reasons outlined above, times when all the children were together with the key worker were chosen as the focus of observation. Video recording was started as the children came to sit together. Videoing was continued as long as the group remained together and if the same topic was continued by the adult, recording was extended until all the children had left. It is not possible to record everything, however, and only one viewpoint can be recorded at a time. The decision had to be made for practical reasons to use only one, hand-held camera. In trying to capture the whole group as far as possible then, for example, some children had their backs to the camera at times. This meant that some of the visual and gestural information about their communication was inevitably not available.

4.6.8 Analysing the videos

The aim of a detailed analysis of small group conversations was to help to reveal the relationship between children's language levels and their use of conversational skills in the nursery. The video observations were analysed, initially quantitatively and then qualitatively, to investigate the amount and nature of talk both from the adult to the children and from the children themselves.

The strength of an initial quantitative analysis was that it allowed patterns across the whole data sample to be considered through a count of specific features. This involved counting specific features of the language interactions. Decisions about which aspects of language to analyse arose from the definition of language as conversational competence, as discussed earlier. Features of interaction which would give relevant measures associated with the development of conversational competence would include initiation and response, in terms of gaining attention, and patterns of turn-taking.

4.6.8.1 Initiation and response

Initially, in order to analyse the entire footage, data collection took the form of a count of verbal interactions. Features were chosen which related to the conversational competence of gaining attention for talk, in terms of initiating talk and responding to initiations from others. The count was kept to these simple, operationally defined categories. Although non-verbal features such as gaze or gesture play a key part in communication and language development only verbal interactions were coded in this initial analysis (Flewitt, 2006; Rowe & Goldin-Meadow, 2008, 2009). This decision was in keeping with the focus of the present study on spoken language use and development but was also partly pragmatic, to maintain the manageability of the task. Categories used were driven by reading of the literature and preliminary observations, rather than using any previously developed schedule. At this stage there was no attempt to categorise the actual content or purpose of the language.

As identified earlier, in Section 4.5.1, this method allowed the categorisation of a large amount of data without necessitating lengthy, detailed transcription (Mercer, 2010). However, it did not capture the content of the talk nor allow for any distinction between one word utterances and more lengthy responses. Nor was it possible to gain

insight into the introduction of new content or repetition of a previous utterance, elaboration or repair in conversation. These latter features are important in examining the joint construction of shared meaning in conversation and were examined through a more detailed qualitative analysis.

4.6.8.2 Identification of extended conversations

As the focus was on the development of conversational skills, it was considered relevant also to gain a measure of the number of sequences of conversation in which the child took more than one turn. In the present study a count was made of the number of occasions on which the child made two or more consecutive utterances, with a response from someone (adult or another child) in between. These occasions, where the child made one or more follow-up turns in conversation, were considered as extended turns.

4.6.8.3 Discussion types

In order to explore potential differences in pattern and purpose of interaction, as discussed in Section 4.4.4, it was decided to analyse the data by discussion type as well as by session. During preliminary viewing it became apparent that, within the small group sessions observed, there were distinct differences in types of conversation that occurred on a regular basis, each with a particular purpose. These changes were denoted by the daily routine, as well as the specific teaching function of the small group sessions and were associated with differences in who chose the topic for discussion. Four discussion types were identified; Child-led topic, Routine, Adult-led topic and Individual time and these are further operationally defined in Chapter 5.

4.6.8.4 Selecting cases for qualitative analysis

As the focus for the present study was on identifying experiences in the nursery which may enhance children's language experiences, criteria for selection of cases for further qualitative analysis focussed on episodes in which children were engaged in and contributed to the conversation. In this case the representativeness of the clips chosen was based on operationalizing a definition of extended or sustained talk, as an example of a particular accomplishment in conversation discussed in Section 4.5.2.1 (Jordan, 2009; Siraj-Blatchford, 2009a; 2009b). Specific criteria applied are set out in Chapter 5.

4.6.8.5 Choosing a method for transcription and qualitative analysis

CA offered itself as a recognised method for transcription and analysis, which would yield information directly relevant to three areas of analysis. The iterative process involved allowed the details of the conversation to become transparent, offering opportunities firstly for analysis of topic generation and gaining the floor, secondly on feedback and conversational repair and thirdly examination of the nature of children's interactions as part of a group interaction. CA was chosen, therefore, as a recognised and well used method of transcription which is underpinned for analysis by a model of language as part of social construction.

4.6.9 Using questionnaires to gain other perspectives

In order to gain the perspectives of others and provide triangulation of the data, questionnaire data were collected from practitioners and parents as an addition and comparison to the observational and language assessment data. There was a clear relationship to the research questions posed, with questions focusing directly on the context for talk and, for parents, on aspects relevant to the literature on conversational competence. In addition, the questionnaires were derived from the researcher's direct knowledge of the situation and the participants, increasing the likelihood of the relevance of the questions. The response scales were kept to a three-point verbal scale for simplicity of response and scoring.

The practitioner questionnaire followed a simple format and asked practitioners to use a three-point verbal rating scale to report the amount of talking children did generally with different conversational audiences. The questionnaire for parents further developed the model of conversational competence, being based as it was on "The Pragmatics Profile of Everyday Communication" by Dewart and Summers (1995). The profile draws on Halliday's model of Communicative Functions (Halliday, 1975) with its focus on conversational competence for communication in daily life. The original profile is designed to be administered individually, with the interviewer recording the parent's descriptive responses about their child's use of language for communicative functions, how they respond to communication, and their skills in interaction and conversation. For the purposes of this study, the Profile was adapted to give a three-point verbal rating scale for parents to complete independently, reporting on their

children's language skills in different contexts: initiating conversation and holding the floor; making themselves understood and communicating in different situations.

Chapter 5: Methods

5.1 Participants

Participants were drawn from children attending a 30-place nursery class, at a Local Authority maintained primary school, in a Metropolitan Borough in the West Midlands. The Borough is consistently ranked amongst the twenty most economically disadvantaged in England (Social Disadvantage Research Centre, 2009). The nursery class was chosen, in part, because the school had previously expressed an interest and participated in projects aimed at developing children's language skills. The population of the school was typical of the average population within the borough with around 21% of pupils receiving free school meals.

A total of 19, three- to four-year old children participated in the study in two separate cohorts. The same key worker worked with both cohorts in two successive academic years. The key worker was a female Nursery Nurse who took specific responsibility for the group, known as her 'family group', at registration and other key teaching times. Nine children in Cohort 1 attended a daily afternoon nursery session during 2008/9 and 10 children, who attended morning sessions during 2009/10, were in Cohort 2. Unfortunately it was not possible to recruit the second cohort from afternoon sessions, as nursery numbers were lower in the second year and an afternoon session did not run initially that year.

Table 5.1 gives a summary of characteristics of participants. As can be seen, there were no statistically significant differences in mean age, gender or numbers of children who had English as an additional language between the two cohorts. Within the borough about 27% of children are registered as having English as an additional language, with as many as 141 different languages being spoken, according to the borough's own statistics. After English, Panjabi is the most frequently spoken language (9%), followed by Urdu and Bengali which are spoken by about 3 to 4% of the population. In this sample, 32% of the children were reported by their parents as having a language other than English as their home language. There were no Panjabi or Bengali speaking staff in the nursery class and all staff had English as their first language.

Table 5. 1: Characteristics of participants

	Cohort 1	Cohort 2	Whole sample	Test for significant differences between cohorts
	N=9	N=10	N=19	
Average age at initial assessment in months	45.2 (SD=3.93)	45.5 (SD=3.40)	45.4 (SD=3.6)	$t = -.16$, $p = .87$
Age range at initial assessment in months	40 - 52	42 - 52	40 - 52	
Gender	5 boys; 4 girls	5 boys; 5 girls	10 boys; 9 girls	Two-tailed Fisher exact $p = 1.00$
English as an Additional Language	3 (Panjabi)	3 (2 Panjabi; 1 Bengali)	6	
Special Educational Needs	None	1	1	Two-tailed Fisher exact $p = 1.00$
CELF-Preschool 2 (UK) Mean Standard Score	M=85.11 (SD=15.97)	M=83.80 (SD=15.52)	M=85.17 (SD=15.40)	$t = .18$, $p = .86$

Two of the girls received two years nursery education. This meant that one of the girls in Cohort 1 continued in the nursery after the initial part of the study, with a different key worker, and was still in nursery when re-tested a year later. The other girl, in Cohort 2, was in her second year in nursery when she participated in the study. One of the boys in the second cohort had a recognised Special Educational Need (cerebral palsy) and received additional Local Authority funding and Speech and Language Therapy intervention throughout the study. The children's language levels were assessed at the start of the study using the Clinical Evaluation of Language Fundamentals, (CELF) Pre-School UK (2) (Wiig, Secord & Semel, 2006). Further details on the selection of this assessment and the procedure for use are discussed in Sections 5.4.1.1 and 5.5.1 below. Initial scores indicated that 10 of the children (52%) had scores below 85, that is, one standard deviation below the mean. Three children

(15.8%) had an initial standard score below 70, that is, two standard deviations below the mean. Of the six children learning English as an additional language, five initially scored one standard deviation or more below the mean. (Raw data and cohort comparisons are given in Appendices 6 and 7.) As shown in Table 5.1, mean language scores did not differ significantly between the two cohorts.

5.2 Consent and data storage

Ethical considerations were taken into account, including gaining informed consent, maintaining confidentiality and secure storage of data. The study was passed through University ethical procedures and the Local Authority was kept informed. The benefits of the study, in terms of gaining further insight into children's development of language skills in the nursery, was outlined to parents/guardians and consent was obtained from them, by letter, for each of the children participating. The nursery key worker also gave written, informed consent for videoing of sessions and all participants were given the option to withdraw from the study at any point. (Sample letters are included in Appendix 1.)

In view of the sensitive nature of the data collected, on video, parents/guardians were given the option to choose how widely they were prepared for the videos to be used. All were happy to consent to use of video in a group for initial data collection. One parent did not wish their child to be videoed individually and three parents did not wish videos of their child to be viewed outside the nursery, except by the researcher. These wishes have been respected. Data have been anonymised by assigning a number to each child participating and the data collected have been stored securely. It was agreed that individual results would not be fed back to parents/guardians or nursery staff, as the data was not intended to inform the learning profiles of individual children.

5.3 Piloting

Four visits were made to the nursery setting to observe the types of activity that children and adults were involved in and to assess the feasibility of using video to record adult-child conversation. These initial visits highlighted both the range of situations within which children became involved in conversation with adults and also practical considerations for filming, in particular audibility. The timetable for nursery

sessions involved an initial plenary to greet the children, followed by an adult-led activity on a particular topic for the day. All the children sat together at these times, in groups of about 10 children with their Key-worker. The group at these times was, therefore, consistent in having the same children together with the same adult. During these sessions children were able to initiate conversation with the Key-worker and were invited to respond and contribute. The nursery was also comparatively quiet during these times, maximising the audibility of the recordings.

The nursery followed the Early Years Foundation Stage Curriculum (Department for Children Schools and Families, 2008a) allowing child-initiated free play and independent choice of activity for a large part of the nursery session each day. At these times during the morning or afternoon session children were either involved in free choice, where they may play on their own or with any of the other children in the nursery. Practitioners were available to talk to the children at these times, but conversations between adults and children were not prominent to observe. There were also times when the children took part in whole class groups with all 30 children sitting together. Both of these situations were either not able to offer a consistent group of participants or did not offer frequent opportunities for children to initiate or respond to talk. For these reasons, the decision was taken to make the video recordings during times when the children were sitting with their Key-worker as a group.

5.4 Measures

Two assessment measures of language were selected for use in the study; one standardised assessment, and one more open-ended measure of narrative skills, which does not have a standardised scoring method but has been widely used as a narrative story-telling task. Details are given in the section on materials below.

5.4.1 Materials

5.4.1.1 Clinical Evaluation of Language Fundamentals Pre-school 2 (UK)

The CELF Pre-School 2 (UK) (Wiig et al 2006) was chosen as a standardised language assessment because it is widely available and frequently used by Speech and Language Therapists and Educational Psychologists in the assessment of children's language

skills. The test is designed for use with three- to six- year olds, to give a measure of the child's general language ability as well as providing information about their language and communication strengths and weaknesses. The test gives a Core Language Score, made up from sub-tests that assess receptive language, use of grammatical structures/morphology and expressive single-word vocabulary.

The CELF Pre-School 2 (UK) has been standardised on a sample of almost 500 children in nurseries and primary schools in the UK, representative of the general population for ethnicity and meets high standards of reliability and validity. The test-retest coefficients are given as adequate to excellent for the sub-tests Sentence Structure (.78), Word Structure (.86), Expressive Vocabulary (.90) across the age range. For the composite Core Language Score reliability is indicated as excellent (.91). The test manual gives no specific guidance on the interval between repeat testing, making it clear that the shortest test-retest interval that will not result in significant practice effects has yet to be determined for children as young as those in the sample. A practice effect of 6.8 points was, however, indicated when the test-retest interval was between two and 24 days. The test was designed to assess and identify language-skill deficits in young children and, as such, was constructed to be indicative of language milestones achieved in relation to a child's same-age peers. Sub-tests show expected moderate correlations with the Core Language Score (Sentence Structure .62; Word Structure .65 and Expressive Vocabulary .68), indicating that they measure separate abilities as well as contributing to an underlying language component. As further evidence of validity, the test shows moderate to high correlations with similar language measures as follows: CELF-Pre-school (.86), CELF-4 (.69) and Pre-school Language Scale-4 (.73).

5.4.1.2 Narrative story-telling task

For the purposes of this assessment, the story book, *Frog, Where Are You?* (Mayer, 1969) was used to elicit a narrative. This text was first used in assessment of narrative skills by Berman and Slobin (1994) and has been frequently used in other studies (Botting, 2002; Norbury & Bishop, 2003; Winskel, 2007; Hoffman, 2009; Heilmann et al 2010). There are no published measures of test-retest reliability for this task.

5.4.2 Practitioner Questionnaire

Practitioners were asked to rate the amount of talking shown by each child in different situations; 1-to-1 with an adult, whole-class conversations, small group conversations and at play with other children. A three point verbal rating scale was used, giving the response options of 'A lot', 'Some' and 'Very little'. Sample questionnaires are included in Appendix 4. The practitioner questionnaire was short, but responses showed use of the full range of options on the three-point verbal rating scale in the answers given. The use of such a rating scale meant that there was some interpretation necessary over frequency and this could have been a source of error between participants. It was not possible to carry out a test-retest administration of the questionnaire which would have helped to establish the consistency of such ratings over time.

5.4.3 Parent Questionnaire

A questionnaire was devised, based on "The Pragmatics Profile of Everyday Communication" by Dewart and Summers (1995). There were no published reliability or validity data for this instrument and it was not intended to be a standardised measure. The authors recommended triangulation with data from other sources to establish and examine consistencies and discrepancies. In order to produce a questionnaire for parents to fill in independently, questions were shortened and a three-point scale for responses was introduced; always, sometimes, rarely. (The term parent is used here to refer to the person looking after the child in daily contact at home and includes legal guardians and carers.)

The language of the questions was kept clear and referred to specific behaviours, in an effort to maximise the consistency and stability of responses. Questions related to three aspects of the child's conversational competence as follows: initiating and holding the floor (questions one to five and question eight), repair and making oneself understood (questions six and seven) and talking in different contexts (questions nine to 11). In addition, parents were invited to comment in writing on things their child liked to talk about and to make any other comments about their child's language development that they wished. For a copy of the questionnaire see Appendix 4.

5.5 Procedure

Table 5.2 summarises the procedure for data collection during the study, indicating the sequence and timing of events for each cohort. All assessments were carried out individually with each child by the researcher, a qualified Educational Psychologist, in the familiar setting of the nursery.

5.5.1 Language Assessments

Preliminary testing, to give a baseline measure of children's language skills, was carried out during the first half of the Spring Term, January/February, having given the children time to settle in to nursery in the first term. The assessments were repeated at the end of the Summer Term in nursery. For most children, the gap between assessment times one and two was about five months. In view of the comparatively short interval between assessments one and two, it was considered appropriate to include a longer term assessment a year later for comparison. This third assessment took place, for all but two of the children, at the end of the Reception Year. One of the children in Cohort 1 was completing her second year in nursery at the time of the final assessment. In Cohort 1 only five of the children went on to attend the Reception Class at the same primary school as the nursery; three other children were traced to other schools in the borough where assessment was carried out. The other child had moved away from the borough and so no data could be collected. In Cohort 2 follow-up data was collected for all 10 children, nine of whom had remained at the same primary school as the nursery.

The CELF Pre-School 2 (UK) was administered in accordance with the guidelines in the test manual. For the Narrative assessment, in accordance with the procedure set out by Berman and Slobin (1994), the child was shown the book and asked to look through it and then to tell the researcher the story. The child was given verbal and non-verbal encouragement to continue and questioning such as "then what happened?" was allowed, but no further specific questioning or guidance was given.

Table 5. 2: Data collection points during the study for each cohort

	Year 1			Year 2			Year 3		
	Autumn	Spring	Summer	Autumn	Spring	Summer	Autumn	Spring	Summer
Pilot observations	C1								
Familiarisation with setting/ children	C1	C1		C2	C2				
Language assessment Time 1		C1			C2				
Video observations		C1	C1		C2	C2			
Language assessment Time 2			C1			C2			
Language assessment Time 3						C1			C2
Practitioner questionnaires – Nursery						C2			
Practitioner questionnaires – Reception						C1			C2
Parent questionnaires						C2			

C1 = Cohort 1 C2 = Cohort 2

On the first and second occasions of testing the Frog Story was preceded by a familiar story which was shared with the child to put them at their ease. This was not considered necessary on the third occasion. On the first and second occasions testing was done in two separate sessions, lasting no longer than 15 minutes each. On the third occasion both assessments were administered in the same session, between 20 and 30 minutes long. The data from the assessments at Time 1 and 2 were not scored until after the video observations had been quantitatively coded, to minimise the possibility of researcher bias during observations.

5.5.2 Scoring and reliability

All narrative sessions were videoed and transcribed later by the researcher. Transcripts were then scored according to a set of criteria specifically devised to take account of various aspects of narrative skills relevant for children at this age. Final scoring took place after all the assessments had been completed, to avoid differences between cohorts as a result of practice effects which may potentially affect the reliability of scoring.

A scoring system was devised in line with specific narrative features and scoring methods used in previous studies (Botting, 2002; Dickinson & Tabors, 2001; Heilmann et al 2010; Norbury & Bishop, 2003; Winskel, 2007). Scoring guidelines are given in Appendix 2b. When using such criteria for coding, inter-rater reliability has been reported as 100% for word-level codes and 94.7% for utterance (clause) - level codes (Hoffmann, 2009). The children's scores were scaled in order to give a more even distribution of scores whilst also taking into account several different aspects of narrative skill at the same time (Dickinson & Tabors, 2001). Analysis included a score for length of utterance in morphemes, use of narrative devices (such as opening/closing or dialogue, mention of the problem and resolution), number of conjunctions and number of story elements referred to. Individual responses were scored and ranked and then converted to a composite score with a maximum of 20 points. Details of the ranges and intervals used for scaling are also given in Appendix 2b.

5.5.3 Group video observations

Video observations were made of the children during the small group focussed sessions with their nursery key worker. Between 10 and 12 sessions, varying from about 15 to 40 minutes in length, were filmed for each cohort. Details are given in the section below. This filming took place over the latter part of the Spring Term and the first half of the Summer Term, March to June, between assessments at Time 1 and Time 2. The aim was to gain sample observations of children's participation during small group conversations with their key worker.

5.5.3.1 Making the observational recordings

The children were familiarised with the camera during the researcher's visits in the Autumn and early Spring Terms in nursery and were allowed to handle the camera and view the pictures if they wished. Video recordings were then made of the small group discussions, which observation at the pilot stage had revealed as especially conducive to creating opportunities for adult-child verbal exchanges. All sessions were videoed by the researcher using a hand held camera. During filming, the aim was to include as much of the group as possible at any one time, with minimal use of panning or zooming. Importantly, recording was continuous, avoiding the selection of specific shots, in order to keep open the possibilities for later analysis (Derry et al, 2010).

Video recordings were made over a two-to three-month period, between the last week in March and the first week in June of each year. The average length of session was 23.45 minutes for Cohort 1 (range 13 minutes to 38.46 minutes) and for Cohort 2 33.49 minutes (range 20.43 minutes to 44.50 minutes). This difference was largely a factor of the longer time that the group were occupied in child-led discussion at the beginning of the morning session. Due to pupil holidays and absence, it was necessary to film on more occasions for the second cohort in order to gain a sample of sufficiently comparable length for each of the children. In total, 22 separate occasions were videoed; 10 for Cohort 1 and 12 for Cohort 2. In all, around four hours of recordings were analysed for Cohort 1 and six and three quarter hours for Cohort 2. The average length of recordings analysed per child being 3 hours 5 minutes in Cohort 1 (range 2 hours 35 minutes to 3 hours 31 minutes) and 5 hours 8 minutes in Cohort 2

(range 3 hours 45 minutes to 6 hours). This difference in total length of observations was adjusted for after coding by calculating a Rate per Minute for each child.

5.5.4 Questionnaire data

In addition, a questionnaire was used with the aim of seeking information from others about their perceptions of the children's participation in conversation in a wider range of different situations. Data were collected in the form of questionnaire ratings from the Reception teachers for children in both cohorts and from the nursery key worker and parents for children in Cohort 2. The timing of questionnaire data collection is summarised in Table 5.2. Class teachers were asked to complete the questionnaire at the end of the Reception Year, at the time that follow-up testing was completed (Time 3). In addition, for Cohort 2, the Nursery key worker was asked to complete the questionnaire at the time the children made the transition into Reception Class, reflecting on the children's language skills in nursery.

Time and resources did not allow for a thorough test-retest pilot of either the practitioner or parent questionnaire, which would have provided a reliability estimate of the stability of responses over time. The parent questionnaire was piloted successfully with two parents who had children of a similar age to those in the nursery. The questionnaire was then distributed to the parents by the nursery key-worker involved in the study. An envelope was provided for confidential return and a return rate of 100% was achieved. It was not possible, for reasons of time and resources, to check out the understanding of the meaning of the questions with a parallel group of parents from the same school or a similar school. Neither was it possible to carry out the completion of the questionnaires during a face-to-face interview (see Hoff & Rumiche, 2012). The questionnaire had 11 structured questions and could possibly have been perceived as lengthy to complete for parents, affecting the reliability of responses. All parents, however, wrote a comment of their own in response to the two open questions at the end; an indication that they had read the checklist through and had a high motivation to respond.

Unfortunately the complete set of data were not available for all the children, as the timing of the introduction of the parent questionnaire and that for the nursery key-

worker meant that they were only appropriate to use with Cohort 2. Table 5.3 gives a summary of questionnaire data available.

Table 5. 3: Number of questionnaires collected

	Cohort 1	Cohort 2
Nursery Key worker (following assessment Time 2)	-----	10
Parent (following assessment Time 2)	-----	10
Reception/Nursery Teacher (following assessment Time 3)	5	9

5.6 Analysis

5.6.1 Verbal initiations and responses

Initially a video-log was prepared, giving a brief descriptive summary of key events in each session, for example topics discussed and timings. The entire footage was then coded, except for some short sections moving between locations. The data on each child were analysed separately, direct from the video recordings, using a coding scheme designed to capture levels of initiation and response between: child and adult; the target child and another child; and also between the child and the whole group. The categories were established empirically by examining the observations, rather than through the use of any pre-defined coding. A summary of coding guidelines, giving operational definitions for each category, and an example of the record sheet used is given in Appendix 3. Any verbalisation was included for coding, regardless of length or clarity. Adult initiations were only coded in cases where they could be interpreted as an invitation to talk. For this reason, direct instructions to do something and reprimands were excluded from analysis. Adult initiations could take the form of a question, a statement or a stop in mid-sentence. A “non-response” from the adult to the child’s verbalisation was included on the recording form, but this proved difficult to record and was excluded from the coding early on.

All interactions were coded and categories were then amalgamated to give four key measures of verbal interaction (see section on Inter-rater agreement and reliability, below). Four main categories emerged: (1) *Adult initiations*, a verbal initiation from the

key-worker that gave the opportunity for a verbal response, either directed at a specific child or towards the group as a whole; (2) *Child initiations*, any verbalisation made by an individual child which did not follow on directly from a previous verbalisation; (3) *Responses received by a child*, a verbalisation to the child by the adult, in response to the child's previous verbalisation; and (4) *Responses made by a child*, any verbalisation made by the child in response to verbalisations made by others.

Individual interaction rates were derived for each child on each of the four categories. Frequencies were totalled across sessions (as discussed further in Chapter 6.2) and converted to rates of initiation or response per minute as illustrated in Box 5.1.

Box 5:1: Example to show calculation of different interaction rates per minute for each child

Interaction Measures obtained	Example calculation for Child 1 Adult Initiation rpm
Adult Initiation (AI) Child Initiation (CI) Responses Received (RR) Responses Made (RM)	$\frac{\text{Child 1 (Total AI Sessions 1-10)}}{\text{Child 1 (Total time in mins Sessions 1-10)}} = \text{Child 1 AI rpm}$

5.6.2 Extended turns

In addition, the frequency of verbal interactions in which the child took two or more turns was analysed, as a measure of the development of more extended conversation within the small group discussions (see Chapter 4 for further details). These episodes were identified through examination of the coding sheets, by highlighting times where the child took at least two consecutive turns, starting either with an initiation or a response to another and with a direct response from someone else (adult or child) in between.

5.6.3 Types of discussion

In order to allow for the inclusion of a comparison of interaction patterns within different types of discussion, as discussed in Chapter 4, four discussion types were identified separately in preparation for analysis. The reliability of these categories was

tested through independent co-rating of a sample of the sessions, as discussed below, in the section on inter-rater agreement and reliability.

Four distinct types of discussion were identified within sessions as follows:

Child-led topic. This time was associated with the start of the session, while the group waited for all the children to arrive. Children were free to introduce their own conversational topic to the adult, or other children. The adult did not necessarily hold the floor and conversations may be between the adult and one or more children but not always the whole group. Children were not automatically expected to attend to the adult.

Routine. The focus during this time was on the adult using a familiar routine which could incorporate answering the register; talking about who and how many children were present; talking about the days of the week and singing a familiar song about them. The topic during this part of the session was set by the adult, limited to a set routine and involved a repetitive vocabulary consisting of the days of the week and counting. Children did, however, elaborate by contributing their own observations and questions at times.

Adult-led topic. The focus at this time was on an activity led by the key worker, with a specific purpose in mind. This may have been modelling a practical activity for the children to copy (e.g. painting or cooking); listening to and talking about a story or non-fiction book; talking about a topic, e.g. plants or insects, and relating this to the children's own experiences of growing or seeing something; talking about an experience (e.g. the feel of cornflour and water); meta-linguistic activities such as rhyming or listening for sounds. The largest proportion of the sessions was comprised of this type of discussion.

Individual-time. The session often ended with the children completing a task individually. At these times the conversation may continue on the topic introduced by the adult and be focussed on the specific task, but was less likely to be directed by the adult and children were spoken to individually rather than as a group.

Not every session contained each type of discussion, however, the overall content of sessions was very similar for Cohorts 1 and 2. For both cohorts the mean proportions of time spent in each discussion type, as a proportion of total time for that cohort, were comparable. For both cohorts the largest proportion of recorded time was spent in Adult-led topic discussions. There was, however, a significantly larger proportion of Child-led topic time included in the video observations made for Cohort 2. Conversely, the observations for Cohort 1 included a significantly larger proportion of time in Adult-led topic discussions. See Table 5.4.

Table 5. 4: Mean (Standard Deviation) for proportion of time in each Discussion Type

Discussion Type	Cohort 1 N=9 M(SD)	Cohort 2 N=10 M(SD)	Whole sample N=19 M(SD)	Test for significant differences between cohorts
Child-led Topic	0.05 (0.01)	0.16 (0.04)	0.11 (0.06)	$t = -9.13^{\alpha}$, $p = <.001^{**}$
Routine	0.15 (0.02)	0.13 (0.01)	0.14 (0.02)	$t = 2.25^{\alpha}$, $p = .049^{*}$
Adult-led Topic	0.70 (0.02)	0.61 (0.05)	0.65 (0.06)	$t = 4.41$, $p = <.001^{**}$
Individual Time	0.09 (0.03)	0.10 (0.04)	0.10 (0.03)	$t = -.35$, $p = .73$

^α Equal variances not assumed * $p=0.05$ level, ** $p=0.01$ level

By calculating the time in different discussion types it was also possible to work out individual interaction rates for each child for each discussion type. An example is given in Box 5.2, along with the measures derived.

Box 5.2: Example to show calculation of interaction rates by Discussion Type for each child

Interaction Measures obtained for each Discussion Type	Example calculation for Child 1 Adult Initiation rpm during Child-led topic Discussion Type
Adult Initiation (AI) Child Initiation (CI) Responses Received (RR) Responses Made (RM)	$\frac{\text{Child 1 (Total AI in Child – led topic)}}{\text{Child 1 (Total time in mins in Child – led topic)}}$ $= \text{Child1 AI rpm in Child-led topic}$

5.6.4 Inter-rater agreement and reliability

5.6.4.1 Initiation and responses

In order to determine the reliability of the coding guidelines and method, one entire session from each Cohort was coded blind by an independent rater. The two sessions were chosen so as to be as close as possible to 10% of the time for that cohort and comprised 9% of the total video footage in all. The second rater was trained in the definitions and use of the coding through joint viewing and discussion of a practice session, before independently coding one complete session from each cohort. This coding was then compared to that obtained by the first researcher, using the number of observations made within each category for each child. Next a percentage agreement between the two raters was calculated for each category, using the following formula: $\text{number of agreements} / (\text{number of agreements} + \text{disagreements}) \times 100$. Figures for each category, for each cohort and for the whole sample, are shown in Table 5.5.

It should be noted that children were not always easy to hear, particularly if they were not facing the camera. Frequent reviewing was often necessary to accurately identify who had made a particular utterance. In some cases the number of observations was very small and the agreement between raters in the number of instances observed in such cases fell as low as 53.8% which would be considered marginally acceptable. Discrepancies frequently arose because it was not easy to agree whether, for example, an initiation was being made to the group or to a specific individual; whether a response was directed at an individual or to the group in general. When the subdivisions within the categories were amalgamated to give four broad measures of interaction (see above), percentage-agreement figures were between 80.4% and 96.6%, which would be considered good to excellent as evidence of acceptable inter-rater reliability. The indication was, therefore, that the definitions for the four main categories were robust.

Treating the data in this way does not establish that the same instances have been observed, simply agreement in the number of instances observed overall. The number

Table 5. 5: Inter-rater percentage agreement for categories of verbal interaction, separate and combined

	AtoGp		AtoTC		AI		TCtoG		TCtoA		TCtoC		CI		ARtoGp		ARtoTC		RR		RtoAGp		RtoATC		RtoAAn		RtoAnC		RM	
Cohort 1	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2
Child 1	27	27	15	16	42	43	12	10	6	6	0	0	42	43	2	2	9	8	11	10	11	13	10	9	0	0	0	0	21	22
2	21	24	2	2	23	26	0	1	1	0	3	2	23	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	23	23	4	4	27	27	4	2	1	2	0	0	27	27	7	6	3	2	10	8	19	18	1	3	0	0	0	0	20	21
5	24	25	6	6	30	31	0	0	0	0	0	0	30	31	0	0	1	0	1	0	0	0	2	2	0	0	0	0	2	2
6	22	22	5	5	27	27	1	1	7	4	4	4	27	27	1	0	6	7	7	7	3	3	1	1	1	1	0	0	5	5
7	24	24	5	3	29	27	1	1	16	16	1	0	29	27	2	1	12	14	14	15	8	10	3	3	1	1	0	0	12	14
8	25	24	9	8	34	32	3	2	4	4	2	3	34	32	1	3	10	9	11	12	7	8	8	7	0	0	0	0	15	15
9	22	23	8	6	30	29	1	1	2	2	0	0	30	29	1	1	5	7	6	8	3	4	5	4	0	0	0	0	8	8
%Agreement	96.9%		89.1%		95.5%		73.9%		86.8%		72.7%		80.6%		68.8%		82.4%		79.1%		87.7%		84.4%		50%		100%		94.2%	
Cohort 2																														
10	60	59	12	14	72	73	1	0	12	9	2	0	15	9	2	1	15	17	17	18	11	8	9	13	2	0	1	0	23	21
11	63	66	7	8	70	74	0	0	8	5	0	0	8	5	2	1	6	8	8	9	10	12	5	7	0	1	0	0	15	20
12	57	57	13	9	70	66	0	0	0	0	1	0	1	0	0	0	3	4	3	4	3	2	2	4	0	0	0	1	5	7
13	66	62	5	8	71	70	1	3	9	8	3	3	13	14	2	2	9	9	11	11	9	11	4	5	6	4	1	2	20	22
14	64	64	5	4	69	68	0	0	0	0	0	0	0	0	1	1	2	2	3	3	2	2	3	3	0	0	0	0	5	5
15	60	60	3	3	63	63	0	0	0	0	0	1	0	1	3	1	0	1	3	2	3	3	3	2	0	0	0	0	6	5
16	57	61	14	8	71	69	3	4	4	3	3	3	10	10	1	2	5	5	6	7	8	9	6	7	2	0	1	3	17	19
17	54	57	5	5	59	62	1	2	3	5	7	5	11	12	2	2	5	6	7	8	11	12	2	3	1	1	3	4	17	20
18	60	58	3	2	63	60	0	0	0	0	0	0	0	0	2	0	0	2	2	2	1	0	2	2	0	0	0	0	3	2
19	58	58	8	7	66	65	9	10	18	21	10	8	37	39	12	7	46	50	58	57	44	43	31	32	6	6	2	2	83	83
%Agreement	97.5%		80.3%		96.9%		75.0%		78.0%		63.0%		85.0%		57.1%		87.5%		81.1%		88.9%		84.6%		61.1%		53.8%		90.5%	
Cohort 1&2																														
%Agreement	97.4%		84.0%		96.6%		74.4%		81.4%		65.8%		83.1%		61.4%		85.8%		80.4%		88.5%		84.5%		59.1%		53.8%		91.6%	

% Agreement = (Agreements/Agreements + Disagreements) x 100 For category codes refer to Appendix 3. Combined categories appear in bold print.

of separate observations exceeded 1,500 in total, making it unfeasible to cross-match each instance. This method of blind-coding was selected at this stage of the data analysis, because it enabled a check on the transparent and comprehensive nature of the coding guidance. The alternative method of asking a second rater to check, for appropriateness of category, the instances previously arrived at by the first researcher, precludes the possibility of cross-checking for the occurrence of other significant verbal behaviours. Very few instances of verbal behaviours were recorded in the “other” column by either rater, indicating the inclusive nature of the categories.

5.6.4.2 Discussion types

Confirmation for the reliability of the identification of the four distinct discussion types within sessions was established by asking an independent co-rater to observe a random selection of sessions. After jointly viewing a practice session and discussing the definition for each discussion type in relation to what was viewed on the video, the co-rater was asked to select at random 6 sessions, 3 from each Cohort, comprising 35% of the total number of video sessions. Using the descriptions given above (see Types of discussion) transition points were identified and each sub-section was assigned to one of the four categories. This was then compared to the number, types and length of sessions identified by the first researcher in the same six sessions.

At a broad category level there was 100% agreement in the number of transitions identified and the category to which each sub-section was assigned. Kappa for the agreement between the ratings of Rater 1 and Rater 2 was, therefore, 1.00, indicating a highly significant agreement ($p= 0.001$). Further analysis of percentage agreement for length of the sub-sections identified indicated agreement between 93 -100%. (See Appendix 5.)

5.6.5 Individual and Group Comparisons

As one of the aims of the study was to explore the relationship between children’s conversational experiences and their language skills, the data were analysed for children individually when working out interaction rates. (See Box 5.1 and 5.2.) The disproportionate effect of one individual’s scores on the group data was considered and, where referred to in the text, group means were calculated with and without a particular individual score to investigate any effects of this. For the purposes of further

comparison, the data were divided into two groups based on initial CELF Pre-School 2 (UK) score, using a cut-off point of Standard Score 80 and below, being 1.5 standard deviations below the mean. Nine children fell below the cut-off point, whilst ten scored above this level.

Interaction measures were compared to each other for the sample as a whole and across discussion types, using statistical analysis to examine opportunities offered for verbal interaction. Interaction patterns were then compared to initial language measures at Time 1, to analyse the relationship between children's language levels and their verbal interaction patterns. This was then repeated for data at Time 2 and Time 3, to look at the relationship over time.

5.6.6 Statistical Analysis

All statistical analysis was carried out using Statistical Package for the Social Sciences (SPSS) version 16 and version 20. Prior to statistical testing, data was inspected through the use of bar charts, histograms and scatter-grams to establish the homogeneity of the data across participants. Parametric statistics were used, except where the sample size was considered too small or the distribution of the variable to be analysed could not be assumed to show a normal pattern of distribution across the sample. In these cases, where comparing the data on the basis of two groups, the Mann-Whitney *U*-test was used as an alternative to the unrelated *t*-test and the Wilcoxon test was used in place of the related *t*-test. In comparing differences in frequency data between samples, the Fisher exact test was used instead of chi-square where expected frequency for one or more cells was less than five.

Correlations were established using partial-correlation calculations, controlling for age where raw scores were used. The effects of age were partialled out in this way, because language scores may be affected by increase in age. Analysis of Variance (ANOVA) was used to make multiple comparisons in scores over time and between different types of discussion. In some cases where ANOVA Repeated Measures was applied Mauchly's test of sphericity was statistically significant, indicating that variance was not equal between groups of scores. Consequent adjustment was made by using Greenhouse-Geisser as the alternative test of significance for within-subject effects,

thus making adjustment to significance levels required by adjusting the degrees of freedom. Effect sizes are reported as partial eta squared, derived from the analysis using the general linear model, as an estimate of the variance in the dependent variable accounted for by the independent variable. As multiple comparisons increase the probability of getting a significant result by chance, a conservative Bonferroni correction was applied where multiple comparisons were made. The probability of .05 was divided manually by the number of comparisons being made, i.e. where there were three conditions a probability of .01 ($.05/3$) was used as a level for indicating a statistical significance.

5.6.7 Qualitative Analysis: Conversation Analysis

Following initial quantitative coding and analysis, episodes for qualitative analysis were identified according to the criteria set out below.

5.6.7.1 Selection of conversational episodes

Preliminary viewing indicated that there were few episodes that could be identified from the video log where children became involved in a more extended dialogue on a topic, either individually or as a group. Using definitions such as Jordan's (2009) co-construction and Siraj-Blatchford's (2009a; 2009b) sustained shared thinking (see Chapters 3 and 4) as a starting point for selection of key conversations, the entire footage was reviewed to select cases where there were extended turns on a topic from one or more children. In addition one or more of the following conditions was also required: the children asked further questions or gave information about personal experiences and knowledge; the adult shared their own thinking or asked for further information from the child; there was a quality of curiosity, excitement or genuine interest from adult and children; one or more other children joined in and contributed without initial prompting by the adult. All the videos were reviewed and potential cases identified. As sequences of talk form the focus for analysis, only episodes lasting more than one minute were included. This initial sift, then, yielded episodes in nine sessions from each cohort and rough transcripts were made of the relevant sections. Sequences of talk that met the specific criteria outlined above were then reviewed using the detailed transcription method described in the next section.

5.6.7.2 Transcription method

Once a particular case had been selected the relevant video clip was imported into Inqscribe (2009). This software programme enables simultaneous viewing and typing and the insertion of accurate time references at any point. It is also possible to slow down the speed of viewing and to review parts of the video repeatedly at the press of a key.

The video clips were transcribed using conventions from Conversational Analysis, following transcription guidelines developed by Gail Jefferson, as adapted in Have (2007). Participants were identified as Adult (A) or Child (C) followed by the child's number in the original data collection exercise, as an identifier. Words were transcribed using standard orthography, except for local dialect, to maintain the intelligibility of the talk. Indication was given where words were uncertain or inaudible. Pauses were indicated, and where noticeably long the time in seconds was recorded. In order to be able to analyse turn-management, overlapping speech was denoted and represented as such by their alignment in consecutive lines of speech. Where latching of one utterance to the next occurred, that is no gap between speakers, this was also indicated. A summary of the transcription conventions used is given in Appendix 9.

Transcription and analysis took place cumulatively, through repeated viewing, starting with standard orthography and adding one more feature (e.g. pauses or overlaps) at each round. In this way the researcher became very familiar with the details of the interaction. The transcript was then interrogated line by line with the following questions in mind: how is the speaker of the turn selected (for example by self-selection or by the previous speaker?); who responds in a turn, in terms of taking up the topic offered or otherwise and how is this effected?; what work does that turn achieve, in terms of what happens next? Careful consideration was given to the significance of the vocabulary chosen, pauses, emphases, interruptions and overlapping talk. A commentary on each episode was then constructed to elucidate the themes that emerged from the line-by-line analysis. Additional episodes were subsequently viewed to confirm or further develop the understandings arrived at, building up a comparative analysis of the work done by particular sequences of talk and their interactional patterns and allowing consideration of their outcomes and

consequences. Reliability of CA was established through presentation of the transcribed episodes alongside the analysis as discussed in Section 4.5.2.3., making the data directly available to show the relationship to the findings and allow possible alternative analysis by the reader.

The selection of episodes was intended to be illustrative and illuminative, rather than exhaustive. Conversations were chosen to ensure that each child was represented at some point, as were each of the Discussion Types identified in the quantitative analysis. Information on the sessions included for detailed transcription and their general focus for conversation is given in Table 5.6.

Table 5. 6: Summary of sessions included for Conversation Analysis and their focus

	Discussion Type			
	Child-led	Routine	Adult-led	Individual-time
Cohort 1	Session 10 - Birthday	Session 4 - Holidays	Session 1- Mother's day Session 2 – The Very Hungry Caterpillar (story) Sessions 7&8 - Snails	Session 10 - Gloop
Cohort 2	Sessions 18&20 - Cartoon characters Session 17 - Clothes	Session 2- Letter sounds	Session 20 – Gloop Session 21 – Caterpillars Session 14 – Mini-beasts	Session 19 – Painting

5.6.8 Questionnaire Analysis

5.6.8.1 Practitioner Questionnaires

For the purposes of analysis each category was assigned a numerical variable as follows: 3, Always; 2, Sometimes; 1, Rarely. A non-parametric statistical analysis, using Wilcoxon Test, was carried out to compare rankings between Nursery and Reception practitioners. Data for nine children only was available for this comparison. Further comparisons, using Mann-Whitney *U*-test, were made between different sub-groups of children, to look for differences in mean ratings. Comparisons were made on the basis of language level, as measured by the child's initial score on the CELF Pre-School 2 UK; English as a first or an additional language; gender and age. In comparing for age, Cohort 2 was divided into the oldest five and youngest five, giving a cut off date of 31st

May. This same date was then applied to the six children in Cohort 1 for whom data were available.

5.6.8.2 Parent Questionnaires

Despite the successful pilot trial, the questionnaire proved problematic to analyse simply, because some parents responded to every question, as intended, whereas others gave answers only to one option in each section. See examples, Box 5.3.

Box 5.3 showing comparison of different responses to questionnaire completion for the parental questionnaire

Example showing all questions in the section answered

		Always	Some-times	Rarely
4	My child takes part when we are together by			
	- pointing, smiling and gestures		✓	
	- words and phrases	✓		
	- talking in sentences.			✓

Example showing only partial response to the section

		Always	Some-times	Rarely
4	My child takes part when we are together by			
	- pointing, smiling and gestures			
	- words and phrases	✓		
	- talking in sentences.			

Nevertheless, responses for each question were collated separately, with different numbers of responses available for different questions. For the purposes of comparison each question was analysed separately. Inspection indicated that for each question responses fell largely or solely within two of the response categories. In each case the response category with the fewest responses was combined with the next category to give two categories which could be subject to a cross-tabular analysis,

using Fisher exact test, for each question. Parental responses to the two descriptive questions were collated for comparison.

The next three chapters summarise the findings from the present study. Firstly, Chapter 6 reports on the quantitative analysis of interactions, gained from the complete body of the video recordings, alongside the results of the language assessments. In Chapter 7 the themes that emerged from the qualitative analysis are elaborated. Chapter 8 then reports the analysis of practitioner and parent questionnaires for comparison with the observational data.

Chapter 6: Findings: Interaction rates and language levels

6.1 Overview of the chapter

In order to examine the opportunities for verbal interaction offered during the small group conversations videoed, the observational data will be considered first, looking at interaction rates for the group as a whole. Next, the relationship between individual children's rates of verbal interaction in the group conversations in the nursery and their language skills at initial assessment is analysed. Analysis then moves to the data from the narrative assessments as well as the CELF Pre-school 2 (UK) and the relationship is examined between interaction rates and changes over time in language skills, to explore whether those children who talked most in this situation made the most progress on the measures of language skills. Finally other factors that may have been associated with differences in patterns of interaction and language skills, such as gender, age and English as an Additional language are reported on. In each case the data were analysed separately for Cohorts One and Two at first and where significant differences were found these are referred to, otherwise the data are presented as merged. The data are given separately for each of the two cohorts in Appendix 6, along with significance test comparisons of the difference between means.

6.2 Observed interaction patterns

Looking at the opportunities that might be afforded by the small group conversations chosen for video recording, analysis focused initially on a quantitative measure of rates of verbal behaviour from both the adult and individual children. Next consideration was given to situations in which more extended initiation and response sequences developed, as extended turns. Finally, distinguishing different types of discussion, on the basis of the nature of the topic and who led that choice, allowed for further examination of potential differences in verbal interaction patterns.

6.2.1 Variation in rates of interaction over sessions

Examination of the data over sessions indicated no significant trends over time, as illustrated in Figure 6.1. Table 6.1 gives a summary of the results of the statistical

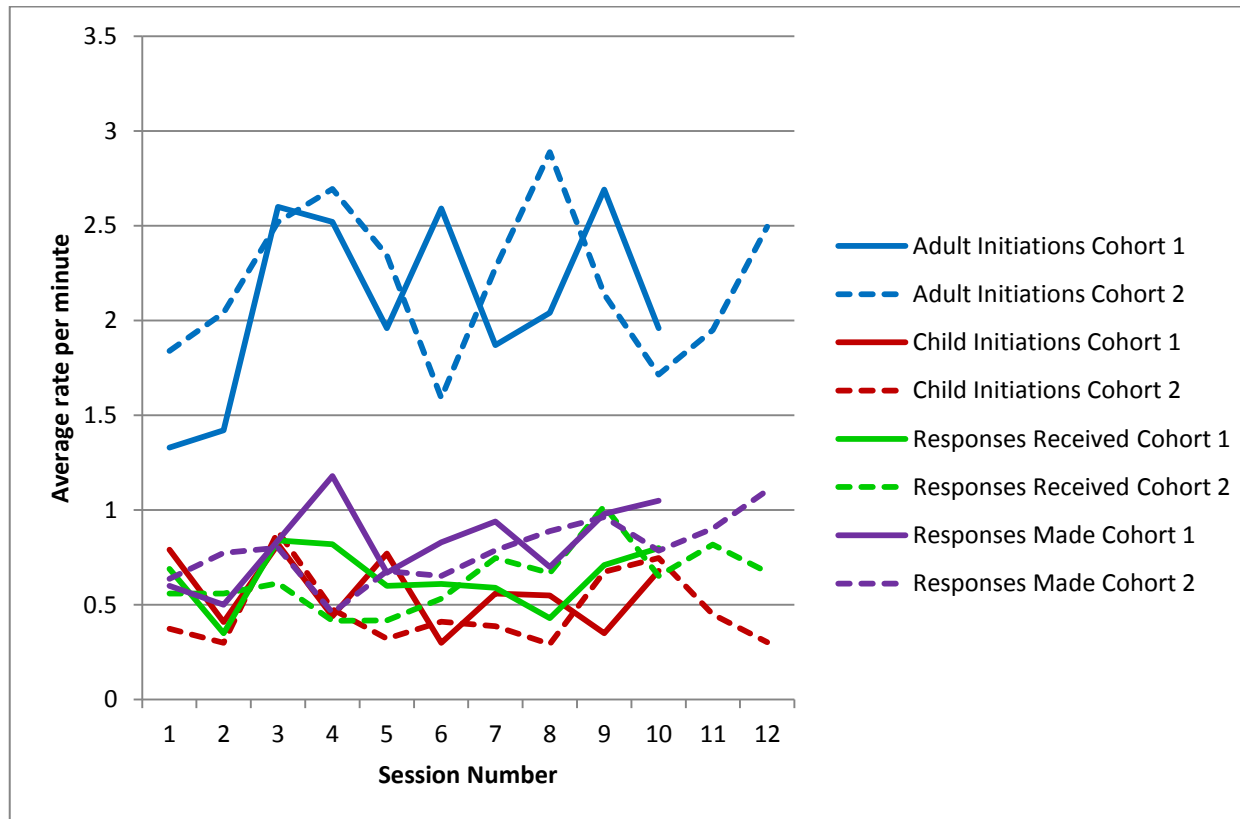


Figure 6. 1: Line graph showing patterns of verbal interaction as a function of session for Cohorts 1 and 2.

analysis using the Mann-Whitney *U*-test to compare the first block of sessions to the second block for each Cohort. For Cohort One, the analysis confirmed that when the first five sessions were compared to the later sessions (six to ten) there were no significant differences in average rates of interaction. For Cohort Two initial analysis revealed no significant differences between the first six sessions and the latter six for average rates of Adult Initiations and Child Initiations, but there was a significant difference for the average rates of Responses Received and Responses Made. Further examination of the data indicated that Child 19 scored very much higher than all other children (see Appendix 8) on these measures, impacting disproportionately on the average rates. When data for Child 19 was excluded from the analysis, the Mann-Whitney *U*-test found no significant differences between sessions 11 to 16 as compared to sessions 17 to 22.

Table 6. 1: Summary of comparison of rates of interaction between sessions (Mann-Whitney *U*).

	Adult Initiation Rate	Child Initiation Rate	Responses Received Rate	Responses Made Rate
Cohort One: Sessions 1-5 compared to Sessions 6-10.	<i>U</i> =8.50 <i>p</i> =.42	<i>U</i> =6.00 <i>p</i> =.22	<i>U</i> =10.00 <i>p</i> =.69	<i>U</i> =7.00 <i>p</i> =.31
Cohort Two : Sessions 11- 16 compared to Sessions 17-22.	<i>U</i> =17.00 <i>p</i> =.94	<i>U</i> =17.50 <i>p</i> =.94	<i>U</i> =0.00 <i>p</i> =.002**	<i>U</i> =2.00 <i>p</i> =.01**
Cohort Two excluding Child 19: Sessions 11- 16 compared to Sessions 17-22.	<i>U</i> =17.00 <i>p</i> =.94	<i>U</i> =15.00 <i>p</i> =.70	<i>U</i> =10.50 <i>p</i> =.24	<i>U</i> =14.50 <i>p</i> =.60

***p* < .01

As data were not available for each child for every session, it was not possible to carry out a repeated measures analysis of variance for individuals over sessions and group averages were used instead for comparison. This did mean, however, that it was not possible to conclude that individual children did not vary across sessions. In view of the confirmation of the null hypothesis that there was no significant difference in group

averages, it was considered appropriate to merge the observations across sessions for each child, to derive overall individual measures of interaction.

6.2.2 Adult Talk

6.2.2.1 Percentage of Adult Initiations to the Group and to Individual Children

Through the coding it emerged that the adult provided opportunities for the children to talk, both by general invitations to the group as a whole and through initiations addressed to specific, individual children. The difference between these two coding categories was robust in terms of inter-rater reliability (see Table 5.5). Comparison of the percentage of initiations addressed to the group and to specific individuals is given in Table 6.2. There was, however, a significant difference between cohorts, with Cohort One receiving proportionately more Adult Initiations to Individual Children, whilst Adult Initiations to the Group occurred relatively more frequently to Cohort Two (Chi-square (1) = 13.19, $p < .001$).

Table 6. 2: Number and percentage of adult verbalisations initiated to the group and to individual children.

	Number of Adult Initiations to Group	Number of Adult Initiations to Individual Children
Cohort 1	382 (43.81%)	490 (56.19%)
Cohort 2	743 (51.60%)	697 (48.40%)
Overall	1125 (48.66%)	1187 (51.34%)

6.2.2.2 Proportion of Adult-Child Interactions

As shown by the data in Table 6.3, a minority of the interactions were made by one child to another, indicating the majority of interactions occurred between the adult and the children. Overall only 15.7% of verbal interactions initiated by a child were addressed to another child, although there was a wide range among children in this respect (0.0% to 43.7%). Similarly, only 5.5% of the responses made by children were made to another child (range 0.0% to 31.5%). However, the data also showed a significant difference in the proportions between cohorts. A significantly greater percentage of child initiations (Chi-square (1) = 22.57, $p < .001$) were made to other children in Cohort Two than in Cohort One. Similarly a significantly greater percentage

of responses were also made to other children in the observations of Cohort Two than in Cohort One (Chi-square (1) = 9.69, $p = <.01$).

Table 6. 3: Number and percentage of child initiations (CI) and responses made (RM) to other children.

	Total CI	CI to another child	% CI to another child	Total RM	RM to another child	% RM to child
Cohort 1	986	113	11.46%	1358	46	3.39%
Cohort 2	1429	266	18.61%	2405	162	6.74%
Overall Total	2415	379	15.69%	3763	208	5.53%

6.2.3 Children's talk

6.2.3.1 Cohort differences in rates of interaction

Statistical analysis showed there was no significant difference between Cohort One and Two in three of the primary measures of interaction (see Appendix 6b). The rate of Adult Initiation (to the group and individual child) between the two cohorts did differ significantly ($t(17) = -2.47, p = .02$), however, with the mean rate of initiations being significantly lower for Cohort One ($M=2.02, SD= 0.16$) than for Cohort Two ($M=2.17, SD=0.11$). The rate of Adult Initiations addressed to individual children, when general initiations to the group were excluded, did not differ significantly between the two cohorts. Figure 6.2 shows that one particular child, Child 19, had a much higher rate of initiating and responding than any other child in either cohort, whilst receiving the lowest rate of individual adult initiations. When the data were compared excluding Child 19, however, statistical significance was not affected (Appendix 6b).

6.2.3.2 Rates of interaction

Figure 6.2 illustrates the variation amongst the children's own rates of initiation and responses made and also the number of responses they received. Less variation was shown in the rate of initiations made by the adult to the children because the proportion of Adult to Group initiations included within this figure would be a constant factor for all children. Table 6.4 gives the Means and Standard Deviations for rates of verbal interaction in each of the four main categories identified.

Table 6. 4: Mean (Standard Deviation) rates per minute for the four measures of interaction.

	Initiations from adult (to group and individual) rpm	Initiations by child rpm	Responses received by child rpm	Responses made by child rpm
Mean	2.10	0.51	0.60	0.76
(SD)	(.16)	(.44)	(.60)	(.69)

6.2.4 Extended turn-taking

In order to begin to examine children’s opportunities for more conversational use of language, rather than a single verbal response, a count was made of the number of occasions on which children made two or more consecutive utterances, with a response from someone else (adult or child) in between. The definition of such extended turns is given in Section 5.6.2.

6.2.4.1 Proportion of talk in extended turns

Analysis suggested that the majority of talk was not part of an extended conversation for children. Data on the number of extended turns, as a comparison with the total number of turns, for each child is illustrated in Figure 6.3. Overall, 28.62% of child talk was part of an extended turn exchange. There was variation between children, with some children having a larger percentage of their talk in extended turns. The range was from 10% to 56.2%, but as some children spoke very little indeed, this latter figure (56.2%) actually made up 13 turns from a total of only 23 turns for one child.

6.2.4.2 Initiation of extended turns

A count revealed that a roughly equal number of these extended turns were initiated by the adult and by the children. There was no significant difference in the number of child-initiated and adult-initiated extended turns (Wilcoxon, $N= 19$, $z= -0.26$, $p= .98$). Of a total of 590 extended turn conversations, 264 were initiated by the adult and 287 were initiated by a child to the adult, with a further 29 being started by a child in response to an adult talking to another child. Only 10 of the extended turn interactions were initiated by a child to another child.

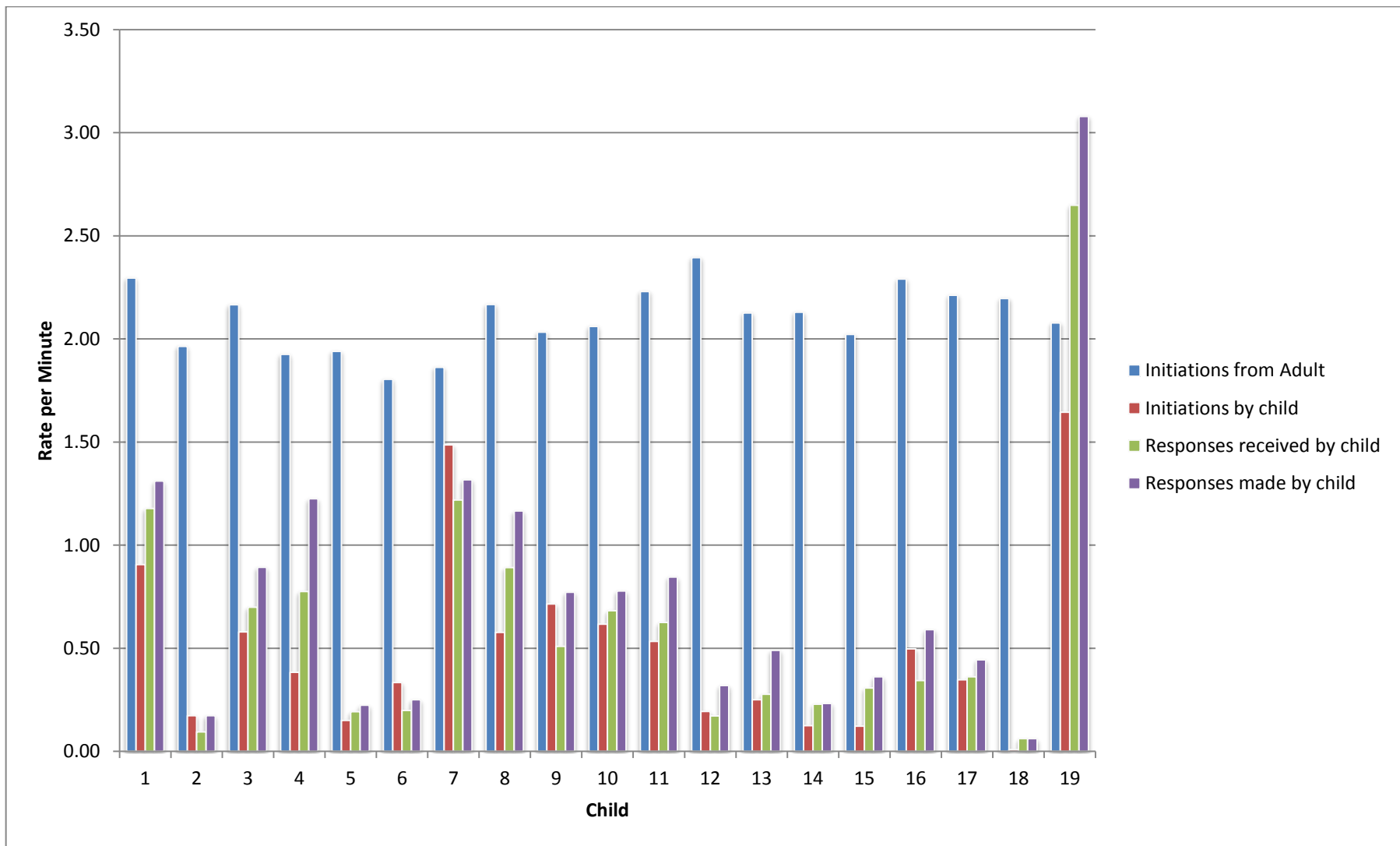


Figure 6. 2: Bar chart showing patterns of verbal interaction for individual children.

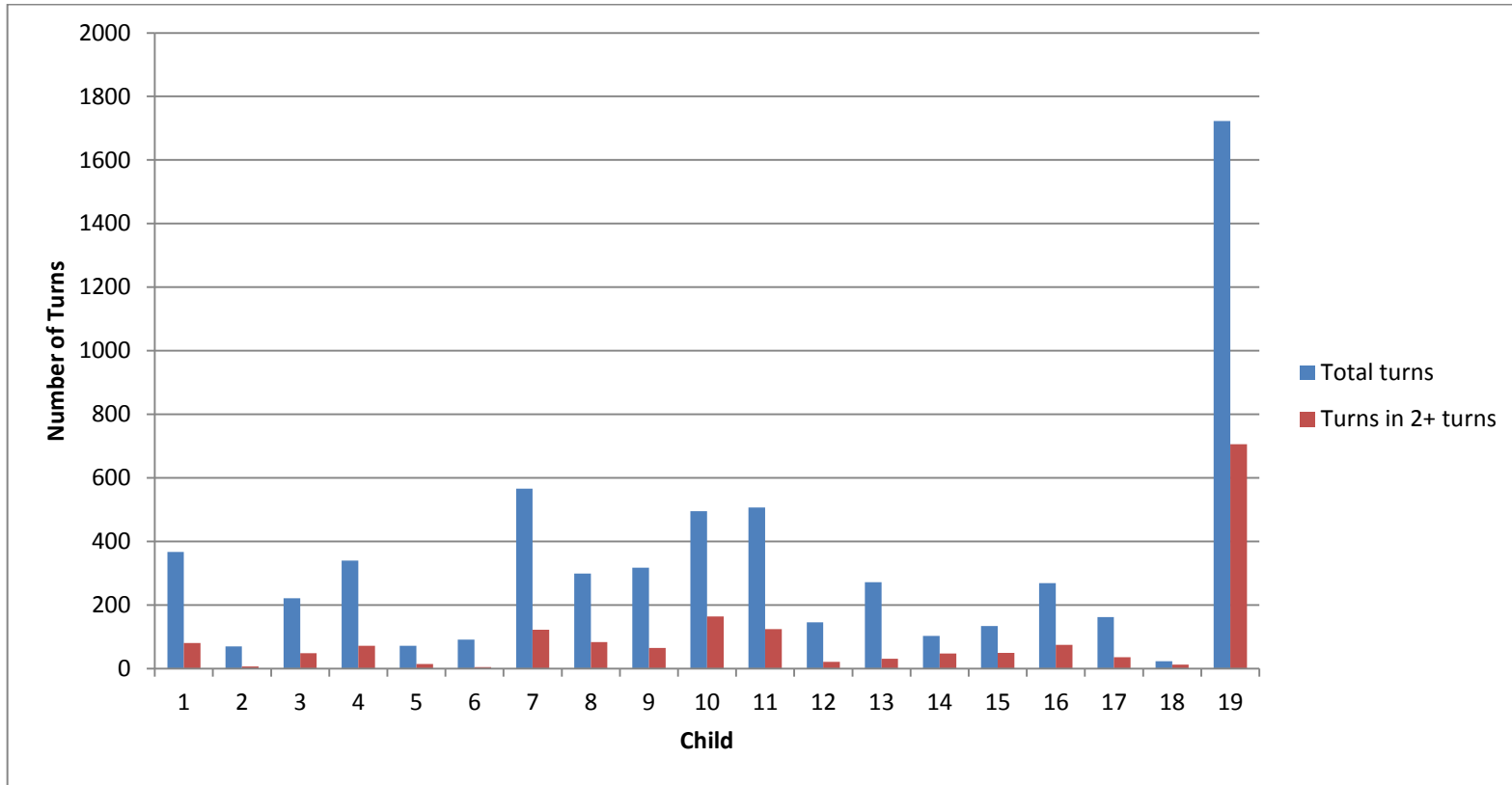


Figure 6. 3: Bar chart showing the number of extended turns in conversation compared to total number of turns.

6.2.5 Correlations between different interaction rates

A partial correlation analysis, controlling for age, revealed strong positive correlations between children's rates of initiation, responses received and responses made. There was no significant correlation between the rate of Adult Initiations and any of the other verbal interaction measures. With regard to the percentage initiations for children's extended turns in conversation, a negative correlation was indicated between the percentage of the child's extended turns that were adult-initiated and the percentage of extended turns that were child-initiated, but the data here were confounded as the two categories were mutually exclusive. Overall, there were no significant correlations between children's rates of initiation or response and the percentage of extended turns that they initiated. See Table 6.5 for a summary.

Table 6. 5: Correlations between measures of verbal interaction.

	1	2	3	4	5	6
1 Adult Initiation Rate	–					
2 Child Initiation Rate	-0.17	–				
3 Responses Received Rate	-0.12	0.92**	–			
4 Responses Made Rate	-0.12	0.91**	0.99**	–		
5 % Extended Turns Child Initiated	-0.21	0.44	0.28	0.28	–	
6 % Extended Turns Adult Initiated	-0.03	-0.44	-0.25	-0.27	-0.87**	–

** $p < .01$

Differences between children's rates and patterns of interaction in relation to their language levels are further explored later in this chapter. First differences in the overall interaction patterns within sessions will be considered, to examine the different opportunities afforded for verbal initiation and response.

6.2.6 Discussion Types

6.2.6.1 Comparison of interaction rates in different types of discussion

Interaction patterns differed with discussion types across sessions, when the interaction rates for all children were considered together. A one-way repeated measures Analysis of Variance showed a significant effect for discussion type on the rate of Adult Initiations, Child Initiations and Responses Received, but not for Responses Made, as summarised in Table 6.6. Pair-wise comparisons indicated that the rate of Adult Initiations was higher during Routine and Adult-led discussion types than in Child-led or Individual Time. Rates of both Child Initiation and Responses Received were higher during Individual Time compared to all other types of discussion. The rate of Responses Made did not differ significantly overall between discussion types, but the rate was significantly higher in Routine than in Adult-led discussions. Discussion type accounted for about 60% of the variance in the rate of Adult Initiations and about 40% of the variance in the rate of Child Initiations and Responses Received.

6.2.6.2 Extended turns in different discussion types

In order to compare the relative occurrence of extended turns in different discussion types, percentages were used. The number of extended turns in each discussion type, as a percentage of the total number of extended turns, was compared to the percentage of total time in the discussion type. Data are given in Table 6.7. Statistical analysis revealed the number of extended turn interactions to be distributed proportionately across the different types of discussion, except for during Routine type discussions, where the proportion of extended turns was significantly less in comparison to the proportion of time. This appeared to be the case, even when the very large proportion of talk from Child 19 was analysed separately, as illustrated in Figure 6.4.

Table 6. 6: Summary of Analysis of Variance for four measures of verbal interaction during different Discussion Types.

Verbal Interaction Measure	Discussion type								Analysis (one-way repeated measures ANOVA) and pair-wise comparisons (Bonferroni , $p = .01$)
	1.Child-led		2.Routine		3.Adult-led		4.Individual time		
	M	SD	M	SD	M	SD	M	SD	
Adult initiations	1.16	.65	2.42	.67	2.43	.29	.96	.60	Main effect : $F(1.23,22.11)=29.28, p<.001$; Partial $\eta^2 =.62$ Pair-wise comparisons: 1:2 $p<.001$, 1:3 $p<.001$, 1:4 ns 2:3 ns, 2:4 $p<.001$, 3:4 $p<.001$
Child initiations	.46	.53	.36	.33	.49	.46	.84	.59	Main effect: $F(2.12,38.13)=13.17, p<.001$; Partial $\eta^2 =.42$ Pair-wise comparisons: 1:2 ns, 1:3 ns, 1:4 $p<.001$ 2:3 ns, 2:4 $p<.001$, 3:4 $p=.001$
Responses received	.64	.70	.48	.58	.56	.63	.97	.67	Main effect: $F(2.10,37.83)=11.92, p<.001$; Partial $\eta^2 =.40$ Pair-wise comparisons: 1:2 ns, 1:3 ns, 1:4 $p=.01$ 2:3 ns, 2:4 $p<.001$, 3:4 $p=.001$
Responses made	.78	.70	.91	.73	.71	.75	.84	.65	Main effect: $F(1.87,33.64)=1.22, ns$; Partial $\eta^2 =.06$ Pair-wise comparisons: 2:3 $p=.01$ otherwise ns

Table 6. 7: Mean (Standard Deviation) percentages of time and extended turns as a function of Discussion Type.

Discussion type	% Time	% Extended Turns	Wilcoxon <i>z, p</i>
Child-led topic	10.76 (5.80)	13.79 (16.72)	<i>z</i> = -0.48 <i>p</i> =.63
Routine	14.37 (2.01)	4.74 (6.01)	<i>z</i> =3.70 <i>p</i> =.001**
Adult-led topic	65.23 (6.19)	64.11 (26.40)	<i>z</i> =-0.2 <i>p</i> =.84
Individual-time	9.63 (3.24)	17.32 (18.30)	<i>z</i> =-1.45 <i>p</i> =.15

***p* < .01

Finally, Figure 6.5 shows a comparison of the percentages of extended turns initiated either by the child, the adult, or from the child responding to the adult talking to another child during each of the four different types of discussion. Comparing the number of child and adult initiated extended exchanges in different types of discussion (see Table 6.8) revealed no significant differences between their observed and expected frequency (Chi-square (3) = 6.51, *p* = .09).

Table 6. 8: Number of extended turns initiated by child or adult during each Discussion Type.

Discussion Type	Child Initiated	Adult Initiated
Child-led topic	49	25
Routine	23	24
Adult-led topic	184	178
Individual time	34	35

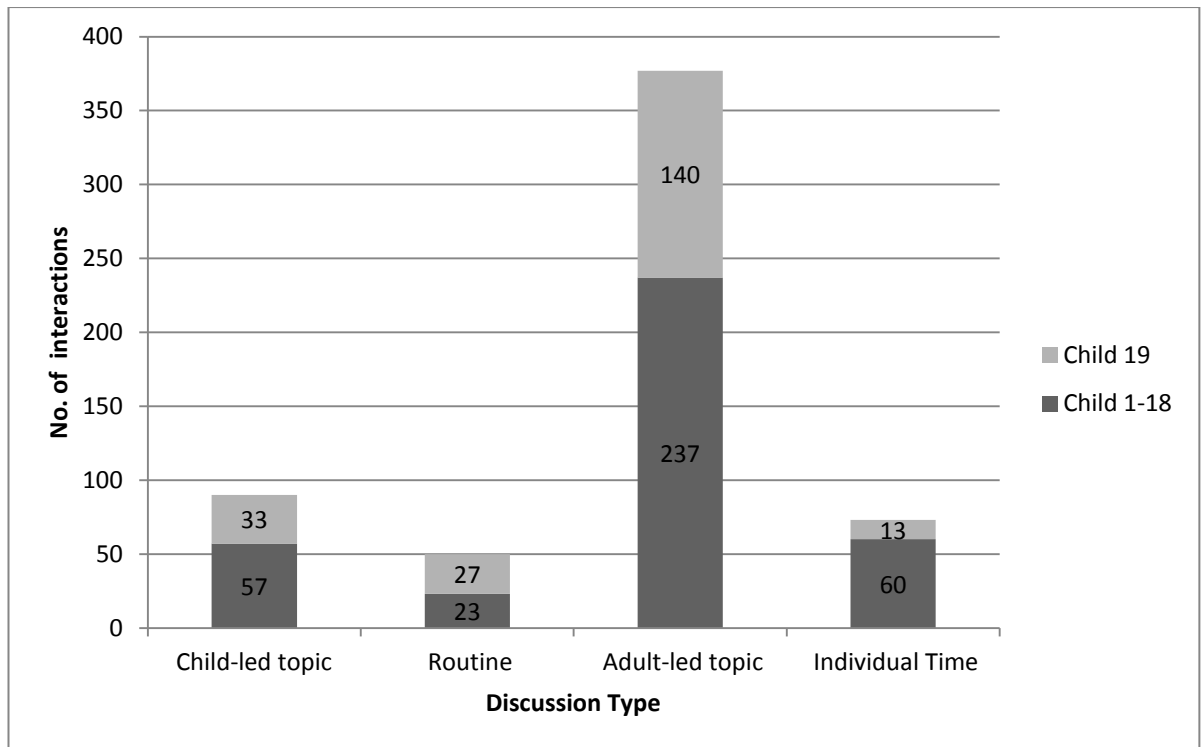


Figure 6. 4: Bar chart showing total overall number of extended turn interactions recorded as a function of Discussion Type.

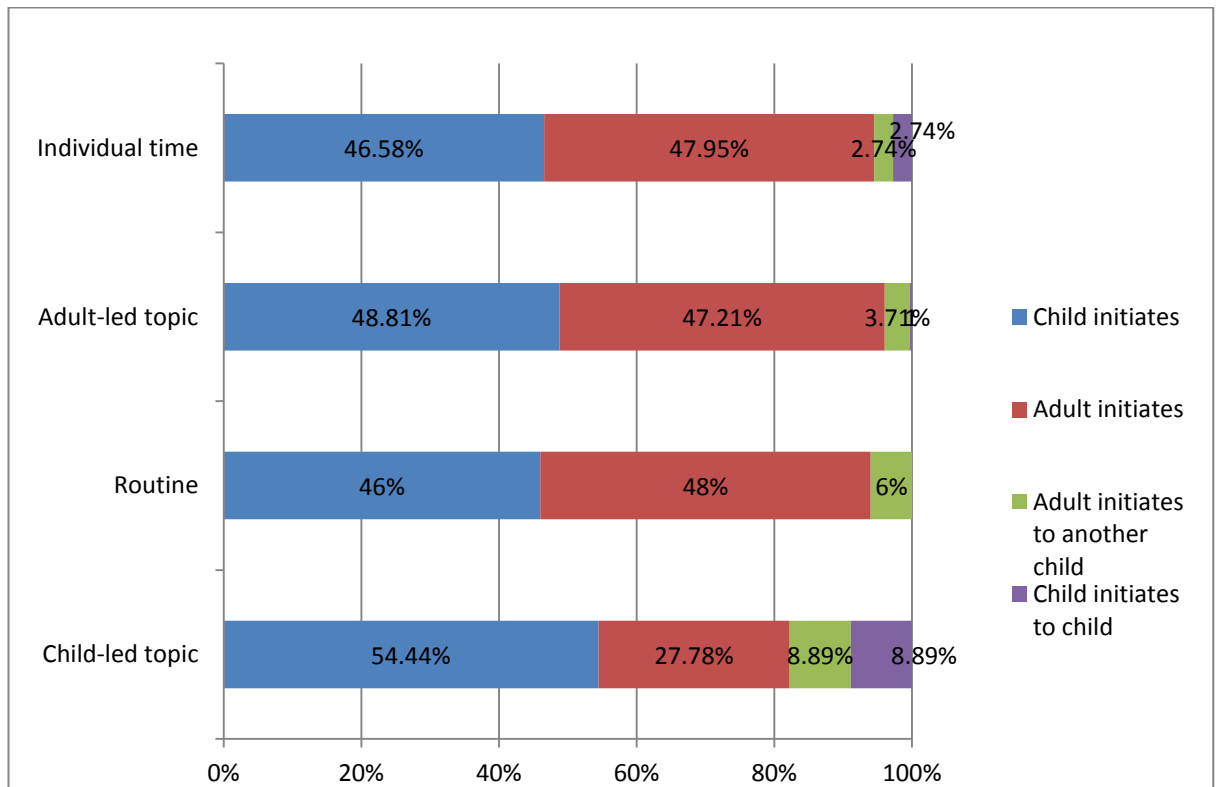


Figure 6. 5: Bar chart showing initiation of extended turns as a percentage of the total as a function of Discussion Type.

6.2.7 Summary of findings on interaction patterns

A count of initiations and responses during these small group discussions revealed that the majority of talk took place between the adult and the children, although there were some significant differences between the two cohorts in respect of this. There were positive correlations between children's rates of initiation and responses received as well as the rate of responses made. If children had a high rate of initiation, they also received and made more responses. On the other hand, there was no correlation between rate of Adult Initiation and other measures of interaction; the rate of Adult Initiation did not vary with the child's rate of initiation or response. About 28% of the talk took the form of extended turns, that is, where the child took at least two consecutive turns in conversation. These extended turns were initiated equally by adults and children.

Differences in interaction patterns were shown during identified types of discussion, when analysing further, the opportunities offered for talk. Routine and Adult-led discussions were associated with higher rates of Adult Initiation than Child-led or Individual-time discussions. Rates of Child Initiation and Responses Received were higher during Individual-time. The rate of Responses Made did not differ across discussion types, nor did the number of extended-turn conversations overall, although there were more of the former in Routine than Adult-led discussions.

6.3 Interaction patterns and initial language levels

Having examined the data to reveal general patterns of interaction and differences between different discussion types, the relationship between initiation and response rates and children's initial language levels was explored. Children's initial CELF Pre-school 2 (UK) scores were compared to their interaction rates during the nursery observations. This was in order to determine any relationship between children's measured language abilities and their participation in small group conversations in the nursery.

6.3.1 Correlations between interaction rates in nursery and language measures at Time 1

As the data in Table 6.9 indicates, verbal interaction rates were correlated with children's initial CELF Pre-school 2 (UK) raw scores, when age was controlled for. There

was a negative correlation with Adult Initiation rate; the higher the rate of adult initiations the lower the CELF score. In contrast, the other three measures of interaction were positively correlated with CELF score; the higher the rate of child initiations, responses made and responses received, the higher the CELF score. Narrative scores at Time 1 were only positively correlated to the rate of Responses Made. Scores on the two language measures were positively correlated, however, with higher scores on one measure being indicative of a higher score on the other at initial testing.

Table 6. 9: Correlations between initial language measures and interaction rates.

	1	2	3	4	5	6	7	8
1 CELF Raw Score Time 1 (N=19)	-							
2 Narrative Score Time 1 (N=18)	.59*	-						
3 Adult Initiation Rpm (N=19)	-.50*	-.30	-					
4 Child Initiation Rpm (N=19)	.51*	.41	-.17	-				
5 Responses Received Rpm (N=19)	.50*	.46	-.12	.92**	-			
6 Responses Made Rpm (N=19)	.52*	.49*	-.12	.91**	.99**	-		
7 %Extended turns Child Initiated (N=19)	.21	.31	-.21	.44	.28	.28	-	
8 %Extended turns Adult initiated (N=19)	-.18	-.27	-.03	-.45	-.25	-.27	-.87**	-

** $p < .01$, * $p < .05$

6.3.2 Summary of findings on the relationship between interaction patterns and initial language levels

Children's verbal interaction rates varied as a function of their initial language levels. There was a positive correlation between children's rates of initiation, responses received and made and their initial score on the CELF Pre-school 2 (UK). The higher a child's initial CELF score, the higher their rates of interaction were likely to be. In contrast, only the rate of Responses Made was positively correlated with the children's Narrative assessment scores at Time 1.

6.4 Children's oral language development over time

Children's language assessment scores at the three times of testing were analysed to look at the extent to which language skills at the different points in time related to the children's interaction levels in the nursery. The two measures of language, one a standardised assessment and the other a criterion referenced measure of use of language, were first considered separately to identify patterns of development and then compared to the data on interaction rates.

6.4.1 Clinical Evaluation of Language Fundamentals, Pre-school 2 (UK)

6.4.1.1 Comparison of Core Language Scores over time

Children's scores on the CELF Pre-School 2 (UK) varied over time. At Time 1 the mean standard score fell just in the average range for test norms. At Time 2 and 3, mean standard scores were well within the average range of 85 to 115, that is, within one Standard Deviation above or below the mean. (A table of sub-test raw scores and scaled scores for each child is given in Appendix 7.) Using standard scores for comparison, a one-way repeated measures Analysis of Variance showed a significant overall effect for the three times of testing, as summarised by the data in Table 6.10. When Bonferroni correction was applied, the difference was significant only between Time 1 and 2, and Time 1 and 3. Time of testing accounted for 44% of the variance in overall scores on the CELF Pre-School 2 (UK).

6.4.1.2 Comparison of Sub-test scores

In order to investigate whether language development occurred across all aspects of language, sub-test scaled scores were analysed separately. This analysis indicated that scores did not vary equally across all sub-scales.

Table 6. 10: CELF Pre-School 2 (UK) mean scores, standard deviations and Analysis of Variance as a function of time of testing.

Measure (N=18)	Time 1		Time 2		Time 3		Analysis (one-way repeated measures ANOVA) and pair-wise comparisons (Bonferroni, $p=.01$)
	M	SD	M	SD	M	SD	
Composite Std Score	85.17	15.39	90.28	16.13	95.50	14.42	Main effect : $F(2,34)=13.10, p<.001$; Partial $\eta^2 =.44$ Pair-wise comparisons: 1:2 $p=.01$, 1:3 $p<.001$, 2:3 <i>ns</i>
Sentence Structure Scaled Score	6.83	2.46	8.06	2.73	8.78	2.58	Main effect: $F(2,34)=8.00, p<.001$; Partial $\eta^2 =.32$ Pair-wise comparisons: 1:2 <i>ns</i> , 1:3 $p<.001$, 2:3 <i>ns</i>
Word Structure Scaled Score	7.28	3.43	7.78	3.34	8.56	3.09	Main effect: $F(2,34)=2.53, ns$ Partial $\eta^2 =.13$ Pair-wise comparisons: 1:2 <i>ns</i> , 1:3 <i>ns</i> , 2:3 <i>ns</i>
Expressive Vocabulary Scaled Score	8.22	3.37	9.11	3.27	10.39	2.64	Main effect: $F(2,34)=12.38, p<.001$; Partial $\eta^2 =.42$ Pair-wise comparisons: 1:2 <i>ns</i> 1:3 $p<.001$, 2:3 <i>ns</i>

One-way repeated measures Analysis of Variance indicated a significant difference between times of testing for Sentence Structure and Expressive Vocabulary. When a Bonferroni correction was applied, the difference was significant only between Time 1 and 3. There was no overall difference for Word Structures. Time of testing accounted for 32% of the variance in Sentence Structure scores and 42% of the variance in Expressive Vocabulary. A summary of overall significances, effect sizes and pair-wise comparisons is given in Table 6.10.

6.4.2 Comparison of Narrative scores over time

There was a variation in children’s Narrative scores over time. Tables 6.11 and 6.12 summarise children’s scores on the Narrative assessment task on each of the three occasions. Table 6.11 gives mean length of utterance indicating the use of more, though not necessarily more complex, language over time. Many of the children identified objects and animals or people, described states and actions, but did not relate a theme. This is reflected in the scores in the Devices component in Table 6.12, where additional points would be awarded for evidence of a theme and its resolution. The children labelled, gave lists of items and sometimes connected ideas. Most of the children used only a very few linking words to connect ideas, but there was an increase over time, as shown by Conjunctions scores in Table 6.12. The number of story elements referred to by most children increased from Time 1 to Time 3, as evidenced by the scores in the Elements column of the same Table.

Table 6. 11: Mean Length of Utterance (morphemes) on the Narrative task as a function of time of assessment.

Mean Length Utterance (morphemes)			
	Narrative 1	Narrative 2	Narrative 3
Mean	4.95	4.14	6.61
(SD)	(2.55)	(2.74)	(1.82)

Table 6. 12: Mean (Standard Deviation) scaled scores for Narrative assessment (sub-components and total) as a function of time of testing.

	MLUm Mean (SD)	Devices Mean (SD)	Conjunctions Mean (SD)	Elements Mean (SD)	Total Score Mean (SD)
Time 1 (N=18)	3.28 (1.67)	0.89 (1.82)	0.83 (1.79)	0.94 (1.7)	5.94 (3.47)
Time 2 (N=19)	2.74 (1.73)	1.16 (1.81)	1.11 (1.89)	1.11 (1.76)	6.11 (4.96)
Time 3 (N=18)	4.28 (1.51)	1.83 (1.66)	2.11 (1.77)	2.39 (1.65)	10.61 (4.92)

A one-way repeated measures Analysis of Variance showed an overall significant effect for the three times of testing, as summarised in Table 6.13. Pair-wise comparisons confirmed, however, that the effect was significant between Time 1 and 3 and Time 2 and 3 but not between Time 1 and 2. The indication was that progress was made on the Narrative assessment during the second time interval in Reception class, but not over the first, when the children were still in Nursery. Further inspection revealed outlying scores and there was considerable variation between children's patterns of scores on this assessment (see scatter diagram, Appendix 6a)). Some children made a lot of progress between Time 1 and Time 3, but one child, for example, scored initially, and then did not score at all on re-testing.

Table 6. 13: Narrative mean scaled scores, standard deviations and Analysis of Variance as a function of time of testing.

Measure (N=17)	Time 1		Time 2		Time 3		Analysis (one-way repeated measures ANOVA) and pair- wise comparisons (Bonferroni $p=.01$)
	M	SD	M	SD	M	SD	
Narrative score	5.88	3.57	5.53	4.93	10.76	5.03	Main effect : $F(2,32)=$, $p<.001$; Partial $\eta^2 =.47$ Pair-wise comparisons: 1:2 ns, 1:3 $p<.001$,2:3 $p=.001$

6.4.3 Correlations between interaction rates in nursery and language measures at Time 2 and Time 3

To explore the relationship between interaction rates in small group nursery conversations and children's later language development, the data were analysed for correlations between interaction rates and language measures at Time 2 and 3.

A partial correlation analysis, controlling for age, indicated a significant positive correlation between Child Initiation rates, the rate of Responses Received and Responses Made by children and their raw scores on the CELF-Pre-school (UK) at Time 3. This was only significant for Child Initiation at Time 2. As at Time 1, analysis revealed a negative correlation between the Adult Initiation rate and CELF score. The only significant correlation with regard to the Narrative scores was a negative correlation with Adult Initiation rate at Time 3. There were no significant correlations between children's language assessment scores and their percentages of extended turns either child- or adult-initiated. See Table 6.14 for a summary of correlations.

When scores on CELF Pre-school 2 (UK) at Time 1 were controlled for, the correlations between interaction rates and assessment scores at Time 2 and Time 3 were not found to be significant. (See Table 6.15). This also revealed a significant negative correlation between CELF score and narrative assessment score at Time 2, indicating that the higher a child's CELF score the lower their narrative score was likely to be. This relationship was not however significant at Time 3.

6.4.4 Summary of findings on language development over time

Looking at the relationship with later language development, children's scores on both language assessment measures varied over time. CELF Pre-school 2 (UK) standard scores increased from Time 1 to 3; Narrative assessment scores increased from Time 2 to 3. Scores correlated positively with rates of Child Initiation, Responses Received and Responses Made for the CELF Pre-school 2 (UK) at Time 3, but there was no correlation with Narrative assessment scores. That is, higher scores on the CELF one year on were associated with higher interaction rates from children during nursery conversations. Counter to this, the rate of Adult Initiation correlated negatively with CELF Pre-school 2 (UK) scores at Time 2 and Time 3, and with Narrative scores at Time 3. Higher rates of Adult Interaction were associated with lower language scores. These effects were not,

however, significant when the children's scores on the CELF Pre-School 2 (UK) at Time 1 were controlled for.

Table 6. 14: Correlation between CELF Pre-School 2 (UK) raw scores, Narrative assessment scores and interaction rates as a function of time of testing, controlling for age.

(N=18)	1	2	3	4	5	6	7	8	9	10
1. Adult Initiation Rate	-									
2. Child Initiation Rate	-0.17	-								
3. Responses Received Rate	-0.12	0.92**	-							
4. Responses Made Rate	-0.12	0.91**	0.99**	-						
5. %Extended turns Child Initiated	-0.23	0.48*	0.32	0.32	-					
6. %Extended turns Adult initiated	-0.03	-0.46	-0.26	-0.28	-0.88**	-				
7. CELF Raw Score Time 2	-0.54*	0.52*	0.40	0.41	0.46	-0.35	-			
8. CELF Raw Score Time 3	-0.56*	0.53*	0.48*	0.49*	0.38	-0.23	0.82**	-		
9. Narrative Score Time 2	-0.37	0.29	0.36	0.41	0.22	-0.10	0.13	0.46	-	
10. Narrative Score Time 3	-0.52*	0.04	0.05	0.11	0.03	-0.09	0.32	0.48*	0.52*	-

** $p < .01$, * $p < .05$

Table 6. 15: Correlation between CELF Pre-School 2(UK) raw scores, Narrative assessment scores and interaction rates as a function of time of testing, controlling for CELF raw score at Time 1.

	1	2	3	4	5	6	7	8	9	10
1. Adult Initiation Rate	-									
2. Child Initiation Rate	.07	-								
3. Responses Received Rate	.21	.86**	-							
4. Responses Made Rate	.27	.83**	.98**	-						
5. %Extended turns Child Initiated	-.21	.39	.12	.09	-					
6. %Extended turns Adult initiated	-.08	-.41	-.15	-.15	-.86**	-				
7. CELF Raw Score 2	-.14	.09	-.20	-.26	.27	-.29	-			
8. CELF Raw Score 3	-.31	.17	.06	.02	.21	-.07	.15	-		
9 Narrative Score 2	-.01	-.00	.16	.22	-.07	.08	-.74**	.06	-	
10. Narrative Score 3	-.35	-.28	-.27	-.22	-.14	.02	-.29	.16	.34	-

** $p < .01$

6.5 Effects of gender, EAL and age on interaction rates and language scores

It was important also to consider whether any other relevant factors may be related to differences in children's interaction rates or language levels. Examination of the data for differences related to factors of gender, learning English as an additional language, or age revealed very few differences between groups. Data for gender and home language is given in Tables 6.16 and 6.17. Correlations between age and interaction rates are given in Table 6.18.

6.5.1 Differences in language assessment scores as a function of gender or home language

As the data in Table 6.16 indicates, there were no significant differences in CELF Pre-school 2 (UK) scores or Narrative scores between boys and girls. Likewise, children learning English as an additional language did not differ significantly in their CELF scores from those with English as a first language, as shown in Table 6.17. The only significant difference in language assessment scores was on the Narrative task. The scores on the Narrative Task at the end of the Reception Year for children with English as their first language were significantly higher than those for children with English as an Additional Language. Data indicated that the gap in narrative skills appeared to widen after the nursery year for those children learning English as an additional language, as children with English as their first language made more rapid progress.

6.5.2 Differences in interaction rates as a function of gender or home language

Data given in Table 6.16 show there were no significant differences in interaction rates between boys and girls. Equally, as shown in Table 6.17, children learning English as an additional language did not differ significantly in their general interaction rates from those with English as a first language. There was however a significant difference in the percentage of extended turn conversations which were Adult-Initiated, with children learning English as an additional language having a higher percentage of such interactions being initiated by an adult than those children for whom English was their first language.

Table 6. 16: Mean interaction rates, CELF Pre-School 2(UK) and Narrative scores (Standard Deviations) as a function of gender.

Measure	Gender		<i>t(df), p</i>
	Male	Female	
Interaction rpm			
Child initiations	0.65(0.55)	0.35(0.20)	$t(11.7)^\alpha = 1.65, p=0.12$
Responses received	0.80(0.77)	0.39(0.22)	$t(17)=1.54, p=0.14$
Responses made	0.970(.88)	0.54(0.33)	$t(17)=1.38, p=0.19$
% Extended turns Child-Initiated	48.25 (15.48)	45.46 (15.25)	$t(17)=0.40, p=0.70$
% Extended turns Adult-Initiated	46.27 (14.82)	49.60 (12.86)	$t(17)=-0.53, p=0.60$
CELF Standard Score			
CELF Time 1	84.6(17.2)	83.3(13.4)	$t(17)=.19, p=0.86$
CELF Time 2	91.3(16.1)	87.0(15.0)	$t(17)=.60, p=0.56$
CELF Time 3	97.3(16.7)	93.7(12.5)	$t(16)=.53, p=0.60$
Narrative scaled score			
Narrative 1	5.44(3.74)	6.44(3.32)	$t(16)=-.60, p=0.58$
Narrative 2	5.50(5.74)	6.78(4.20)	$t(17)=-.55, p=0.59$
Narrative 3	8.89(4.96)	12.33(4.50)	$t(16)=-1.54, p=0.14$

^α Equal variances not assumed ($F=5.00, p<0.05$).

*

Table 6. 17: Mean interaction rates, CELF Pre-School 2(UK) and Narrative scores (Standard Deviations) as a function of first language.

Measure	First language		<i>t(df), p</i>
	Non English	English	
Interaction rpm			
Child initiations	0.33(0.34)	0.59(0.46)	$t(17)=1.24, p=0.23$
Responses received	0.43(0.42)	0.68(0.67)	$t(17)=0.82, p=0.42$
Responses made	0.53(0.47)	0.87(0.76)	$t(17)=1.01, p=0.32$
% Extended turns Child-Initiated	39.80(15.31)	50.22(14.25)	$t(17)=1.45, p=0.17$
% Extended turns Adult-Initiated	57.39(16.83)	43.50(9.77)	$t(17)=-2.29, p=0.03^*$
CELF Standard Score			
CELF Time 1	77.5(16.5)	87.0(14.1)	$t(17)=1.29, p=0.21$
CELF Time 2	82.7(20.0)	92.3(12.4)	$t(17)=1.30, p=0.21$
CELF Time 3	91.0(17.8)	97.7(12.7)	$t(16)=0.93, p=0.36$
Narrative scaled score			
Narrative 1	4.40(2.5)	6.54(3.7)	$t(16)=1.18, p=0.25$
Narrative 2	5.17(4.7)	6.54(5.2)	$t(17)=0.55, p=0.59$
Narrative 3	7.17(4.9)	12.33(4.1)	$t(16)=2.36, p=0.03^*$

^α Equal variances not assumed ($F=5.00, p<0.05$).

* $p = .05$

6.5.3 Differences in interaction rates as a function of age

Age differences did not generally appear to be a significant factor, when comparing children’s age in months at the onset of the study with their interaction rates. A summary of correlations is given in Table 6.18.

As the data indicates, the only significant correlation was a moderately significant positive relationship between children’s age and the rate of Responses Made, with older children tending to make more verbal responses during small group interactions in the nursery.

Table 6. 18: Correlations between age and interaction rates per minute.

	Adult Initiation rpm	Child Initiation rpm	Responses Received rpm	Responses Made rpm	%Extended Turns Child Initiated	%Extended Turns Adult Initiated
Correlation with children’s age in months	0.16	0.23	0.42	0.48*	-0.13	-0.01

* $p < .05$

6.6 Summary of findings from quantitative analysis

Initial quantitative analysis, then, indicated a complex relationship between children’s language skills and patterns of interaction in the small group. Overall, the higher the child’s initial language level, the higher the rate of interaction. The higher the child’s language level, the more likely they were to show a higher rate of initiation and responding and in turn to receive more responses. Different patterns, however, were revealed for adult initiations, with higher rates of Adult Initiation being associated with a lower language score for the child. There was variation in interaction patterns across different types of discussion, but even where the discussion type was associated with more child initiations, such as in Individual-time, the rate of follow-up Responses Made by children did not differ significantly. No differences were found between boys and girls. Few differences were found for age and home language, but children with EAL were more likely to have their extended turns in conversation initiated by an adult, than to initiate themselves and younger children were less likely to make responses. One year on, higher CELF Pre-school 2 (UK) scores were associated with higher rates of

initiation and response from children during nursery, but Narrative scores were not associated with children's own nursery interaction rates at Time 3. Children with EAL also showed significantly lower Narrative scores at Time 3, but not at Time 1 or 2, than those with English as a first language.

Further analysis was warranted to examine the content and process of interactions, exploring how opportunities were afforded for talk by the small group conversations in nursery and investigating how these conversational experiences may differ between children. A qualitative approach was needed, in order to illuminate any differences in adult talk to children, explore how children received and responded to conversational cues and illustrate how this may result in different outcomes according to children's language levels and the conversational topic.

The next chapter will examine the content of selected conversations, to elaborate how the intricacies of conversational exchange may help to account for the processes that encourage higher rates of verbal initiation and response for some children. It will also look at whether these processes operate in a different way for children of different language ability and so may help to account for differences in rates and patterns of interaction.

Chapter 7: Findings: Conversational patterns and topics

7.1 Overview of the chapter

Selected video episodes, demonstrating more sustained conversation, were analysed using CA as a qualitative method, in order to answer questions about the content and process of children's conversational experiences. This chapter presents the findings from that qualitative data analysis in the light of three themes commonly used in CA; turn-taking, topic generation and repairs to misunderstanding. These themes are used in turn to illustrate the different patterns found and the relationship between these patterns and children's language levels. Firstly turn-taking patterns are analysed in the light of informal and formal features of conversation discussed in Chapter 3.4. Analysis is made of the effect of different features on children's participation and some comparisons are made in terms of children's differing language levels. Topic generation is then considered, examining the content of talk which encouraged contributions and the ways in which this was achieved for different children. Finally, analysis of two particular strategies for repair to conversation is presented; repeats/recasts and inviting children to question their own utterances. Examination is made of children's different responses to each strategy.

7.2 Themes

Conversational Analysis was addressed to answering the question of how conversational experiences differ for children with different language levels and needs. Three main themes emerged from interrogation of the data using the questions framed by CA. The first theme was the pattern of turn-taking: the degree to which the pattern of informal conversation or a more institutionalised pattern appeared. The topic for conversation and its effect on participation was taken as the second theme: the extent to which vocabulary was related to familiar and immediate experiences and children's initiations on the topic. Topic is frequently used as a technical term in CA, focussing on how the topic is generated and maintained or changed across turns. Although this is considered as part of the analysis, the term is not used here in its technical sense. Rather it is used to describe what is talked about in terms of content and vocabulary used. The third theme was the effect of feedback and repairs to conversation as encouragement to participate further. These themes offered

opportunities to analyse the features that opened up or closed down children's participation and differences in children's participation in the episodes of more sustained conversation are discussed under these three headings.

A transcript and commentary, selected as a proto-typical exemplar, is presented to illustrate each theme and capture the detailed picture of interactions as they occurred in the nursery. These examples include the turn-by-turn detail in transcription and commentary which was necessary to reveal participants' understandings about the purpose of the conversation and what constituted a legitimate response. This reflected the questions used to interrogate the data, with a focus on points such as who is selected for a turn, the vocabulary used, overlaps and pauses (see Chapter 5.6.7). Analysis of the significance of such features was used to show the way in which subsequent turns were affected and how a particular outcome was achieved in the conversation.

Tables 7.1 and 7.2 give a summary of the conversational extracts referred to throughout this chapter, the children included along with language level and whether English is an Additional Language. For the purposes of comparison those children with a Standard Score of 80 or below on the CELF Pre-School 2 (UK) were taken as having a lower language level, being 1.5 standard deviations below the mean (see Chapter 5.6.5). Table 7.1 summarises the extracts presented in this Chapter. Further examples of extracts from the 15 episodes analysed (as outlined in Table 5.6) were also used in the present analysis and are referred to where relevant as additional examples. A summary of these episodes is given in Table 7.2 and the extracts themselves can be found in Appendix 9, together with the transcription conventions used. For each extract some initial contextual description is given of the discussion type and topic. Where time codes {hour; minute; second; tenths of a second} are given in the extracts, this is an indication of time intervals in the conversation. Short pauses within turns are indicated in brackets, accompanied by the number of seconds where they exceeded three seconds.

Table 7. 1: Summary of conversational extracts presented in Chapter 7.

Extract Number	Topic	Discussion Type	Children included by language level on initial assessment			
			Higher		Lower	
			Non-EAL	EAL	Non-EAL	EAL
7.1	Holidays	Routine	C7		C1	
7.2	“The Very Hungry Caterpillar” story recall	Adult-led	C4, C7, C9		C1	C5
7.3	Cornflour and water play	Adult-led	C13, C19		C11	
7.4	Mother’s Day	Adult-led	C4, C6, C7, C9		C2	C1
7.5	DVDs and cartoons	Child-led	C13, C19	C15	C11, C14	C12, C18
7.6	Birthdays	Child-led			C1	
7.7	Cornflour and water play	Adult-led	C10, C13, C19		C11	

Table 7. 2: Summary of additional extracts used in qualitative analysis and included in Appendix.

Extract Number	Topic	Discussion Type	Children included by language level on initial assessment			
			Higher		Lower	
			Non-EAL	EAL	Non-EAL	EAL
Informal conversational patterns						
i)	Cornflour and water play	Individual-time	C4, C9			
ii)	Nature walk	Adult-led				C18
iii)	DVDs and cartoons	Child-led	C19			
Educational conversational patterns						
iv)	Mother's Day	Adult-led	C4, C7			C1
v)	Caterpillar parcel	Adult-led	C10, C16, C19		C11	
vi)	Colours	Routine	C4, C7, C9	C3	C1, C2, C8	C5
Mixed conversational patterns and sustained shared conversation						
vii)	Snails	Adult-led	C4, C7, C6		C2	C1
viii)	Snails	Adult-led	C4	C3	C8	
ix)	Caterpillar parcel	Adult-led	C10, C13, C16, C19		C17	C18
Topic: Using familiar vocabulary and personal experiences						
x)	Caterpillar parcel	Adult-led	C10, C13, C16, C19		C11, C17	C18
Feedback and repair						
xi)	Mother's Day painting	Adult-led	C4, C6, C7, C9			C5

7.3 Turn-taking patterns

The degree to which the adult managed the conversation differed between episodes. There were episodes which followed the pattern of natural conversation, as defined in Chapter 3.4.1.2. There were also instances in which features of educational talk were prominent, with a clear goal set and formal management of turn-taking by the adult. In addition, a third type of conversation was identifiable, in which formal and informal

patterns combined. An example of each type of conversation is presented here and the ways in which they achieved developing participation for the children involved are analysed.

7.3.1 Informal conversational patterns

Several of the episodes followed a pattern of natural or informal conversation, with adult and child contributing equally. These conversations were observed most frequently during Child-led and Individual-time discussion types. The example discussed here, however, arose out of a Routine discussion. They tended to take place between the adult and one child only, with the child either selecting their own topic or introducing their own information on a previously selected topic. Such conversations were sometimes characterised by the child initiating the topic by asking a question and then extending the answer to his personal interests, without necessarily making an explicit link with any previous topic set by the adult. Analysis also showed the adult accepting the child's choice of topic through expanding or extending the child's turn or making genuine requests for further information. Frequent and lengthy pauses, more often a feature of informal conversation, tended to be associated with these examples (Freebody, 2003). Extract 7.1, shows a conversation that developed based on the child's personal interest, loosely related to the previous topic.

Extract 7.1

Context: Session 4; Routine discussion. The children had sung the days of the week song and the adult (A) was asking about yesterday and tomorrow. Child 7 then introduced information about his own personal experience (Line 21).

10 A: If tod[ay
11 C1: [Thursday]
12 C1: Thursday
13 A: Thursday (.) well done
14 C7: And then Friday
15 A: And then Friiiday (.) and then
16 C1: Saturday
17 C3: (xxx)
18 A: And
19 C1: Saturday
20 A: and Sss (0.3) Sunday
21 C7: And [then I having

- 22 C1: [xx
 23 C7: then I (have) six weeks off school
 24 A: Not just yet we've got a long while til our six weeks (.) but we do::n't come
 to school on Saturday (.)
 ((Nods head))
 25 C7: Or Sunday
 26 A: [And]Sunday (.) cos that's is our weekend and on the w[eeekend we stay at
 home
 27 C7: [But] [But
 28 C7: But sometimes when I not at school I go (.) sometimes I'm not at school I
 go TO holidays
 29 A: That's right (.) you've just come back off your holidays haven't you ((C7))?
 30 C7: I've been for (six birthday) will be Mickey Mouse
 31 A: Where did you go now to meet Mickey Mouse? (.) you went to? (.) Dis (.)
 32 C7: [Disneyland]
 33 C1: [I xx]
 34 A: Di::::sneyla::::nd, tha::t's right (.) you've just come back off your holidays
 from Disneyland haven't you
 35 C7: I haven't been to Disneyland yet ((shakes head))
 36 A: You haven't been (.) not yet.
 37 C7: But I (xxx sixth birthday) will be Mickey Mouse
 38 A: Aaahhh there we go then (.) Right then

Child 7 self-selected as speaker for the next turn, by picking up the topic of the days of the week, and introducing his own information. The adult responded by offering further information and linking it to the topic set in the previous turn. The adult continued her previous topic of the weekend, but Child 7 self-selected again at Line 28 accepting the topic as “when we’re not at school” and introducing his own information again. The next few turns then took place exclusively between the adult and Child 7, with Child 1’s self-selection for a turn not being accepted. The adult accepted the topic set by the child and on three further turns asked for further clarification, prompting with information from her own knowledge of the child. Child 7 was able to develop the conversation on his own topic, by linking it to the Routine topic and the adult allowed him to do so by accepting his personal topic and extending his turns with further questions of her own. The conversation was closed down by the adult in preparation for moving on, when she offered no further question.

7.3.2 Educational patterns

In contrast to the extract analysed in the previous section, adult management of topic and turn-taking were the main features characterising some of the conversational episodes and distinguished them from more natural conversation. All these episodes were characterised by the adult taking every other turn in the conversation, with alternate turns being taken by one or other of the children. In these examples the adult managed turn-taking in various different ways to establish a particular goal for the session and these strategies tended to act to encourage participation from children with different language levels in different ways. In these episodes the rules for turn-taking and the topic for discussion were firmly established by the adult, and responses from the children about their own personal experiences were not accepted. This provides a sharp contrast to Extract 7.1, for example. Turn-taking rules were seen to be established explicitly, by stated rules about turns e.g. “we need to be listening, because it’s x’s turn” or “you’ve told us haven’t you”. They were also established implicitly, through non-acceptance of the child’s turn or selection of another child to answer. Analysis showed two ways in which turn-taking was managed that had the effect of encouraging participation from a wider range of children; either by asking everyone in turn, or by allowing children to self-select on a given topic, as in Extract 7.2 below.

Extract 7.2

Context: Session 4; Adult-led topic. The adult introduced the topic by holding up the story book “The Very Hungry Caterpillar” by Eric Carle (1974). The children were invited to contribute what they could remember of the story, which had been read to them on a previous occasion. In the first part (lines 141-185) the children contributed from memory. The session then moved to naming the items from the picture book page (lines 189-222). The vocabulary used was linked to the specific book and five of the children contributed without prompting.

- 141 A: Caterpillar (.) what happened next in our story?
142 C1: He's has to (.) he's have some
143 A: You tell me
144 C1: Have [so:::me pear and plums
145 C7: [An chocolate cake and ice-cream

146 A: Chocolate cake and ice cream
 147 C1: And (lollipops)
 148 A: Lollipops
 149 C5: ~(xxxx)~
 150 A: And apple Well done C5 (.)
 151 C7 : And sausage
 152 A: sausage
 153 C1: I SAID A APPLE
 154 A: Can anybody else remember
 155 C1: APple
 156 A: apple
 157 C7: Orange
 158 A: Orange
 159 C9: Cheese
 160 A: Cheese GO::d girl we hadn't said cheese
 161 C1: And [Chocolate
 162 C7: [WatermELON
 163 A: Wa::::termelon
 164 C1: ((leans right in))
 165 A: and chocolate cake
 166 C5: (And milk)
 167 A: Shall we have a look see if you'[re right ((turns page))
 168 C5: [(milk)]
 169 C5: (Milk)
 170 C5: (Milk)
 171 A: Some milk? Did he have some milk too?
 172 C7: (xxx more) pears
 173 A: We didn't say plums
 174 C7: Or that?
 175 A: What's that?
 176 C1: I said
 177 C (xx) ((several children talk at once))
 178 A: Strawberry
 179 C1: I SAID PLUMS
 180 A: We'd forgotten strawberry hadn't we
 181 C4: I know (.) I know what's that one
 ((points at picture))
 182 A: What's that one?
 183 C4: A dark berry
 184 A: Uhh A bLUEberry.
 185 A: Let's have a look over the page (.) let's see if you rem::embered (.) shall
 we do all these together ((C1)) yes so [we can ((turns page))

Throughout this extract children self-selected turns, sometimes gaining the floor through over-lapping speech such as Child 7 at line 145, or louder speech as shown by

Child 1 at line 153/155 and 179. The adult predominately took alternate turns, managing the conversation by repeating children's responses that gave new information and offering children the opportunity to take a turn should they self-select. Of the children with lower language levels, in this extract Child 5 made two contributions, both of which were picked up on by the adult at lines 150 and 171. (The nature of the response is analysed further in Section 7.5).

189 A: Are you listening now be[cause we're going to] do it all together
190 C4: [and he had a muffin]
191 A: Chocolate cake , ice cream, a pickle, well done, one slice of swiss cheese
what's this sausage called ((Points to the items one by one))
192 C : ((Chorus as children join in.))
193 C4: (xxx)
194 A: It's called a sa?
195 C1: SALami
196 A: SALa?mi good boy, well remembered a salami
197 C : ((Chorus))
198 A: One (.)
199 C9: Lollipop
200 A: Lollipop=
((Nods))
201 C7: =sausage
202 A: who can remember what t[his
203 C1: [Cherry pie
204 A: Cherry pie well done ch[e::::rry pie
205 C7: [Sausage
206 C : ((Chorus))
207 A: One Sausage
((Points to picture))
208 C9: (slice of) cheese (2)
209 C5: Cake
210 A: Cake good girl C5
((Nods))
211 C1: O[ne Watermelon]
212 C7: [water melon]
213 A: One cupcake a::::nd
214 C7: [Watermelon
215 C1: [watermelon
216 A: Wa:::::termelon fantastic (.) uho
217 C7: Had a tummy ache
218 A: ((Nods))
219 C1: He had a tummy ache
220 A: He had a poorly tummy he ate so much food it gave him a poorly tummy
221 C? (xxxxx)

222 A: Ooh dear what happened next in our story?

A similar pattern was shown in this second phase, where the picture was available as a prompt. The same five children all made a contribution, with Child 2, 3 and 8 not contributing. Child 1 and 5 were responded to with praise for vocabulary at lines 196, 204, 210 and 216. However, throughout Extract 7.2, children's contributions were accepted but not expanded upon with further questioning, in contrast to the more informal conversation analysed in the previous Section (7.3.1).

7.3.3 Mixed conversational patterns and sustained shared conversation

A third pattern of more mixed formal and informal turn-taking was also observed. It tended to occur later in the conversation, arising either out of an informal conversation or from an educational one. The adult would at some point manage the turns and the topic, but allowed for a more informal pattern of response, where several children would join in and children's contributions built on those of each other. Extract 7.3 is included as an analysis of how the content of the conversation was developed over several turns, through the adult returning to contributions from several different children made in earlier turns. The adult introduces a topic but the pattern differs from that in Extract 7.2 in that the adult does not take every other turn, with turns being taken by several children before the adult would take another turn.

Extract 7.3

Context: Session 20; Adult-led topic. 8 children were present. The group had been introduced to cornflour and water play and all the children were playing together with the adult. The adult led the topic, by demonstrating what happened when the gloop was picked up and by adding colouring. These ideas were picked up on and developed by the children, who showed interest and curiosity. Child 10, 11, 13 and 19 all participated.

151 A: Mmmmm if we pick it up we can make it hard and then when we open our ha::nds what happens to it
((Holds it out towards C19))

152 C19: It me::lts

153 A: It melts

154 C19: Its like when you eat like when you put your ice cream in the sun it me?lts

155 A: It does that's exactly what it looks like (3)
 156 C13: Look (1) Melting on my hands
 157 C11: ((Laughs))
 158 C11: Melting on ((C13))'s hands
 159 C19: ((C18)) doesn't want to touch it I'll put it over here
 160 A: Hold your hand out ((C11))
 ((Puts some into C11's hands))
 161 C19: Ahhaha I'm trying to put it on ((C18))'s hands (4)

In this example, Child 19 extended the adult's turn by adding new vocabulary at line 152 and line 154. This new vocabulary was then picked up by Child 11 and 13 who used it themselves (lines 156 and 158).

282 C11: [is it gree::n Mrs (A) Mrs (A) this green
 ((holds up bottle))
 283 A: It is we've just put green in look ((C11)) its a diffe[rent colour now
 284 C19: [Mrs (A::)
 285 C19: Mrs ((A)) its going like a green drink
 286 C11: And its (.) a diff (.) a different one
 287 C13: Some more water in it
 288 C11: Ye::h
 289 C13: Mrs ((A)) Put some more water in
 290 A: we don't want to put too much water in cos if we do::
 291 C10: What will happen
 292 A: Well it wouldn't be gloopy anymore
 293 C19: What would happen
 294 A: It would all just go to water and it would spoil it and we wouldn't be able
 to hold it in our hands (1) like this

Here Child 11 initiated by self-selecting to talk about the bottle of colouring he had noticed. This was accepted by the adult and then expanded by the child using vocabulary from the adult's turn, although this was not picked up on. The topic then shifted, accepted by Child 11 at line 288, and Child 10 and 19 joined in to ask questions of the adult. A more educational pattern then emerged again, but the specific focus of the topic had been allowed from the children's self-selected turns, rather than from an adult-selected goal or management of turn-taking.

Analysis of Extract 7.3 showed, therefore, that sustained shared ideas developed where the adult allowed children's contributions out of turn and/or accepted information slightly away from her specific question. (Further, similar examples are given in Appendix 9 vii – ix.) Participation by more than one child was often a feature and the adult either allowed contributions from several children before contributing herself, or managed contributions from several children together. Responses from children were still, however, addressed through the adult.

7.3.4 Differences in turn-taking patterns for children with higher and lower language levels

Reviewing the three types of conversational patterns showed examples of children picking up on previous turns in the conversation, but in different ways. In these examples children with higher language levels and higher interaction rates developed ideas from the previous turns and generated their own ideas to build on them. For example Child 7 extended from days of the week, to talk about his holidays in Extract 7.1; Child 19 added new vocabulary in Extract 7.3. These children elaborated spontaneously on their answers, without waiting for further questioning. At the same time the parameters of the educational nature of some conversations were clearly set for them by the adult, either implicitly by which turns were accepted, or explicitly through stated rules. (For further examples of this see Appendix 9 iv) and v.)

The direct repetition of vocabulary tended to be picked up from previous turns by children with lower language levels, for example, by Child 11 in Extract 7.3. This vocabulary came in some cases from other children and in other cases from the adult. It was more characteristic of talk from these children, that they did not spontaneously offer further information and rarely gave more information, beyond a yes or no, to follow up questions from the adult. These children were encouraged to take part in the conversation through the adult management of turns. The adult would accept their turn, often expanding it, as for example for Child 5 in Extract 7.2. In certain cases this would necessitate everyone being offered a turn by the adult or children being selected individually for a turn.

It is the nature of the topics that achieved a greater degree of participation from children, particularly for those with lower language levels or learning English as an

Additional Language, which is the subject of the second theme, analysed in the next section.

7.4 Topic generation and gaining the floor

The second theme to emerge was that of conversational topic. CA conventionally treats the notion of topic from the standpoint of joint construction from one turn to another and how this shifts or is maintained over sequential turns (see e.g. Freebody, 2003). Although this was of interest in the current analysis, the term is used here in its non-technical sense, to refer to the content and vocabulary that were a characteristic of more extended conversations. Certain topics featured more than once in these episodes, associated with contributions from several children. In particular, some topics analysed here generated initiations from children with lower language levels or EAL. As well as the way in which the turn-taking was managed, the topic of conversation influenced children's participation. Examples of the way in which such topics developed as opportunities for children, and in particular those children with lower language levels or EAL, to contribute to the conversation are analysed in this section.

7.4.1 Using familiar vocabulary

In these examples, CA indicated that where children were provided with a topic that was associated with a familiar vocabulary, more children participated. For example, as seen in Extract 7.2, children self-selected to name the items of food from a familiar story with two children with lower language levels and EAL participating frequently. A further example is discussed in Extract 7.4, showing how the adult adapted the topic in response to a child with lower language levels, allowing the conversation to move to a more familiar topic, which resulted in him extending the topic and opening it out to other children.

Extract 7.4

Context: Session 1; Adult-led topic. 7 of the children were present. The children had just painted pictures of their mothers and discussed Mother's Day. The adult started by asking an abstract question, selecting Child 1 to take a turn.

200 A: Why do you love your mummy ((C1))?

201 C1: I (.)'cos (1) I (3) sit down

202 A: Because you sit down? What do mummy's do in the house? Do you remember yesterday when we read that book (.) and we talked about all the different things that mummy's do.(.) So you've got to have a think about why you love your mummy (.) what she does that's so special for you.

203 A: (.) (Do you k[now?])

204 C1: [My mum (.) my mum (.) has some dinner

205 A: She cooks nice dinner?

206 C1: Yeh

207 A: What's your favourite dinner?

208 C1: It's (3) it's (2) it's sweetcorn.

209 A: Swee Sweetcorn MmMM I like sweetcorn [too

210 C7: [I...]

211 A: Do any of you like sweetcorn?

212 C7: I [like

213 C4: [I do]

214 A: ((Looks at C4))

215 C1: (xxxxxx)

216 A: And vegetab[les ?

217 C7: [I]

218 A: You'll grow very stro[ng

219 C7: [I] I like carrot

220 A: You like carrots

221 C1: And carrots

222 A: And carrots

223 A: what's your[favourite food ((C2))]?

224 C6: [(I like fish fingers)]

225 C2: (xxxx)

226 A: Curry? (.) you like curry huh it's too hot for me curry is. Makes me go ((pants))

227 A: It burns my tongue (I don't have curry very [often)

228 C7: [How about soup?

229 A: Soup? I like soup

230 C9: I have soup at m[y house

231 A: [Right. Do you think that you're ready to do your pictures now?

232 C7: Yeh
((Nods head))

Initially Child 1 was unable to repair the misunderstanding in response to the adult's abstract question about love. Her offer of repair, at line 203, resulted in a response about dinner. The adult accepted this by extending it as an answer to what Mummy does, at line 205. This was accepted by the child and the adult then rephrased to ask a

question on the topic of dinner at line 207. Child 1 was then able to respond with a food. This prompted other children to join in and the adult later selected Child 2 who offered an answer at line 226. In this way the topic was opened up by the adult, following her repair to Child 1's difficulty with the original topic.

7.4.2 Drawing on personal experiences and interests

Several of the episodes identified for CA included topics that were of personal or immediate relevance to the children. In Child-led topic discussions there were two instances in which children introduced conversation about their own or each other's clothes. Such conversations also centred on another favourite topic, cartoon characters, including Ben Ten and Peppa Pig. There were three such conversations, all involving Child 19. In each case Child 19 initiated, but this prompted some of the children with lower language levels or EAL to join in spontaneously. An example is analysed in Extract 7.5. In another episode the children also used similar vocabulary from their own sphere of interest and knowledge when asked to answer a question that they could not know the answer to (see Appendix 9 x)).

Extract 7.5

Context: Session 20; Child-led topic. 8 of the children were present and the adult was waiting to see if any further children would arrive before starting the session. The adult accepted the topic from Child 19 and opened it up to the group. Although the contributions from children, apart from Child 19, were brief they did provide rare examples of spontaneous contributions from several of the children.

- 40 A: How about (2) Where do you get your DVDs fr?om
 41 C11: (3) ASDA
 42 A: A::SDA:::. so they do s[ell them at Asda
 43 C19: [bu [well my daddy got them from(
 xxxxxx)he gets (.) he posts them
 →44 C15: ((Approaches A and taps her on the shoulder))
 45 A: A::h ri::ght
 46 C19: The Po:::stman delivers it
 47 A: A::h yes got them off the (.) int (.) internet[might be a good idea
 → ((Puts arm around C15.))
 48 C19: [well that my dad
 49 C19: My dad my dad never lets me (1) 'cos he watches it on the lap top xxx

- broke the DVD playe?r
- 50 A: Ooh dear
→ ((Looks at C15))
- 51 C15: (My mummy xxxxxxx)
((C19 has hand up))
- 52 A: You're going to A?sda if you go to Asda will you have a look see if they
sell DVD's fo::r [me
- 53 C15: ((Nods))
-
- 59 C19: [Holly Holly can go::: there xxxxxxx Did you xxxxx ((laughs)) In films you
can watch it on Milkshake (2) its on Milkshake and then you can it's got
Thomas and loads of them and even PoKKIO:]
- 60 C13: ~(xxx)~
- 61 A: And Peppa Pi::g's on the::re
- 62 C13: ((Nods head))
- 63 A: HUUUUHH
- 64 C19: And even Po:::kkio:::?
- 65 A: And Pochio
- 66 C19: That's my favourite ((Raises hand))
- 67 A: Pokkio I'll have to have a look I don't know all these (1) TV programmes
now
- 68 C19: But if you and one (xxxxxxx) (1)[P
- 69 C14: [xxxxxx ((Stands up))
→
- 70 A: What's your fa::vourite ((C14))
- 71 C14: ~(xxxx)~
- 72 A: Peppa Pig? (.) I'll have a look for Peppa Pig
- 73 C19: and I like all the (.) I like all of them (4) if you can watch them then (xxx)
say WHy you watching that LITTLE BABY's programme
- 74 A: Ohh but you what do you like watching ((C18))
- 75 C18: ~(xxxx)~
- 76 A: Peppa Pi?g
- 77 A: What does ((C12)) like watching? What do you watch on the TV then
((C12)) (3) What do you
((Interruption as C14 is moved to seat))
watch then C12 (5)
- 78 C12: (TV)
- 79 A: on the TV what do you like watching on the TV (10)
- 80 A: Can you thi::nk (5) what do you like to watch (1) Do you Li:::ke Dora
- 81 C12: ((Nods))

The children had to gain the floor to take a turn and sometimes did this physically through proximity or physical posture (→), such as Child 14 and Child 15. The

conversation was continued by Child 19, and was picked up by Child 13 at line 60. The adult accepted Child 13's turn, which was inaudible to the recording, by expanding the answer. Child 13 confirmed but did not add any further information. Child 19 continued, but Child 14 requested a turn by standing up and talking. The adult accepted this turn, but again no further information was offered. Child 19 did however take another turn, offering new information. The adult then asked two of the children with lower language levels, Child 18, who accepted and responded, and Child 12 who did not take up the topic successfully. The adult then suggested a response at line 82 and the child nodded in response.

In other episodes with a similar topic, a response was also evoked from children with lower language levels. Child 18 took a turn in response to a comment addressed to the adult by Child 19 about Child 18's Ben Ten T-shirt; Child 14 took several turns in a conversation with the adult and Child 19 about Ben Ten DVDs, offering information, although his precise contributions were inaudible to the recording.

7.4.3 Topic choices that encouraged participation from children

From the analysis of episodes, certain topics drew contributions from children with lower language levels or EAL. Topics such as colour, food, favourite TV characters and toys, common experiences such as shopping or nursery topics such as mini-beasts all appeared frequently and were accompanied by participation from children with lower language levels or lower interaction rates (see Extracts 7.2, 7.4 and 7.5). Sometimes this was in response to being selected by the adult, but some episodes also showed more reluctant children initiating to gain a turn in the conversation on these topics (e.g. Extracts 7.2 and 7.5). Topic choice seemed to particularly influence contributions from children with EAL, as shown in Extracts 7.2 and 7.4.

These examples showed the adult choosing the topic and in some cases repairs were offered by the adult, in an attempt to shape the conversational topic. It is the nature of the repairs offered and the effect of these repairs that is examined in the next section.

7.5 Feedback and repairs

Repairs to understanding are a common feature of conversation and formed the third theme to emerge from CA. The nature of the repairs offered and their effect in either

opening up or closing down the conversation was examined, to explore any differences for children of differing language levels. Analysis of these episodes, selected as characteristic of more sustained or elaborated conversation, did not reveal any particular differences in the use of open or closed feedback to children with differing language levels. As already shown in Section 7.3, however, children with lower language levels in these examples tended to offer fewer follow-up turns either spontaneously or in response to adult feedback, in particular they rarely offered any further information. Further examples are analysed here, to show the different effects of two repair strategies; repeats and recasts and inviting children to question their own responses, a technique which the adult was observed to use frequently.

7.5.1 Repair in response to repeats and recasts

Repeats of children's responses by the adult were a common feature of conversations, as can be seen in many of the extracts previously included. For example in Extract 7.2 almost all of the children's responses are repeated by the adult, in a pattern of alternate adult-child turn-taking. Sometimes the repeats were used as a check for clarification by the adult and analysis showed that it was not unusual for them to result in acceptance by the child with no further turn taken. Examples of this can be seen in Extract 7.5 (lines 51 to 63), where the topic was Child-led. Sometimes the repeat was followed by the adult prompting the child with specific vocabulary, which was usually accepted with a "yes" or a nod (e.g. Extract 7.5, lines 79 to 81).

In some cases, a check for clarification, where the adult repeated or expanded the child's turn, did result in more information being given. Extract 7.5 (lines 64-68) contains an example involving Child 19, where he accepted the adult's repeat as an invitation to take another turn and offered more information without a direct question being asked. Episodes showed two further examples of other children, also with higher language levels, expanding on their answers in response to requests for clarification from the adult (see Appendix 9 i) and iv)).

Two instances also showed children with higher language levels responding to repeats in rather different ways, to repair understanding. Earlier in Extract 7.5 (lines 42 to 47), Child 19 responded to the adult's repeat of another child's response. In this turn (line

43) he offered an explanation for a previous turn he had made at line 37 (not included here), in which he had indicated that he did not know the answer to the adult's question when it was put directly to him. He went on to add to this at line 46, without further question from the adult. In Extract 7.1, Child 7 used his turn (at line 35) to correct the previous adult turn, which was itself a repeat and expansion of his turn at line 32. He then added further information to clarify the adult's repeat of his repair (lines 36-37). Only one such similar example was found in the transcripts for a child with lower language levels. In this example Child 1 corrected the adult's expansion of his turn, but added no further information to clarify the response. Successful repair was not achieved and the adult went on to take another turn. The text of the conversation is given in Extract 7.6.

Extract 7.6

Context: Session 10. Child-led topic. All 9 children were present. The adult picked up the topic from Child 1, whose birthday it was. She was helping him to talk about this to the other children as a group.

{00:08:01.01} C1: I had my CARds
A: Yes
C1: Presents
A: Mmm what was in your pre::sent
C1: I (didn't) no (.) didn't have one
{00:08:12.24} A: You didn't no ((Shakes head))

7.5.2 The invitation to question as feedback

Analysis showed dispreferred responses from children, that is, incorrect answers or information not considered relevant to the topic, were dealt with in two different ways by the adult. On occasion direct feedback was offered indicating that it was not accepted. For example the adult explicitly stated "It's not....". Such direct feedback was commonly softened by the adult with phrases such as "a good try though". This softening was a more general feature of the way in which incorrect dispreferred responses were received and was frequently made through the use of an invitation to self-repair. Such phrases as "Did he have....?", "Is that what you think...?", "Do you think they would...?" acted as an offer of a further turn to the child, to expand and

revise their previous turn if they wished. Sometimes such feedback was picked up by other children to join in and continue the conversation. Extract 7.7 is given here as an example to examine further what was accomplished by this type of feedback from the adult.

Extract 7.7

Context: Session 20; Adult-led topic. 8 children were present. This extract is taken from the same session as Extract 7.3, where the children were introduced to cornflour and water as a play medium. The adult responded to children's talk, encouraging them to question the properties of the material.

- 44 C19: I know what that is dry:: glu:::
→45 A: Dry glue do you thi::nk? so
46 C19: Yee::h it feels (.) it feels dry on my fingers
47 A: shall we add a little bit more water
48 C?: Yeh
49 A: There you go (.) It's starting to dry up a little bit
- 121 A: Do you think it's hard[or
122 C19: [it goes like chappatis
123 A: Do you think it's hard or soft
124 C?: Soft=
125 C10 =Soft
126 C?: It's soft
→127 A: What about when we pick it up like this look and make it into [a ball
(Holds some and squeezes it)
128 C11: [how bout
thi::s
129 C19: Like goes straight [like
130 C10: [Look at my big one and that's just made bigger
- 310 C13: Mrs A put some more colouring in
311 A: Put some more colouring in
312 C13: Yeh
313 A: what do you think would happen to the green if we add more green
314 C19: I (.) it would turn blu::e
→315 A: It would go blue do you thi::nk so if we add Gre::n
316 C19: And
317 A: To the Light green what would happen to it
(Looks from C19 to C10)
318 C19: It would go dark green

319 A: Do you think. so shall we add some

In these examples, rather than correcting the children's responses directly, the adult used a question to invite a further response (→). The adult's turn acted to elicit further information from Child 19 (lines 46 and 129). On the third occasion here it also resulted in the child correcting a previous answer (line 318).

7.5.3 Differences in feedback and repair for children with higher and lower language levels

To summarise, in the episodes analysed, children with lower language levels in particular generally took no further turn in response to the adult repeating and/or expanding the child's turn, beyond confirming the adult's clarification. Where the child did not offer any response, the adult may have prompted with a suggested answer, which was accepted by a simple confirmation but did allow the conversation to move on. In contrast there were examples, for some children with higher language levels, in which adult repeats as a request for clarification or an invitation to question were shown to result in the children giving more information. Two of these children were also observed to make a self-repair to the conversation in response to the adult's repeat.

7.6 Summary of findings from Conversation Analysis

Conversation Analysis of sustained episodes of children's talk, within small group conversations in the nursery, illustrated three themes which helped to provide an account of the ways in which conversational experiences may differ for children of different language levels and needs. Features of both informal and educational patterns of talk were demonstrated. Educational patterns of talk were characterised by adult management of turn-taking, with the adult taking alternate turns and directing the topic, through acceptance or non-acceptance of the children's turns. Frequently, children's responses were not expanded upon. Conversely, informal conversations were characterised by turn-taking between the adult and one child, with the adult accepting the child's topic choice. A third, mixed pattern of conversation was also observed, in which the adult took a role in managing turn-taking, but then allowed contributions out of turn or away from the specific goal set by her.

Analysis revealed some differences in conversational participation between children with higher and lower language levels. Children with lower language levels were observed to join in where the turn-taking was managed by the adult; on a familiar or non-abstract topic or one with perceived personal relevance to them and where they picked up on and used vocabulary from a previous turn. The adult was observed to make repairs to the communication where necessary and the children tended not to give further information spontaneously, with a simple yes or no in response to adult expansion. In contrast, children with higher language levels were demonstrated to pick up on and develop ideas from previous turns, offering their own vocabulary. They gave more information in response to acceptance of their turn by an adult, often spontaneously taking a further turn. They were shown, on occasion, to offer their own repairs to understanding. The use of educational patterns of turn-taking was associated, for these children, with explicitly stated or implicit rules about turn-taking and topic management.

These findings offer possible illumination to some of the results of the quantitative analysis. The positive correlation between rates of Child Initiation and Responses Received and Responses Made can be explained by the difference between children in the offering of further information. Turn-taking patterns could account for some of the differences found between discussion types. An educational pattern would result in the adult taking every other turn, especially a feature of Adult-led topic discussions, so accounting for the higher rate of Adult Initiations. More informal patterns of conversation, at Individual-time for instance, would account for a higher rate of Child Initiations and Responses Received by individual children. The association of higher rates of Adult Initiation with lower language scores on the CELF Pre-School 2 (UK) at least, would be consistent with the finding that, for children with lower language scores, the adult often initiated the turn for the child and made repairs to the conversation, with the child taking no further turns.

It remains now to examine the information provided from the practitioner and parent questionnaires about children's responses in different contexts, to understand how typical these observations were of the children's language.

Chapter 8: Findings: Questionnaire Data

8.1 Overview of the chapter

Analysis of responses to the practitioner and parental questionnaires is presented here in order to look at others' perceptions of children's likelihood of talking with various audiences and any relationship with the children's language levels. Findings from practitioner reports from the nursery will be considered first. This is followed by reports from practitioners working with the children one year on. Comparison between the two is then made. Next, findings from statistical analysis of the parent questionnaires are presented. Finally this is followed by the comments that parents made when asked about their children's favourite topics of conversation and their child's language development, giving comparison with the topics associated with more sustained conversation in the conversations observed in nursery.

8.2 Practitioner Questionnaires

Questionnaires from the nursery key worker at the end of nursery, and from four different class teachers one year on, were compared. Practitioner ratings of the amount of talking shown by each child in situations with different group sizes and audiences at end of nursery and at end of reception year are given in Table 8.1, showing the frequency and percentage of each rating. These figures are further analysed in the following three sections below to examine first, the nursery key worker and secondly, reception teacher ratings. Finally comparison is made between perceptions of different participation rates at the end of nursery and the end of reception.

8.2.1 Nursery Key Worker responses

8.2.1.1 Amount of talk with different audiences

The nursery key worker's responses, completed for Cohort 2 at the end of the Nursery year are summarised in Table 8.1 and further illustrated in Figure 8.1. Analysis indicated that she perceived that most of the children (90%) were likely to talk a lot or some of the time, when one-to-one with an adult. Similarly, all the children were rated as talking a lot or some of the time in play with other children. There were, therefore, no children rated as talking very little in *all* situations.

Table 8. 1: Early Years practitioner ratings of the amount of talking by individual children in different situations at the end of nursery and the end of reception year.

Situation		Cohort 2 End of nursery (N =10)			Cohort 2 End of reception (N=9)			Cohort 1 & 2 End of reception (N=15)		
		A lot	Some	Very little	A lot	Some	Very little	A lot	Some	Very little
1-to-1 conversation with an adult	No.	4	5	1	4	5	0	9	6	0
	%	40%	50%	10%	44%	56%	0%	60%	40%	0%
Whole class conversations	No.	1	2	7	2	6	1	5	9	1
	%	10%	20%	70%	22%	67%	11%	33%	60%	7%
Small group conversations	No.	2	5	3	4	3	2	8	5	2
	%	20%	50%	30%	44%	33%	22%	53%	33%	13%
Play with other children	No.	5	5	0	8	1	0	---	---	---
	%	50%	50%	0%	89%	11%	0%			

In contrast 70% of the children were rated as likely to contribute very little in whole class discussions. Children were perceived as rather more likely to contribute in small group discussions, i.e. situations such as those videoed for the study, with a wider spread of participation reported. Most children were rated as likely to contribute some of the time or a lot, but 30% would have very little to say in small group discussions. On further examination, these three children were amongst the five lowest scoring children on the initial assessment on the CELF Pre-School 2 (UK). When data on interaction rates was compared to questionnaires for the 10 children in Cohort (2), the three children identified as likely to talk very little ranked lowest, fourth lowest and sixth lowest for rate of Child Initiations. Rankings were lowest, third and fifth lowest for rate of Responses Made and lowest, second lowest and seventh lowest for rate of Responses Received. The three children identified by the Practitioner questionnaires as

least likely to contribute in a small group were not all, therefore, amongst those with the lowest interaction rates.

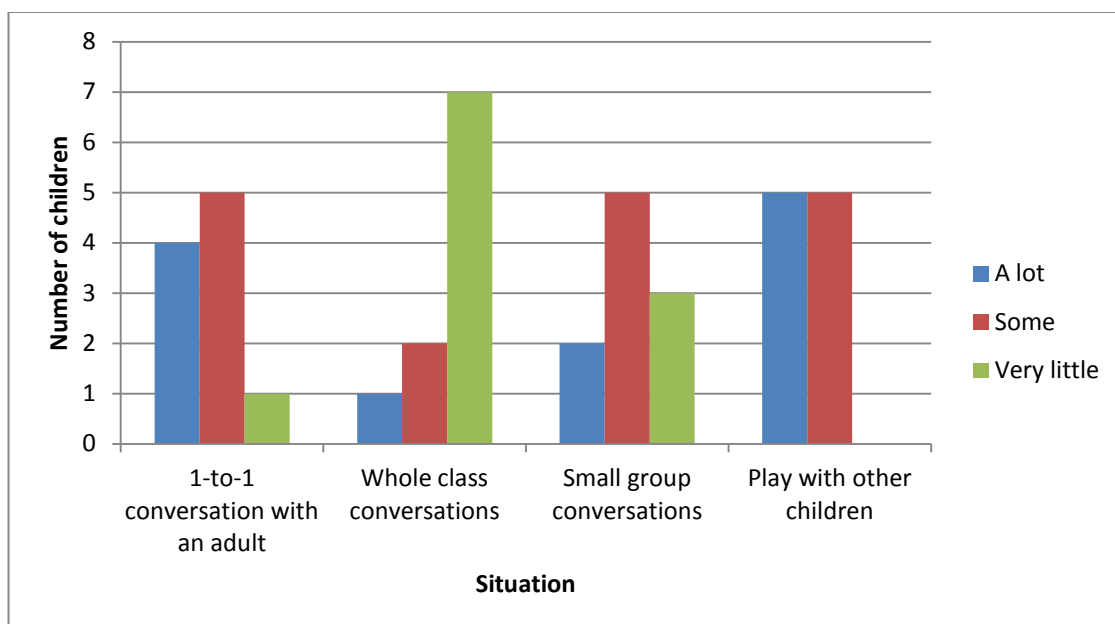


Figure 8. 1: Bar chart showing nursery practitioner ratings of amount of talking as a function of situation.

8.2.1.2 Comparisons for language level, first language, gender and age

Further analysis revealed that there were significant differences in perceived participation in conversation in different situations between children with different language levels on the initial CELF Pre-School 2 (UK). Comparisons were made between rankings for children scoring higher than Standard Score 80 and those scoring below 80, as outlined in Chapter 5.6.5. Data given in Table 8.2 show that the mean rankings for children with higher language scores were significantly higher both for whole-class conversations and small group conversations, indicating that they were rated as more likely to talk in these situations than were children with lower language levels.

Comparison was also made for gender and age. No significant differences were revealed for gender. The mean rankings for older children were higher than for the younger children and statistical analysis showed that older children were rated significantly more highly in their amount of talk in whole class groups, but the difference did not show significance in the other three situations (see Table 8.2). In this case, due to sample size, differences between groups on the basis of first language were unlikely to reach significance (see Appendix 10 for details).

Table 8. 2: Mean rankings for amount of talk in different situations in the nursery as a function of children's language level, gender and age.

Nursery situation	Language Level on CELF 1				Gender				Age			
	Level	N	Mean Rank	Mann-Whitney U <i>p</i>	Gender	N	Mean Rank	Mann-Whitney U <i>p</i>	Age	N	Mean Rank	Mann-Whitney U <i>p</i>
1-to-1 with an adult	Higher	5	6.70	6.50	M	5	5.20	11.00	Older	5	6.10	9.50
	Lower	5	4.30	<i>p</i> =.17	F	5	5.80	<i>p</i> =.73	Younger	5	4.90	<i>p</i> =.49
Whole class	Higher	5	7.00	5.00	M	5	5.20	11.00	Older	5	7.00	5.00
	Lower	5	4.00	<i>p</i> =.05*	F	5	5.80	<i>p</i> =.70	Younger	5	4.00	<i>p</i> =.05*
Small group	Higher	5	7.40	3.00	M	5	5.90	10.50	Older	5	6.60	7.00
	Lower	5	3.60	<i>p</i> =.03*	F	5	5.10	<i>p</i> =.65	Younger	5	4.40	<i>p</i> =.21
Play with other children	Higher	5	7.00	5.00	M	5	5.00	10.00	Older	5	7.00	5.00
	Lower	5	4.00	<i>p</i> =.07	F	5	6.00	<i>p</i> =.55	Younger	5	4.00	<i>p</i> =.07

**p* = 0.05

8.2.2 Teacher reports one year on

8.2.2.1 Amount of talk with different audiences

The ratings given by teachers for children after one year in full-time schooling are shown in Table 8.1 and further illustrated in Figures 8.2 and 8.3. All children were now rated as talking a lot or some of the time in one-to-one conversation with an adult. Of the children in Cohort 2, 89% were now rated as talking a lot in play with other children, compared to 50% at the end of nursery. With regard to whole class conversations, the majority of children (93%) were rated as talking a lot or some of the time in this situation. Only one child was rated as talking very little in whole class conversations. In small group conversations, there was a similar trend for children to contribute a lot or some of the time (86%). The two children identified as talking very little in small group conversations, were children who had shown lower language scores on the initial CELF Preschool 2 (UK) assessment. They also had the lowest and fourth lowest rates of Child Initiation, for their cohort. They were lowest and third lowest in rate of Responses Made and lowest and second lowest for rate of Responses Received.

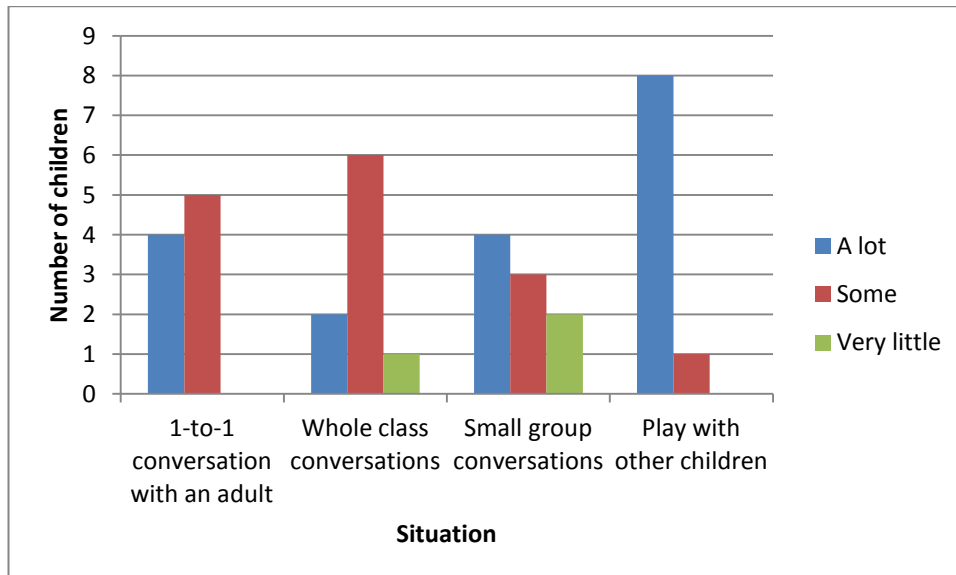


Figure 8. 2: Bar chart showing class teacher ratings of amount of talking at the end of Reception Year (Cohort 2) as a function of situation.

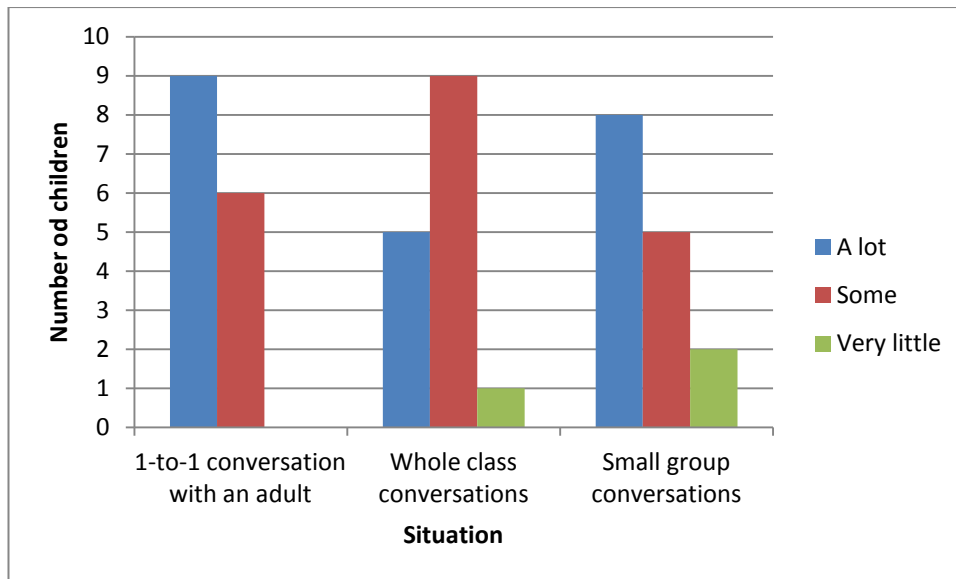


Figure 8. 3: Bar chart showing class teacher ratings of amount of talking at the end of Reception Year (Cohorts 1 and 2) as a function of situation.

8.2.2.2 Comparison for language level, first language, gender and age

When further comparisons were made on the basis of initial language level, first language, gender and age a significant difference was shown for participation in the small group situation for language level. Data is summarised in Tables 8.3 and 8.4. From the data in Table 8.4, combining all responses, it can be seen that children with higher initial language scores on the CELF Preschool 2 (UK) had significantly higher mean rankings for participation in small group conversations.

8.2.3 Comparison of practitioner ratings at end of nursery and one year on

For nine children in Cohort Two data were available to allow an analysis of the difference between the ratings given by the nursery key worker and the Reception class teacher, to look for differences in perceptions of children's willingness to talk during different situations at the end of Nursery and one year on. There was no significant difference in perceptions of amount of children's talk one-to-one with an adult (Wilcoxon, $N = 9$, $z = -0.45$, $p = 0.65$), in the small group (Wilcoxon, $N = 9$, $z = -1.73$, $p = 0.08$) or in play with other children (Wilcoxon, $N=9$, $z = -1.73$, $p = 0.08$) at the end of Nursery and one year later. Children were, however, perceived as talking significantly more in the whole class situation at the end of Reception than at the end of Nursery (Wilcoxon, $N=9$, $z = -2.45$, $p=0.01$).

Table 8. 3: Mean rankings for amount of talk in different situations in Reception class as a function of children's language level, first language, gender and age group (Cohort 2).

Classroom situation	Language Level on CELF 1	N	Mean Rank	Mann-Whitney	Gender	N	Mean Rank	Mann-Whitney	Age	N	Mean Rank	Mann-Whitney		
				U				U				U		
				<i>p</i>					<i>p</i>					<i>p</i>
1-to-1 with an adult	H	4	6.38	4.50	M	4	5.25	9.00	Older	5	5.70	6.50		
	L	5	3.90	<i>p</i> =.12	F	5	4.80	<i>p</i> =.78	Younger	4	4.12	<i>p</i> =.32		
Whole class	H	4	6.50	4.00	M	4	4.62	8.50	Older	5	5.40	8.00		
	L	5	3.80	<i>p</i> =.08	F	5	5.30	<i>p</i> =.66	Younger	4	4.50	<i>p</i> =.56		
Small group	H	4	6.62	3.50	M	4	5.12	9.50	Older	5	5.60	7.00		
	L	5	3.70	<i>p</i> =.09	F	5	4.90	<i>p</i> =.80	Younger	4	4.25	<i>p</i> =.43		
Play with other children	H	4	5.50	8.00	M	4	5.50	8.00	Older	5	5.50	7.50		
	L	5	4.60	<i>p</i> =.37	F	5	4.60	<i>p</i> =.37	Younger	4	4.38	<i>p</i> =.27		

H= higher than Std Score 80; L=Std Score 80 or below.

Table 8. 4: Mean rankings for amount of talk in different situations one year after nursery as a function of children's language level, first language, gender and age group (Cohorts 1 and 2).

Classroom situation	CELF 1 Score	N	Mean Rank	Mann-Whitney	First Language	N	Mean Rank	Mann-Whitney	Gender	N	Mean Rank	Mann-Whitney	Age	N	Mean Rank	Mann-Whitney
				U				U				U				U
				<i>p</i>					<i>p</i>					<i>p</i>		
1-to-1 with an adult	H	7	9.93	14.50	English	9	8.50	22.5	M	7	7.79	26.50	Older	9	8.50	22.50
	L	8	6.31	<i>p</i> =.07	EAL	6	7.25	<i>p</i> =.53	F	8	8.19	<i>p</i> =.84	Younger	6	7.25	<i>p</i> =.53
Whole class	H	7	10.00	14.00	English	9	8.33	24.00	M	7	8.29	26.00	Older	9	9.33	15.00
	L	8	6.25	<i>p</i> =.06	EAL	6	7.50	<i>p</i> =.68	F	8	7.75	<i>p</i> =.80	Younger	6	6.00	<i>p</i> =.10
Small group	H	7	10.57	10.00	English	9	9.33	15.00	M	7	8.21	26.50	Older	9	8.94	18.50
	L	8	5.75	<i>p</i> =.02*	EAL	6	6.00	<i>p</i> =.12	F	8	7.81	<i>p</i> =.85	Younger	6	6.58	<i>p</i> =.27

H= higher than Std Score 80; L=Std Score 80 or below. **p* = 0.05 level.

8.3 Parental questionnaires

Table 8.5 provides a summary of the responses from ten parents to a questionnaire about their child's everyday communication skills, for the children in Cohort Two. Analysis of responses will be considered first under the different aspects of conversational competence covered by the questionnaire. Parental responses about topics for conversation are then reported and lastly general comments about their children's language are given. Results of the cross-tabular analysis as a function of initial language scores, gender, home language and age are given in Appendix 10.

8.3.1 Initiating conversation and holding the floor (Questions 1 to 5 and Question 8)

The first five questions asked parents about the ways in which their child would initiate conversation with them and keep the conversation going. All of the children were reported to initiate conversation in some way, at least some of the time with a parent. Children were most frequently reported to get attention by calling or saying something, with nine always doing this. Three of the children were also reported to always touch or tap to get attention, while a further four did this sometimes. Responses indicated that most children would always say something about something that interested them and all nine parents who responded thought this would always or sometimes be the case. Pointing and naming were also frequently used by children to indicate something of interest, with half the children reported to always point and five always saying the name.

Parents of half of the children reported that their child would always be able to tell them clearly about something that had happened, with a further four reporting that this would occur sometimes. The majority of respondents thought that their child would sometimes answer their questions about something that happened. The responses indicated that children, at least some of the time, would take part in extended conversation. All parents reported that their child would talk in sentences when taking part in conversation with them; nine reported this always to be the case. The use of pointing, smiling and gestures by their child was also reported to be used always by four of the children, sometimes by one and rarely by one.

Table 8. 5: Summary of parents' responses to checklist about their children's everyday communication skills.

		Number of responses		
		Always	Some-times	Rarely
1	My child gets my attention by i)- touching or tapping me ii)- calling me or saying something.			
		3	4	1
2	If something interested my child they would i)- point at it ii)- say it's name iii)- say something about it.			
		9	1	0
3	If something happens my child lets me know by i)- showing me ii)- answering my questions iii)- telling me clearly.			
		5	3	0
4	My child takes part when we are together by i)- pointing, smiling and gestures ii)- words and phrases iii)- talking in sentences.			
		1	5	0
5	During a conversation my child i)- starts the talking ii)- keeps conversation going by taking another turn iii)- likes to carry on talking on and on.			
		5	4	0
6	Conversation breaks down with my child because i)- I can't understand their speech ii)- they can't explain what they mean.			
		4	4	0
7	If I don't understand my child he/she will i)- give up ii)- get upset iii)- keep on repeating what they are saying iv)- try to find another way to say it.			
		6	3	1
8	When my child overhears a conversation she/he i)- pays no attention ii)- reacts to their own name iii)- reacts to important words iv)- asks what is being said v)- tries to join in.			
		0	3	5
		0	3	6
		0	2	5
		1	3	4
		3	4	1
		2	5	1
		0	3	4
		5	3	0
		2	5	0
		4	3	1
		5	2	1

		Number of responses		
		Always	Some-times	Rarely
9	My child talks to			
	- dad/mum	10	0	0
	- others in the family	10	0	0
	- other adults they know well e.g. teacher/carer	8	2	0
	- other children	6	4	0
	- visitors to the home	5	4	1
	- anyone they meet.	2	3	5
10	My child talks			
	-at home	10	0	0
	- at nursery/ daycare	8	1	0
	- at friends' homes	8	1	0
11	- in a group.	6	3	0
	My child talks when			
	-looking at books with an adult	10	0	0
	- doing things with an adult	9	1	0
- playing by him/herself	7	3	0	
-playing with other children.	8	2	0	

Parents of six children reported that their child always likes to carry on talking during conversation with them, three were reported to do this sometimes and one child was reported only rarely to carry on talking on and on. In four cases parents reported that their child always starts the talking and takes another turn and a further four that the child sometimes did so.

Question 8 asked parents about whether the child would join in a conversation they overheard and there was more variation in parents' perceptions of their child's joining in under these circumstances. The majority of parents who responded reported that their child would always try to join in. Only one parent reported that their child would only rarely try to join in.

Parents' responses were compared on the basis of children's initial language level, first language, gender and age. Frequencies for those cross-tabular comparisons that were statistically significant are shown in Table 8.6. This revealed that those children with

higher language skills on the initial CELF Pre-school 2 (UK) were significantly more likely to be rated as always talking at length in conversation with a parent (two-tailed Fisher exact $p=0.05$) than children with lower language skills. Children with higher language skills were also significantly more likely to be rated as only rarely paying no attention when overhearing conversation, whereas those with lower language skills were more likely to be rated as sometimes paying no attention (two-tailed Fisher exact $p=0.03$). Complete tables of results are given in Appendix 10.

Table 8. 6: Cross-tabular comparison of responses to parental questionnaires showing statistical significance, as a function of Pre-School 2 (UK) score.

Question	Language level	Always	Sometimes	Rarely	Fisher Exact
5 iii) During a conversation my child likes to carry on talking on and on.	Higher	5	0	----	0.05*
	Lower	1	4	----	
8 i) When my child overhears a conversation she/he pays no attention.	Higher	----	0	4	0.03*
	Lower	----	3	0	
9 iv) My child talks to other children.	Higher	5	0	----	0.05*
	Lower	1	4	----	
10 iv) My child talks in a group.	Higher	5	0	----	0.05*
	Lower	1	3	----	

* $p = 0.05$ level

8.3.2 Repair and making yourself understood (Questions 6 and 7)

Parents were asked to report their perceptions about why conversation may break down with their child and how the child would be likely to respond. The majority of respondents indicated that conversation broke down only rarely because they could not understand their child's speech or because the child was not able to explain themselves. There were no parents who responded that this happened "always". Most parents responded that their child would rarely give up if they could not be understood, and half of those who responded thought that their child would rarely get upset in these circumstances. Children were most frequently reported to sometimes keep on repeating what they wanted to say in these circumstances, with three always

using this strategy and only one child rarely doing so. The majority of children were reported to use the strategy of trying to find another way of saying something if they could not be understood; seven of the children were reported always or sometimes to do this, and only one rarely to do so.

In comparing responses for children with different initial language levels, first language, gender or age, there was only one significant difference found. Analysis indicated that the girls were more likely to always repeat themselves if they could not be understood than the boys (two-tailed Fisher exact $p=0.03$). Cross-tabular frequencies for this question are shown in Table 8.7. There were no significant differences between the children with higher and lower initial language scores on the CELF Preschool 2 (UK) on these questions. (See Appendix 10 for complete results.)

Table 8. 7: Cross-tabular comparison of responses to parental questionnaires showing statistical significance, as a function of gender.

Question	Gender	Always	Sometimes	Fisher Exact
7 iii) If I don't understand my child he/she will keep on repeating what they are saying.	Male	0	4	0.05*
	Female	3	0	

*p = 0.05 level

8.3.3 Talk in different contexts (Questions 9 to 11)

Parents were asked about the child's conversational responses to different people, in different places and contexts. All the parents reported that their child would always talk to mum and dad and to others in the family, at home and when looking at books with an adult. The majority of children were also reported to talk to other adults they know well, at nursery, at friends' homes and when doing things with an adult. All the children were reported to talk to other children, but there was variation in how frequently, with six always and four sometimes doing so. Most of the children (nine) would talk to visitors to the home either always or sometimes, but only two would always speak to anyone they met, with half rarely doing so. There was more variation in responses about children's talking in a group; six parents reported that their child would always talk in a group, but three thought they would only do this sometimes. All the children were reported to talk when playing by themselves either always or

sometimes and when playing with other children, with eight always doing so and two doing so sometimes.

Comparison between groups of children on the basis of initial language levels, first language, gender and age revealed some significant differences for language level (see Table 8.6 above). Children who scored more highly on the initial CELF Pre-School 2 (UK) were more likely to be reported to always talk to other children, whereas those children with lower initial scores did so sometimes (two-tailed Fisher exact $p=0.05$). Similarly, those children with higher initial language scores were rated significantly more frequently as always talking in a group than those children with lower initial scores, who were rated as doing so sometimes (two-tailed Fisher exact $p=0.05$). Again, results of the complete cross-tabular analysis appear in Appendix 10.

8.3.4 Topics for conversation

When asked to list the things their child liked to talk about most, all parents made a response and these are collated in Table 8.8. Topics mentioned most frequently included daily experiences and activities, either recalling or asking about them; favourite activities or interests (those mentioned included animals, football, toys); specific family members and cartoon or fantasy characters. Several of the topics were similar to those that were associated with more sustained conversations as analysed in Chapter 7.4.3., notably, princesses, super heroes, stories, things that the children were involved in doing and family members.

8.3.5 General comments on children's language development

When asked to give comments about their child's language development, seven parents wrote a comment and these are collated in Table 8.8.

Table 8. 8: Parents' comments on topics for conversation and general language development.

The things your child likes to talk about most:

- Princess things and dressing up and “mum can you buy me..”
- What they have done today, talks about what they are playing with.
- Animals, she loves cats and dogs and also loves school.
- Likes to talk about her sister and her doll Katy. She talks about day-to-day activities, she is always talking about different things.
- Superheroes (Batman, power rangers, Buzz lightyear etc.); funny things he remembers-couple of days previous; Auntie and her partner; holidays been on.
- What’s happening and why e.g. “why are we going there? Why are they doing that?”; enjoys talking about the horses we feed and see.
- Games, cartoons, books and stories; very confident and talkative child.
- All sorts of things. Enjoys our “what was your favourite part of the day” chats and will often ask questions back.
- Brother, things enjoys doing such as reading, painting, colouring, drawing, jigsaws. Asks a lot of questions. Has an interest in most things.
- Cars, football.

Comments about your child’s language development:

- My child’s language development is outstanding. She has always been a chatterbox and loves sharing her ideas.
- My child is really creative and imaginative. Understands a lot of things but sometimes cannot pronounce some of her letters. She goes for speech therapy because of some of the sounds when pronouncing a word or speaking too quickly, but did still have a dummy until 4 and 1/2.
- My child can speak in full sentences fluently, but has or seems to have with myself, little concentration when trying to do maths or learning to write. Will, however, spend ages listening to stories.
- Very quiet around people don’t know, but has a good knowledge on language skills.
- My child’s speech is improving but it’s often hard to know what he is talking about unless you know the context e.g. “can we go where colours one?” made no sense and I struggled to understand even when added “we hab a green one.” Meant on holiday the hotel doors were different colours and our door was green. He sometimes ends up almost dropping into a babble instead of coherent speech.
- Has very clear speech/language can express self well.
- Does seem to get bored when reading. Loves talking at home.

All these parents gave a positive comment and several parents gave very positive reports of their children's language development, using descriptions such as 'outstanding', 'creative and imaginative' and 'can speak in full sentences fluently'. They were also able to recognise that this might not always be the case and were realistic in their appraisals e.g. 'sometimes cannot pronounce some of her letters', 'very quiet around people don't know'. In all, responses show that five of the parents expressed some degree of concern or recognition that the child may not always communicate successfully in all circumstances. Comments from two of the parents indicated that they recognised that their child may not talk a great deal outside of the home. Of those children whose parents expressed some concern about their language development, three of the children, including the two reported not to talk a great deal outside of the home, were amongst the children with lower scores on the initial CELF Pre-School 2 (UK) language assessment.

8.4 Summary of questionnaire findings and comparison with observational data

Questionnaire ratings by practitioners indicated perceived differences in amount of talking by children in front of different audiences. Group size was seen as a relevant factor in whether children would talk or not, but the relevance of this decreased over time. All children were seen as likely to talk more one-to-one with an adult, or in play with other children, than in a group. In the nursery, most children were reported to be likely to join in with whole class conversations only rarely, but at the end of the Reception year there was a significant increase in the reported likelihood of children contributing to whole class conversations. Ratings of the amount of talking shown by children in the nursery during small group and whole class conversations showed a significant relationship to their initial language score. Children with higher language scores on initial assessment were rated as participating more highly. By the end of Reception this effect was shown only for the small group situation. In the nursery, younger children were significantly more frequently reported as talking less in whole class conversations. Numbers, however, are very small and all results would require further investigation.

The children identified as likely to talk very little in small group conversations at the end of nursery, were not necessarily those with the lowest interaction rates in the observational data. Practitioner ratings did not necessarily, therefore, corroborate with the observational data on interaction rates. One interpretation may be that practitioner's perceptions of how frequently children join in with conversation may not necessarily reflect the actual frequency. It should be remembered, however, that the quantitative observational measures included any verbalisation, regardless of meaning. In making their assessments practitioners may have been including more qualitative assessments of perceived contribution to discussion. This could be further reflected by the fact that the children identified as likely to talk very little in the small group were among the lowest scoring on initial assessment of language levels.

Parents' responses indicated high rates of initiation and participation in conversation one-to-one with familiar adults in the home, with children most frequently talking in sentences and taking a further turn in conversation. Responses indicated, however, that some parents thought that their children would talk less to other children or in a group and analysis revealed that these children were those who had lower scores on language assessment at the start of the study. In addition children with higher language levels were rated as more likely to pay attention to overheard conversation. Parents were able to give a range of topics that their children would be most likely to talk about and these included daily events, favourite toys or activities, cartoon or fantasy characters and family members. Some of these topics were the same as those noted, from the qualitative analysis, to encourage participation in conversation in nursery.

The questionnaire data collected did, then, to some extent confirm the variation in children's participation in small group conversations noted from the video observations. Further analysis of the questionnaire responses also indicated that this may relate to the children's language levels in some circumstances. The topics identified by parents that children were most likely to talk about were also reflected in the more elaborated conversations selected for qualitative analysis.

Chapter 9: Discussion

9.1 Overview and summary of research rationale

Children's development and use of language within the educational context has been a topic of interest to researchers for several decades, particularly in view of the relationship demonstrated between oral language and later academic and social skills (Bowyer-Crane et al, 2008; Dickinson & Tabors, 2001; Lindsay et al, 2007; Loban, 1964; Snowling et al, 2003; 2011; Stringer & Lozano, 2007). Within the domain of Early Years practice, there has been some discussion on the nature of the different paths children take in language learning and the effects of context on language use (e.g. Tabors, 1997; Tizard & Hughes, 2002). However, the majority of studies have focussed either on the adult behaviours thought to be associated with positive promotion of language development or on the evaluation of specific, targeted interventions (see Bowyer-Crane et al, 2008; Dockrell et al, 2006; Girolametto et al, 2003; Pence et al, 2008; Wasik, et al, 2006; Whitehurst & Lonigan, 1998). This study differed from previous studies in focussing on children's own use of language, in particular detailed analysis of dialogue, to uncover some of the factors that may operate to challenge or support language in context.

Some studies have focussed on the distinct nature of the nursery as a communicative environment (e.g. Connor, 2003; Flewitt 2005; Tizard & Hughes, 2002). The present study built on the work of those studies by examining in detail the children's own use of language with an adult, in the context of small group discussions in the nursery. The aim was to increase understanding of the opportunities offered for hearing and practising language and receiving feedback and examine how this was linked to children's own language development. An interactionist approach to language was taken, viewing conversational competence as occurring within the specific context presented by the environment and child's level of language development. It was then appropriate to apply both quantitative and qualitative methods to data collection and analysis, relating children's language opportunities and outcomes to their language levels.

The findings are discussed here in terms of the affordance of opportunity offered for different children to develop and use their language skills. Firstly, attention was given to what happens in the nursery; how frequently, for example, different children take up opportunities, either by initiating themselves or by responding to others. Focus was also on the number of occasions where the child took two or more subsequent turns as a measure of more extended talk. This was supplemented later through qualitative analysis, using CA as a method centring on the study of sequences of talk to investigate how various outcomes may have been achieved. Through such an approach it was possible to look at the way in which more sustained conversation developed within the group, as well as an individual's turns.

The second research question focussed on the interface between children's interaction rates and their level of language. The aim was to shed light on the extent to which children's take up of the opportunities offered was related to their language ability in general. It might be supposed, for instance, that children with higher language levels would take up more opportunities. In turn then, being able to take advantage of the opportunities offered would offer further chance for them to practise language skills and receive feedback. Review of the literature would suggest that adult feedback and repair should act to further enhance their language development, possibly increasing the gap between those of higher and lower levels to start with (Cazden, 1983; Ninio & Bruner, 1978; Saxton, 2008; Saxton et al 2005; Snow & Ferguson, 1977). For this reason language levels were measured again at two later intervals, to establish whether there was any association between language use in the nursery and later language levels. Other factors which might have been associated with differences in language level and/or interaction rates are also discussed here.

The third area of interest was in how conversational experiences may differ for children with different language levels, as a way of examining the processes that would encourage language use. This allowed exploration of the impact of turn-taking, strategies for repair and conversational topic on communication, so helping to highlight the circumstances under which children might be more likely to speak. The role of the group in offering opportunities for more sustained shared conversation also became apparent through this analysis. In addition, some comparison was made with

those strategies that are generally recommended to practitioners, considering their relevance and effectiveness within the context of the nursery conversations (e.g. Girolametto et al, 2003; Justice & Sofka, 2010).

It could be argued that the small group conversations observed were not necessarily typical or representative of the children's language in general and that children may talk more either individually with an adult or with each other. The rationale for the choice of situation is evaluated in this chapter. Cross-comparison with questionnaire reports from practitioners and parents is also discussed here as providing some support for the representativeness of the situation in terms of children's communicative skills.

The main findings from the study are discussed in this chapter, along with their implications.

9.2 Characteristics of small group talk

Questions about the opportunities for verbal initiation and response offered by small group talk in the nursery were addressed first through quantitative analysis discussed here. Questionnaire responses from practitioners and parents are considered alongside the data from quantitative coding made from the video observations, to examine the extent to which they cross-validate with each other.

9.2.1 Initiation and response rates

Previous studies have indicated that typically, between 50% and 70% of words spoken during classroom discussion are uttered by the teacher (Cazden, 2001). The present study did not measure the percentage of adult talk per se, but overall the finding was that the majority of the talk was addressed between the adult and the children. Only 15.7% of children's initiations, and 5.5% of their responses, were made to another child. Inter-rater reliability was acceptable for the general categories of Child Initiations and Responses Made (83.1% - 91.6%). The difference in number between adult-child and child-child interactions was large. It was therefore considered worthwhile to calculate the relative percentages for the sub-categories, even though inter-rater reliability within the sub-categories was in the marginally acceptable range (53.8% - 65.8%). This lower reliability for child to child initiation or response is likely to

be due, in part at least, to the very fact that the numbers are low. The implication was, then, that the small group conversations for the most part demonstrated talk addressed by and to the adult, rather than between the children.

Further, quantitative analysis indicated that the adult initiations to talk were made equally to the group in general and to individual children. The overall percentage of adult initiations to the group was 48.66%, with 51.34% being directed specifically to an individual child. As might be expected, there were strong positive correlations between children's own rates of initiation and responses received ($r = .92$), child initiation and responses made ($r = .91$) and also between responses received and responses made ($r = .99$). The indication was that the more a child talked, the more they were responded to, and so opening up further opportunities for making another response. The finding that the rate of Adult Initiation did not vary either negatively or positively with the child's own interaction rates would point towards the adult initiating equally to all children. The implication is that the variation in children's rates of interaction occurred despite a similar number of initiations made to them as opportunities to talk. It should be remembered, however, that about half of all Adult Initiations were made to the group as a whole, restricting the range in difference in this rate compared to the children's own rates of interaction. This restriction in range could, then, possibly account for the fact that there was no correlation between the adult's initiations and children's own rates of interaction.

Questionnaire responses also signified variation in children's willingness to talk in a small group, although the data were only available for ten children. 70% of the children were reported as talking some or a lot of the time in small group conversation by their nursery key worker. In contrast, however, all children were rated as talking some of the time or a lot in play with others and only one child was rated as rarely talking one-to-one with an adult. A similar variation emerged from parents' responses. 66% of parents thought their child would always talk in a group, with a further 33% reported as talking some of the time in a group. In comparison, all the children were rated by their parents as to talk always with family members at home. The children were then generally rated as more likely to talk by their parents than by nursery staff,

in keeping with previous studies showing that children spoke more at home than in nursery or school (cf Flewitt, 2005; Tizard & Hughes, 2002; Vernon-Feagans 1996).

9.2.2 Extended conversations

The identification of extended turns was included as a measure of potential opportunities for more elaborated conversation and practise of conversational skills. Such opportunities could be considered a necessary pre-cursor for the development of children's skills in dialogue and to the later development of use of language for narrative requiring, as it does, a continuous flow of language linking ideas. Indeed, Dickinson et al, (2008) proposed that engaging in multiple-turn conversations was one of the two things that would make a significant difference to children's language development in nursery. Comparatively few incidences of extended conversation were revealed, with 28.6% of conversations consisting of two or more turns from the child. Although there are no directly comparable figures, this is in line with other studies, which have also indicated comparatively few episodes of extended conversations in the nursery or school setting. The EPPE study indicated that episodes of shared sustained thinking made up just over 5% of cognitive and social interactions in effective nurseries (Siraj-Blatchford, Sylva, Muttock, Gilden & Bell, 2002). Tizard and Hughes (2002) reported that around two thirds of conversations in the nursery were made up of six or less adult-child turns. Similarly, Radford et al described the number of sequences of adult-child talk with a pedagogical focus, involving teacher and teaching assistant, as "surprisingly few" (Radford et al, 2011, p. 627).

These extended turns were as likely overall to be initiated by the child as by the adult. However, a negative correlation ($r = -.87$) was found between the percentage of the child's extended turns that were adult-initiated and the rate of child initiations and also, of course, the percentage of extended turns that were child-initiated. Where a child initiated less in general, the child's extended exchanges were more frequently adult-initiated. The indication was that the less the child talked, the greater was the percentage of adult initiated talk, with the adult perhaps initiating more in an attempt to encourage the child.

The indication was, therefore, that for the most part children were not deriving the benefit of practising their use of language in the light of specific individual feedback or developing flow of talk. Moreover, when using quantitative coding, extended turns cannot necessarily be taken as an indication of more elaborate talk. A turn could be a simple yes/no or a repetition of the adult. What this type of simple counting and coding does not allow is an examination of the quality of talk, or for example whether more extended turns are likely to happen in response to particular topics, types of adult initiations or responses. Only further qualitative analysis could shed light on questions of this type, as discussed in Section 9.4.

9.2.3 Discussion types and opportunities to talk

Considering the observations as offering distinct types of discussion reported in previous studies did reveal some significant differences in initiation and response rates. The rate of Adult Initiations was higher during Routine and Adult-led topic discussions. A moderate effect size was indicated, with discussion type accounting for about 60% of the variance in Adult Initiations. Such a finding is perhaps not surprising, but confirms the different nature of opportunities for talk with the adult taking the lead by initiating more frequently where the topic is pre-determined by her or follows a familiar pattern. Equally, Routine-type discussions were the only type in which the rate of Responses Made by children was significantly higher than in Adult-led topic discussions, although overall there was no significant difference in the rate of Responses Made across discussion types. Such Routine discussions could be likened to the scripted and predictable interactions reported to be associated with more progress in language made by children with EAL (Connor, 2003). The higher rate of responses from children would be an indication that such interactions do indeed provide a forum for language use within a well defined context.

Statistical analysis revealed that Individual-time offered different opportunities for talk; there were more initiations to talk by children and more responses received. Rates of Child Initiation and the number of Responses Received were higher in Individual-time than in any other discussion type. Again, the effect size was a moderate one, with discussion type accounting for around 40% of the variance in interaction rate. The implication was that where the adult was available for individual

talk, children were more likely to initiate conversation and get a response. Again this may simply have arisen from the nature of the activity; the adult was not trying to engage all the children at this time and her own rate of initiation was lower, allowing for more initiations from the children. This is in keeping with findings from the EPPE study, which reported that more sustained shared thinking tended to happen during one-to-one conversation with an adult (Siraj-Blatchford et al, 2003). It is of interest, however, in the present study the rate of Responses Made was not higher during these Individual-time conversations. Further, they were not associated with more extended turn conversations, with such conversations occurring equally with expected frequency over all discussion types. Children initiated verbally more frequently at this time, but did not make more responses, indicating perhaps, that conversation was not necessarily developed or elaborated even though the adult was available for talk. This is in keeping with a previous finding on story reading by Morrow and Smith (1990). The small group situation (one adult to three children) resulted in increased story recall compared to individual story reading, although both situations supported recall better than a large group of 15 or more.

It is important to understand that for the purposes of analysis at this level, it was not the individual interactions that were being categorised. Rather consideration was to the general nature and purpose allowed or set by the adult at different times within the small group conversations. Within the context of this sample, it was clearly possible to reliably observe a difference within sessions and the children understood that the conversation had a different purpose with different rules to follow at different times within the session. This was given further validity by the differences revealed through comparison of interaction patterns in different discussion types. This is not, though, to say that individual children would not initiate their own topics during a general Adult-led topic session, or that the adult would not take up a child's topic and open it up to others during a Child-led topic session.

Again, this type of quantitative coding gives equal weight to any verbal utterance, regardless of length or quality, or for instance, use of the child's own vocabulary. The fact that more responses have been made in a particular situation is not an indication of the *quality* of conversation. Based on a count of verbal behaviours, the data showed

no difference between child-led and adult-led topics in providing opportunities for children to talk. What is not signified by such analysis, however, is the quality of those interactions; the degree to which children extended their talk, using more complex ideas and more varied vocabulary. Nor does it reveal the nature of the interaction and the extent of a shared construction of ideas through language. Further qualitative analysis was required to explore these issues, as discussed in Section 9.4. Prior to this, though, the interaction between children's language levels and their interaction rates both at the start of the study, and then over time, requires discussion.

9.3 Relationship between language levels and rates of interaction

A second research question aimed to address questions about the level of children's language skills and the influence of this on the likelihood of taking up opportunities for talk offered by the nursery conversations. Any relationship to later language development was also considered. In this section, therefore, first the relationship between children's observed interaction levels and their levels of language on the two measures at the start of the study is discussed. The relationship between children's interaction rates and language development over time is then evaluated and related to practitioner questionnaire ratings on language use in different contexts. Other factors that may have influenced the language assessment scores are also reflected on.

9.3.1 Initial language levels and rates of interaction

The data showed positive correlations ($r = .5$) between both rates of Child Initiations, Responses Received as well as Responses Made and children's initial scores on the CELF Pre-School 2 (UK). The implication was that the higher a child's language test score the more they spoke in the group situation and the more they responded when spoken to. Generally then they would take more part in the conversation the higher their test score. However, with a correlation of .5 or -.5, only 25% of the variance in interaction rate would be accounted for by language level.

Conversely, a negative correlation ($r = -.5$) was shown between initial CELF Preschool 2 (UK) scores and Adult Initiation rates. The lower a child's language level, the more the adult would initiate to them. As with the finding on the relationship between interaction rates themselves and initiation of extended-turns, it seems that the less a child talks the more the adult does to talk to them. This is somewhat at odds, however,

with the finding that there was no correlation between the rate of Adult Initiations and other interaction rates, as a negative correlation between Adult Initiations and children's own rates of interaction might have been expected in this case. As discussed earlier, it could be a product of the reduction in the range of Adult Initiations due to a proportion of the number being made to the children as a group. The nature of the role of Adult Initiations was explored in greater depth through the qualitative analysis discussed in Section 9.4 and its significance in terms of the literature on input, feedback and overhearing is considered in Section 9.5.

Narrative assessments showed a somewhat different pattern in relation to children's interaction rates. Only the rate of Responses Made showed a positive correlation with children's scores on the Narrative assessment at the start of the study. This might be expected, since the task of being able to narrate a story as required by the assessment would involve the ability to link ideas for communication. However, the development of narrative skills over time was not straightforward, as will be discussed in the next section.

9.3.2 Interaction rates and development of language over time

There was a variation in both language measures over time and correlation of interaction rates with language levels continued to be evident. There were, however, some distinctions within these trends. The rate of Child Initiations during conversations in the nursery was positively correlated to CELF Pre-School 2 (UK) scores at the end of nursery and one year on ($r = .5$). Children's rates of responses received and made were only correlated to CELF scores one year on, but not at the mid-point of the study ($r = .48$ and $.49$ respectively). Children who initiated verbally more in nursery did, then, still show higher language scores at the end of nursery and one year on. Higher rates of receiving and making responses were also associated with higher language test scores one year on, but this association was not evident at the end of nursery. These effects appeared to be accounted for, however, by children's initial language levels as the correlations were no longer significant once Time 1 CELF Pre-School 2 (UK) scores were controlled for. This appeared to account for more of the variation in later language scores than either age or interaction rates (i.e. how much the children talked in the small-group conversations). The implication was that, although children's

interaction rates were related to their initial language levels, this was not predictive of later language assessment scores, which could be accounted for by their initial CELF score alone. When initial language level was taken into account, talking more in Nursery was not associated with greater increase in language levels measured on a standardised or criterion referenced test.

With regard to the Narrative assessment, though, there were no significant correlations between children's rates of interaction and their scores either at the end of nursery or one year on, with the initial association between the number of Responses Made and narrative skills no longer evident. It appeared, therefore, that children's interaction rates during those conversations in nursery were not a predictor of their later development of skills in linking ideas to describe and relate events.

The negative correlation between Adult Initiation rates and children's scores on the CELF Pre-School 2 (UK) was still evident at the end of nursery and one year on ($r = -.54$ and $-.56$ respectively). Further, one year on, a similar negative correlation was shown between rate of Adult Initiation and Narrative scores ($r = -.52$), but not at the end of nursery. The implication is that those children who were initiated to more during small group conversations in nursery, who themselves tended to initiate less, were those children who continued to show lower levels of language over time. This finding could be expected in the light of the significant positive correlations for CELF and Narrative scores over time. These assessment scores themselves will now be examined.

On the CELF Pre-School 2 (UK) 10 of the children (52%) had initial scores below 85. This is comparable to figures from other studies in similarly economically disadvantaged areas, where just over half of children tested scored below one standard deviation from the mean at the beginning of nursery (Locke et al, 2002; Evans et al, 2006). The studies quoted did not give follow-up figures. In this present study there was a significant difference, however, in Standard Scores over time, with a steady reduction in the percentage of children scoring below 85. At the end of nursery the figure was 42% (8 children) and one year on it had reduced to 26% (5 children). (Data are given in Appendix 7b). The implication could be that for some children, nursery and reception experiences helped them to catch up in their language skill development. Indeed,

Evans et al (2006), refer specifically to their own decision to test children when they first started nursery, as previous experience had shown that children made progress with language skills once they start attending nursery.

A moderate effect was shown for increase in CELF Pre-School 2 (UK) scores over time (Partial $\eta^2 = .44$). The effect was significant for Time 1 to Time 2 and Time 1 to Time 3, indicative of progress on this measure in nursery. The difference between Time 2 and 3 did not meet significance when a statistical correction was applied to allow for multiple comparisons. On further analysis, this effect was shown only for two of the subtests, indicating that increases in score were made in respect of understanding sentences and expressive vocabulary, but not morphology. The effect size was moderate for vocabulary, but weaker for sentence structure (Partial $\eta^2 = .42$ and $.32$ respectively). These effects are not large when compared to effects reported in some studies using direct teaching interventions. For example, Bowyer-Crane et al, (2008) demonstrated an effect size of $d = 1.02$ for vocabulary, representing a gain of 5.23 words. Nevertheless, as no specific teaching intervention had been in place, the current study showed a significant and moderate gain in language levels.

Effects could have been due to familiarisation with the examiner and the testing situation. The shorter interval between times of testing between Times 1 and 2, could account for the increased effect for Time 1 to Time 2. Dockrell and Law (2007) caution, particularly with almost half the children scoring significantly below the mean to start with, changes in score are likely to reflect a natural regression to the mean.

Measurement error is likely to play a significant part in scores on any standardised measure, even one considered to have high reliability, such as the CELF Pre-School 2 (UK). This will have a significant effect where scores are significantly outside the mean initially, resulting in scores falling closer to the true mean on re-testing. Zhang and Tomblin (2003) outline how this can be interpreted wrongly as progress, rather than a natural effect of testing. As this study did not involve a particular intervention, it was not an option to use a control group in this case, which would have allowed for comparison of change effects. Another option to be considered would be to use a different measure at Time 2 and 3 and compare each to an initial baseline measure. The difference between the different measures rather than the change on a single

measure could then be used as an index of progress, and accounting for regression to the mean. This would depend on having equivalent measures, each known to measure the same aspect of language equally well. This possibility did not present itself in the present study. It is not possible to demonstrate therefore that the progress made was not as a result of regression to the mean.

What is evident is that a single measure of language skills taken as children enter nursery is likely to give a very low figure for language levels for some groups of children. A higher estimate of children's language levels is probably to be achieved once they have settled in to the Early Years setting; this may be due to increased familiarity with the nursery setting, with the testing situation or growth in language comprehension and vocabulary skills. Higher results are also likely to be achieved on a second testing, for reasons of familiarity and factors associated with measurement error. The present study did not find overall, continuing, low levels of language for the children as has been reported in some previous studies (e.g. Stuart, 1999).

Narrative assessments showed a slightly different pattern, with a significant increase between the start of the study and the end, but no significant increase during the children's time in nursery. In view of this pattern, familiarity with the test or examiner, and short test interval would not appear to account for increase in scores. As with findings in other studies, many of the children at this age identified objects and animals or people, described states and actions, but did not relate a theme (e.g. Berman & Slobin, 1994; Stadler & Cuming Ward, 2005). When compared to other studies, the actual MLUm scores were within the expected range for the children's ages with a slight dip mid-study (see Table 6.12). Paul (2007, p.347) quotes an average MLUm of 3.2-5 at age 45 months; 3.7-5.7 at age 50 months and 4.0-6.8 at 62 months. The children's mean scores in this study were 4.95, 4.14 and 6.61 respectively. The task was not easy for the children and a few children refused the task, not necessarily on the first but sometimes on subsequent occasions. The task could have presented ambiguity depending on children's interpretation of the task; some children for example expressed dislike of the book, particularly the lack of colour in the pictures, and others appeared to think there was a right answer that they did not know.

Motivation could, therefore, have played a significant part in children's use of language in this context.

It seems likely also that a floor effect may be operating here, as other studies using narrative assessments with such young children have also reported little change in scores. The effect was again a moderate one, but comparable to results from other studies (Partial $\eta^2 = .47$). Bower-Crane et al (2008) showed an effect size of between $d = .33$ and $.15$ on tests of narrative. Dockrell et al (2010) found no significant differences on narrative tasks for children involved in an intervention focussed on story talk and a comparison group. The effect demonstrated in the present study is then of note. However the change in scores did not appear to be related to children's rates of interaction during their time in nursery and these narrative skills may be skills that develop later on. The progress after rather than during nursery is, then, likely to reflect the later development of narrative skills, normally only beginning to develop at age 3-4 years (Paul, 2007).

Maturation effects would be expected to influence children's scores over time (see e.g. Dean, Howell, Grieve, Donaldson, & Reid, 1995). These effects were controlled for either in the correlation or by comparing Standard Scores which consider children's scores relative to their own age group. Controlling for age, change is indicated in the absence of any targeted intervention and findings discussed here strongly imply that language development is not always linear (Dockrell et al, 2006; Dockrell & Law, 2007). Some stable trends across time were evident, but several aspects of children's interaction or language levels correlated at some points but not others. To summarise, CELF Pre-School 2 (UK) scores showed most consistency across time, correlating positively to rates of Child Initiation and negatively correlated to Adult Initiation rate in nursery. Rates of responding in nursery also correlated with CELF scores, but only at the start and end of the study.

Less consistency was shown in Narrative assessments. Only one measure of interaction (Responses Made) in the nursery was positively related to Narrative scores, with the effect disappearing overtime. Children's interaction rates during nursery observations were not predictive of their later narrative scores. The rate of Adult Initiations in the

nursery was negatively correlated with Narrative score, but only at Time 3. These apparent contradictions can in part be explained by the fact that Narrative skills develop later than skills in comprehension and vocabulary measured by the CELF Pre-School 2 (UK). The appearance of some correlations at Time 1 and Time 3, but not Time 2, suggests though variation in children's paths to language development.

Questionnaire data from practitioners provided further confirmation of a relationship between children's interaction rates in the small group and their language level on the CELF Pre-School 2 (UK). Comparison showed that those children (N = 10) scoring above a Standard Score of 80 were ranked more highly as talking in small group conversations in the nursery than those children scoring 80 or below (see Table 8.2). This difference persisted one year later (N = 15) as shown in Table 8.4. It should be noted that, with smaller numbers, the difference was no longer evident one year on for Cohort 2 alone as shown in Table 8.3. The finding that children were perceived as more likely to talk during whole class times by the end of the Reception year could, however, represent the change in learning context rather than any change in the children themselves. It may be that whole class groups were a more usual context for talking in the Reception class or that judgements were made relative to other less frequently experienced situations.

Quantitative analysis of the data therefore indicated differences in children's verbal interactions and a relationship with their language levels. These differences warranted further examination. For instance, it might be expected that children who took more part in conversations in the nursery, received more opportunity for recasts and expansions of their talk and so would demonstrate progress on a standardised measure such as the CELF. The quantitative coding used here did not allow for such questions to be answered and further analysis was required as discussed in the next section.

9.4 Conversational processes and conversational competence

The third question posed in this study sought to explore how conversational experiences may differ for children of differing language ability. Initial findings were suggestive of areas for further exploration, highlighting the need for qualitative

analysis to take account of complexity of talk; for example which topics engaged children, ways in which turns were gained and the role of the group in generating and extending ideas (see King & Saxton, 2010). Undertaking more extensive qualitative analysis allowed enquiry into the process and content of conversations, looking at differences in affordance of opportunity and the interaction with children's developing conversational competence.

The notion of sustained shared conversation was borrowed from the EPPE study which identified sustained shared thinking as characterised by collaborative dialogue encouraging extended problem-solving, narratives or evaluation of activities and clarification of concepts (Siraj-Blatchford 2009a; 2009b). The episodes selected here for further analysis were not necessarily characterised by participants reaching some new understanding, but did present as occasions on which children contributed together with the adult to a more extended conversation. Discussion here focuses first on sustained shared outcomes achieved by particular patterns of turn-taking, topics that were associated with these outcomes and ways in which children's developing conversational competences were demonstrated and supported, with particular reference to their differing language levels.

9.4.1 Turn-taking, feedback and sustained shared conversation

Frequently studies have categorised talk in terms of Initiation-Response-Feedback sequences (e.g. Hughes & Westgate, 1988; 1997; Radford et al 2006; 2011).

Consideration was given to the use of such categories and also to categorising adult initiations as open or closed (Girolametto et al, 2006; Wasik et al, 2006). Applying these categories proved unfruitful in revealing any distinct patterns of interaction, possibly due to the relatively early stage of language development of the children. Radford et al (2006) also found that, for example, closed questions could act as open invitations eliciting students' own ideas. In this context it is worth noting too, that use of open-ended questioning was found to be unrelated to children's receptive or expressive language development (Wasik et al, 2006). For this reason, analysis focussed on the features of talk that characterised natural, informal conversation from more formal, educational talk. Of interest, previous studies have noted talk that does

not follow a traditional I-R-F pattern as characteristic of a more supportive conversational style (Hughes & Westgate, 1998; Radford et al 2011; Wells, 1978).

Conversations differed in respect of their degree of formality as exemplified by previous studies (Drew & Heritage, 1992; Freebody, 2003). Some conversations were closer to informal, everyday conversation with adult and child contributing equally. Typically these conversations took place over several turns between the adult and one child, with the child selecting the topic or introducing their own information. Pauses and overlapping speech were frequently noted here. Other conversations showed a clearly different, more formal pattern, characteristic of the educational features described by Freebody (op cit). In these episodes the adult managed the turn-taking, established the goal and controlled the topic as the conversation unfolded.

Characteristic also was that the adult would take every other turn in the conversation, with one or other of the children taking alternate turns and the children as a group becoming, as it were, the other participant. Paradoxically perhaps, the effect of this was that more children participated, often those with lower language levels either self-selecting or selected for a turn by the adult. Other studies have also shown the use of an established turn-taking system, managed by the adult, to be similarly associated with positive benefits in including pupils and opening up conversation (Radford et al 2006; 2011). It is also consistent with the finding that when teachers avoided extended interactions with a single child, during (large) group times this benefited children most (i.e. were linked to better outcomes in language and literacy) (Dickinson & Tabors, 2001).

Turn-taking patterns appeared to achieve different outcomes for children with higher or lower language levels. Children with higher language levels were observed to self-select, picking up on others' topics and turning them to their own interests (cf Dunn & Shatz, 1989). They tended to elaborate and offer further information spontaneously. Turn-taking systems operated in these cases, through non-acceptance of child turns by the adult. This served to establish the children's understanding that relevance of the topic may be governed by the adult in some types of conversation and that in some situations everyone has a turn to speak. In contrast, children with lower language levels were observed to use their turn for direct repetition of vocabulary. Rather than

self-select, they were likely to be selected by the adult to speak and rarely offered or gave further information, even where they had self-selected to speak. Frequently it was noted that they may not respond to the turns they were offered.

Interactions can be distinguished as being more or less formal or educational by degree, rather than necessarily being categorised exclusively as one or the other. As well as showing obvious features of either everyday or institutional patterns, some episodes illustrated a mixed pattern with features of each. This was reminiscent of the description of the conversational floor as being relatively tighter or looser, used by Jones and Thornburrow (2004). Some episodes were distinctive in that the adult managed the turn-taking and control of topic at some points, but would allow contributions out of turn, and picked up on children's contributions to permit a change in direction of topic. At such times the adult's role was one of intermediary; combining responses from different children, allowing children to direct responses on topics from other children through her and weaving them together. Although rare, at other times in such conversations several turns took place between the children themselves, without the adult taking a turn. It was these episodes, showing features of both natural and educational conversation, which most closely resembled the co-constructing of learning with children or sustained shared thinking (Jordan, 2009; Siraj-Blatchford, 2009a).

Feedback and repairs to conversation showed certain strategies to be effective in opening up the conversation for some, but not all, children. Two notable strategies were the use of repeats or recasts of the children's own speech (see Saxton, 2008; Saxton et al, 2005) and inviting the child to question or revise a previous contribution. Examples showed these strategies effectively to open up the conversation by withholding any correct answer and acting to give hints and prompts, so encouraging the children towards further response (cf Radford et al, 2011). For some higher language level children self-repair was also made on occasion, showing the strategy to be successful in encouraging the children to reflect on and revise their own language. The strategy also allowed the topic to develop around the children's ideas, rather than maintaining the adult's focus.

In some cases, adult requests for clarification and prompts with specific vocabulary resulted in only a single word response or a nod from the child. Where the child did not offer repair themselves, and the adult supplied a word, this had the effect of closing down further turns from that child. It did have the result, however, of enabling the conversation to move on. Children with lower language levels frequently offered no further response to the adult's repeat or expansion of their utterance, beyond a simple affirmation of a suggestion offered by the adult. In this way, children relied on the adult to repair any breakdown in the conversation. The implications of these differences for children's development are discussed further in Section 9.5.

In some of the examples the adult could be seen to supply a preferred answer, but usually only after one or more attempts to encourage a response from the children. On occasion a direct correction was given, but a softened response to dispreferred contributions was a feature of several conversations, by way of encouragement. This often achieved an opening up of the conversation for other children to model further responses or allowed the topic to open up to follow the children's interests. For example, where a child did not offer a revised answer, other children picked up on the turn and offered further responses in their place.

The conversations selected as examples of sustained shared conversation did, then, show many of the features associated in the literature as encouraging children's contribution to conversation and learning. The study does lend some support also to the importance of strategies that Early Years practitioners have been encouraged to adopt through in-service training programmes (e.g. Girolametto et al, 2003; Justice & Sofka, 2010). Strategies such as following the children's lead, using comments to encourage turns, scanning the group to involve everyone, labelling, expanding and extending, pausing to wait for a response, use of open questioning, were all shown on occasion to open up conversation and encourage children's contributions. However, there were also occasions where these strategies were used, but children did not respond. It seems that a balance between waiting for children to initiate and adult management of turn-taking and topic is likely to achieve the best chance of maximising opportunities for talk. The patterns seen here are a mix of natural conversation, presumably similar to conversation experienced at home, and more formal

educational talk similar to patterns that are likely to be experienced as the child moves up through school. Where the two patterns combine, this seems to offer the best chance of extended conversation in the nursery. These patterns of talk could be regarded as transitional for the child as they move into the educational system and perhaps help to explain the differences in language use between home and school (Tizard & Hughes, 2002; Flewitt, 2005).

9.4.2 Conversational topics and sustained conversation

Certain topics led more children to contribute and in particular encouraged some of the children with lower language levels or EAL to initiate, often gaining a turn in the conversation by self-selecting. These topics gave the opportunity for children to generate and rehearse familiar vocabulary, usually about concrete everyday things of personal relevance to them (e.g. food, clothes, cartoon or story characters, toys). Nursery curriculum topics were also associated with shared conversations in which a wider range of children made a contribution, for example, talking about a familiar story, the butterfly life cycle or giving suggestions for colours. Giving information about events that had happened outside nursery too featured as a prompt to children joining in. Similar topics appeared in questionnaire responses from parents asked what the children would talk about at home; further indication that where home and school coincide children are more likely to talk.

Such topics have been highlighted in the literature as supporting language use and literacy development. Tizard and Hughes (2002) noted that at home, where children talked more, their conversation focussed on people and past and future events more than in nursery. Research on shared storybook reading has shown stories to offer a context for talk, and discussion or rehearsal of vocabulary (Ezell & Justice, 2005; Whitehurst & Lonigan, 1998). The present study offered confirmation that such topics, when chosen in nursery, do offer increased opportunities for children to practise their language skills. It is perhaps not surprising that giving children the opportunity to talk about things they are familiar with or have a specific vocabulary for can help to promote the likelihood of their making a contribution.

9.4.3 Developing conversational competence in sustained shared conversation.

Previous work has offered a framework for the development of skills in conversational competence within the family context (Ochs and Schieffelin, 1983). The ability both to gain the attention of the listener and to make oneself understood was identified as key to such development. The present study offered some evidence for the practice of these skills through small group conversations in the nursery. Qualitative analysis revealed a variety of ways in which children gained the floor including verbal initiations, repetitions of an initiation until a response was received and, for some children, moving closer to or touching the adult to get attention before speaking. Adult-managed turn-taking systems were adhered to by the children, with both self-selection and adult selection of next speaker occurring at different times. As discussed previously, turn-taking systems were seen to encourage more children to participate, helping them to gain the floor. These systems also helped to establish when it was inappropriate for children to take a turn. For some children, developing conversational competence included learning when it was **not** appropriate to take a turn; being able to keep the contribution relevant to an implicit or explicitly stated conversational goal or allowing others to take a turn.

With regard to making themselves understood, the extracts analysed contained frequent examples of repairs offered to the children by the adult. These were either more or less effective. Children's responses varied from a simple repeat of vocabulary offered or a yes/no confirmation, to the addition by the child of more vocabulary or information. The conversations did, then, offer encouragement for children to make themselves understood and the efficacy of this in relationship to children's language levels is discussed in Section 9.5. Of note here is the way in which other children at times picked up on a repair offered to a particular child and offered their own revision. The group was therefore able to achieve more than might have been achieved through individual conversation, with children modelling vocabulary and use of language for each other.

Certain patterns of interaction were prominent in these small group conversations; most notably turns were addressed almost exclusively through the adult. It has already been established that adult management of turns and topic helped to achieve

contributions from a wider range of children. In addition, examples have shown that children tended to address comments on or additions to other children's talk to the adult rather than directly to another child. This could be a function of children observing the implicit rules of educational talk or it could be because at this stage in development they are still reliant on the adult to facilitate their conversation (Ochs & Schiefflin, 1983). As an example of polyadic interactions, they would appear to provide confirmation that children are capable of contributing to such dialogue to various degrees, with the adult acting as a conduit or manager (Barton & Tomasello, 1991; Dunn & Shatz, 1989; Strapp & Frederico, 2000). Further, they provide evidence of the development of talk through a topic over several turns. Jadallah et al (2011) characterised this in terms of chains of influence, when noted in discussions between a teacher and a group of older, primary-aged children.

It should be remembered that context will play a part in children's conversational skills. Children might be expected, for instance, to display lower conversational competence with a less familiar conversational partner (Hoff, 2010). Parent questionnaires offered, then, some support for the competences observed in nursery. Parents did appear to be realistic in their appraisal of their children's language abilities, in that they reported concerns and limitations as well as positive comments. This is in line with the research indicating that parents' reports showed a positive association with observations of children's language skills (Camaioni et al, 1991; Ring & Fenson, 2000; O'Toole & Fletcher, 2010). Overall children were reported to demonstrate a reasonably high level of competence in gaining attention and making themselves understood at home. The vast majority (90%) of children were reported to get attention verbally, but half would sometimes still use touch as well. With regard to repairs in conversation, parents reported infrequent breakdowns in conversation due to the child being unable to make themselves understood and also that children would frequently repeat themselves or say something a different way as a strategy for repair. As might be expected from previous studies, the indication was that children perhaps showed higher levels of conversational competence with parents than in nursery (Flewitt, 2005; Hoff, 2010; Tizard & Hughes, 2002).

There were few differences based on children's language levels, except that children with higher language levels were more likely to be rated as talking at length and joining in with overheard conversations. Although numbers are very small, and further investigation would be necessary, the indication was that the difference between children of higher and lower language levels in taking further turns observed in the nursery was also a more general feature of children's conversation across situations. The difference found in respect of responding to overheard conversation is of interest in the context of the debate about the relative importance of direct speech or overheard language in early language learning (see for example Shneidman 2009; 2012). The suggestion may be that perhaps the children with higher language skills were either more socially attuned to conversation or that their language levels furthered their understanding and ability to join in.

9.5 Factors influencing affordance of opportunity in group conversations

The size of the group included here may not be considered as a small group by some standards. For instance, with 10 children present the group was larger than the maximum of five stipulated by Wasik (2008) or the group of three children demonstrated to be beneficial in story reading situations (Morrow & Smith, 1990). It did, however, offer advantages in size over the whole class group of 30 and in practice the group was frequently smaller than 10, with children being absent. In this respect the group size may not have been optimal. However, there was evidence offered here that the group did enable children to have a turn and receive individual attention, as well as hearing child directed speech addressed to the group and to them individually. These are argued to be the benefits of the small group (Wasik, op cit). As such, this group did offer such opportunities.

9.5.1 Children's language level and affordance of opportunity

Within the context of language progress for the children as a whole, this study offers some potential explanation as to how conversational experiences may differently affect children's language development. Martin (2009) gave a reminder of the difference between providing opportunities and the *affordance* of opportunity to different children. If a child does not engage with an activity in the expected way, this can be construed as a lack of affordance offered, rather than a within-child deficit. By

way of children's previous learning, social and cultural experience, they may access the opportunities offered in different ways and for different purposes.

Children's different responses to the same input were evidenced in the current study. This was indicated by both quantitative and qualitative data gathered from nursery observations and supported to some extent by questionnaire reports from practitioners and parents. A simple count revealed higher rates of children's own interactions associated with higher language levels. Lower language levels were, in turn, associated with a higher rate of initiations from the adult. Around half of all adult initiations were made to the group as a whole and this restricted the range in this particular measure. Possibly as a consequence of this restriction, there was no overall association found between adult initiations and children's own rates of interaction. Initial coding did reveal though that, even in Individual-time where children made the highest rate of initiations and received the highest rate of responses, the rate of responses made by children in return was not higher. Further qualitative analysis using CA provided insight on this finding, in as much as children with higher language levels *were* observed to give follow-up information, both in response to the adult and often spontaneously. At the same time, those children with lower language levels more frequently gave one word responses, rarely offering more information even where they had initiated the interaction in the first place. It appeared that similar strategies were used by the adult initially, but as responses from the children were different according to the children's language levels, the results were either more or less effective.

Children would appear to differ in the degree to which they were able or willing to use language to engage with interaction in the educational setting. Children with higher language levels demonstrated a wider range of purposes in their use of language, evidenced through more complex interactions and thinking, and indicating possibly a higher motivation to use language in the nursery context (Halliday, 1975; Peters, 2009). Those with lower language levels, by comparison, tended to decline opportunities for self-repair and appeared to show a preference for accepting repair offered by the adult. This is interesting when construed in the light of some research in the context of second-language learning, showing that learners and teachers

frequently did not share the same orientation to self-repair (Seedhouse, cited in Pike, 2010 p. 178). Adults may encourage self-repair, regarding it as an important part of the learning process. If, however, the learner is oriented towards receiving other-repair, the adult's attempts may go unnoticed or be perceived as unhelpful. The result is a disruption to the shared understanding of the task. A further repair is then needed; in this study the repair was often achieved by the adult offering a model answer or another child providing such a model. Rogoff (2003) reminded us that the child's choice as to whether to participate is as important in whether learning takes place, as the adult's choices about which activities children have access to and the ways in which adults and children interact together during the activities. It is not necessarily a deliberate choice, but a preference or understanding which influences the opportunities afforded.

Previous studies have indicated that children with identified speech and language difficulties and lower language levels received more highly directive and adult dominated interactions which have been described as 'stifling' children's own verbalisation (see Cabell et al 2011; Giralameto et al, 2006). This current study would lend support to a rather different interpretation of such interactions. In these small group conversations, rather than stifling the child, the adult's initiations can be seen as an attempt to encourage interaction which the child opts not to respond to. Here, looking at the turn-by-turn content of the conversation, the adult's subsequent offering of an answer could be seen as a responsive reaction to the child's own construction of the learning situation. As a response at least it moved the conversation on, with the adult either providing a model herself or opening up the opportunity for other children to offer such a model. As in the study by Vernon-Feagans (1996), irrelevant responses and non-responses were dealt with differently and non-responses did often result in the correct answer being supplied. Here irrelevant responses tended to be ignored or shaped by further turns, sometimes resulting in a sustained conversation, so outcomes for the child were not always negative.

Support is offered for the proposition that the two things of most importance in developing children's language skills are likely to be opportunities to hear a rich vocabulary and to practise extended conversation (Dickinson et al, 2008; Hoff, 2006).

Both factors feature strongly here, but with relative importance for different groups of children. Findings suggest that, in the absence of the impetus to talk, hearing language used and modelled in a carefully structured situation can be very supportive to children's language development. It seems likely at least that these situations will stimulate language development more than persisting with attempts at individual conversation. Of relevance here also is the finding by Girolameto et al (2006) that although educators showed increased frequency of talk to children with lower language levels (in this case with a language disorder), the result of this was more directions to behaviour and fewer language modelling utterances at an appropriate level of understanding.

In this study a few of the children were observed to be reluctant to speak or shy, and this is likely to have influenced both their test performance and their participation in conversation, resulting in lower levels on both measures (Crozier & Hostettler, 2003; Spere & Evans, 2009). For these children the small group conversations did not afford frequent opportunities for verbal interaction, but in the context of the children's general progress in language skills, they appeared possibly to benefit to some extent. Martin (2009) described watching language being used as a form of apprenticeship towards becoming a language user. It would appear that these small group conversations may act as an illustration of polyadic conversations as supportive of children's language, without them necessarily participating verbally (cf Floor & Akhtar, 2006). Further, it could be argued that the group situation here acted to benefit children in different ways. Those children with lower language levels or less impetus to communicate were able to hear language modelled and follow models from others to make a contribution. Children with higher language levels spoke in more sustained shared conversation, learning to follow a given topic and listen to other's contributions. Of course, as will be discussed in the context of the limitations of the study in the next section, it is not possible to know what other opportunities for language learning the children may have been benefitting from at the same time.

There is, in turn, some confirmation offered for the notion that children have different purposes in their learning. Connor (2003) explained her finding that different activities supported language learning for different children, in terms of the children's different

implicit goals. She argued that children with EAL aimed to learn English; those from Standard American English background gained most in developing literacy and African-American children benefited in learning school-based ways of talking. (See Section 3.2.2). Some parallels are offered in this study. Those children with lower language levels appeared to benefit most from opportunities to hear and use a familiar or topical vocabulary. Those with higher language levels were able to take advantage of opportunities offered by the same conversations to develop their ideas on a given topic and to take turns, whilst allowing others' contributions.

9.5.2 Influence of other child factors on affordance of opportunity

With regard to other factors which may influence the affordance given by opportunities to talk in the nursery, some differences were revealed for children's home language and their age. There were no effects for gender, which is perhaps surprising in view of the literature suggesting that boys' language skills are generally lower in comparison to girls' and boys are more likely to be identified with speech and language delay or impairment (DfE, 2011; Hansen & Joshi, 2007; Tomblin et al 1997). Parents reported girls as somewhat more likely to repeat themselves to offer repair in conversation, but numbers were very small. It was not within the scope of this study to investigate any differences for children on the basis of a recognised speech delay or impairment. Only one child had recognised speech needs at the time of initial assessment, although others may have been identified for referral to Speech and Language Therapy services during the course of the study.

Although representative of the population, in such a small scale study the number of children having EAL was few and caution is needed in making any generalisations. However, the findings may suggest areas for further research. There were no overall differences in interaction rates or language levels on the basis of whether English was a child's first or an additional language. The children with EAL varied in their language levels and their willingness to interact and as such could be seen to be at various stages in their development of use of language in the nursery. Some children were relatively silent, others joined in with familiar or predictable conversations and others were willing or able to initiate and respond using language productively (see Tabors, 1997). However, non-EAL children were also seen to show features that could be said

to be characteristic of a silent period, suggesting, very likely, an interaction between levels of individual social motivation and language levels in influencing verbal interactions. Initial findings were, therefore, indicative of different paths to language learning for all children, including those who have EAL.

The differential impact of additional language learning on the children's language development is not clear, but the study did offer some tentative indications for a slower start in narrative skill development. Although Narrative assessment scores did not differ at the start of the study, at the end of the study scores for children with EAL were significantly lower than for non-EAL children. As discussed in Section 9.3, the floor effect in this assessment would appear to have influenced scores, with the implication that children with EAL showed a relative lag in development of Narrative skills as these skills emerged during Reception/second year in nursery. It is also possible that a cultural difference in understanding of the task or the presentation of the materials affected the children's scores, with those children with EAL being perhaps less familiar with this type of book or story-telling task. Further research would be needed, but there is at least some indication to suggest that children with EAL may have shown a slower start in use of language for narrative. If so, later catch up might be expected, as shown for children acquiring, and open to continual exposure to, the dominant community language (Gathercole & Thomas, 2009). There is, however, also some research evidence of persisting difficulties associated with reading comprehension for children with EAL and these comprehension skills could possibly be linked to development of earlier narrative skills (Kotler et al, 2001). The initial implication is that attention to opportunities for the development of language for narrative may be particularly important for children learning English as an Additional Language.

Both quantitative and qualitative data pointed to some differences in opportunity for children with EAL. As a group, these children were more likely to have extended turns initiated by the adult rather than initiating themselves. Reception teachers also rated children with EAL as less likely to talk in a small group than non-EAL children. Both these findings are indicative that children with EAL may be less likely to take up opportunities to practise using language, both in nursery and later on. Further support

for this was offered by the finding that some topics were more likely to elicit verbal interaction for children with EAL, as well as those with lower language levels. (See section 9.4.2). Again, this points to the potential value of focussing on the development of vocabulary and giving opportunities for children to talk about familiar and personally relevant topics.

Some effects for age were noted, as might be expected due to development. The rate of response made by children varied with age, which could be seen as a sign of developing conversational competence. Older children were also rated as more likely than younger ones to talk in whole class groups when in nursery. This was the only situation in which a difference was reported, both in nursery and reception, perhaps signifying developing confidence to talk with age. Generally then the children replied more often and in front of a larger audience, the older they were.

9.6 Limitations of the present study

With only 19 children in the study, the small sample size placed limits on any statistical analysis, and findings need to be interpreted with caution. A smaller sample size, however, requires a larger difference to reach statistical significance. It is more likely that Type II errors will occur, failing to reject the null hypothesis when it is not true. In the case of this study then it is more likely to have failed to identify some effects or relationships, rather than to have identified effects erroneously. In addition, with a sample size below 20, hierarchical effects within the data cannot be allowed for through multi-level statistical analysis and aggregated data cannot be used to make inferences at an individual level. For this reason the qualitative analysis is paramount in describing individual differences, but cannot be used to infer causality.

From the outset, the study intended to look at opportunities offered for language input and use, but not to make assertions about causality. Conclusions must be limited by the lack of ability to control for the effects of other situations in which children will be hearing, using and developing language. The study was observational and not experimental. As such though, it is important to remember that language will be influenced by context in both nursery observations and language assessments and can only act to demonstrate the children's language skills within that particular context.

Research has shown that children's speech differs as a reflection of what they are doing and who with (Hoff, 2010). However, the same research showed that although the amount of talking varied across situations, individual differences tended to be stable. The effects of context are present for all children, regardless of their level of language, and it is the precise way in which language level and context interact which was of interest in the present study, in terms of affordance of opportunity.

Representativeness of the situations chosen for observation introduces some limitations. Use of video presents challenges, not least the choice of situation for recording. The evidence was, from practitioner and parent reports, that children were talking more in other situations and these could obviously be the forum for language development. Nevertheless, children increasingly have to participate in group conversations as they move into formal education, so it is an important skill to be participating verbally in these groups. The practitioner's perception was that children were most likely to talk whilst in play with other children. This is an opportunity to practise their language skills, but not necessarily to hear modelling of new vocabulary and use of syntax, nor to develop more elaborated language. It does, however, indicate that even children who spoke very little during interactions with an adult in the nursery will probably be talking in other situations. Language skills are context specific, rather than general. The perception from practitioners that children were more likely to talk in a small group than in a whole class group, adds validation to the selection of the smaller 'family group' as the focus of study, in providing an opportunity for children to talk. It could be argued that the presence of the video camera affected the children's behaviour. Though as Barron (cited in Goldman et al, 2007, p.5) points out, it is difficult to predict whether being recorded would encourage or inhibit attention to task. It appeared that participants quickly got used to being videoed and did not show themselves to be distracted by the camera. This is not to say of course that it did not affect their behaviour.

The language assessments themselves may not have been sensitive enough to measure language progress, although overall some progress was demonstrated. In addition, developmental effects could be expected and progress shown may have been due simply to development itself, rather than the influence of experience in the

Nursery per se. Attempts were made to assess for these effects occurring over the time of the observations. In particular there was no consistent increase identified in children's interaction rates over the sessions which, had it occurred, might have indicated a developmental effect during this time.

There were limitations in the collection and use of the questionnaire data, particularly with regard to parents. Further piloting of the checklist would have been desirable, firstly to ensure instructions were clear. Discussion with a group of participants similar to the nursery parents would also have helped to establish the participants' understandings of the questions, so increasing the reliability of the checklist (Robson, 2008). Test-retest administration over a period of a week or so could also have helped to establish the reliability of both practitioner and parent questionnaires in providing consistent and stable results (Wilson & MacLean, 2011). Had the questionnaire been completed during a face to face interview this could have acted to increase the reliability of the way in which responses were given, ensuring at least that a response was given to each question as intended (Hoff & Rumiche, 2012). Due to timing, it was possible to collect data from parents of children in the second cohort only. This provided a very small sample size, restricting the power of any statistical analysis.

Differences between the two cohorts may also limit any conclusions to be drawn. Some differences between the two cohorts were identified and referred to in analysis. The two cohorts were not directly comparable in that one group of children attended nursery in the afternoon and the other in the morning. Time of day and organisational factors within the nursery could have affected the groups differentially. More obviously, there was a difference between the cohorts in the variation in children's interaction rates, with one particular child in the second cohort showing very much higher rates of interaction than any other. These interactions were shown to affect the group rates of interaction in some circumstances and were also illustrated in the qualitative analysis. They could have led to a difference in adult interactions between the two cohorts. Differences between data from the two cohorts are also possible as a result of practice effects in data collection and preparation for analysis, although wherever possible the assessment data was all scored together at the end of the study. The nature and proportion of sessions filmed also varied and this is likely to account

for some differences in interaction rates between the two groups, e.g. the higher proportion of video samples recorded during child-led topic times for Cohort 2 could account for the occurrence of more child-led talk with this cohort.

The value of this study lies more in the extent to which analysis shows what can happen within particular circumstances, rather than in claims of generalizability. The adult involved may not have been typical of Early Years Practitioners in that she volunteered to take part, having an interest in developing good communication skills. The study does however demonstrate possibilities for patterns of interaction given similar circumstances. It is also likely that practitioners would need to take and adapt definitions, for instance of the discussion types. It is quite possible that working with other practitioners in other settings, a different system for categorisation may arise from the sessions observed.

Working with only one adult provided a constant factor in all the interactions, so that variation was due to factors in the situation other than differences between adult conversational partners. The fact that some of the practices used by the key worker in this study were the same as those identified as potentially facilitative in previous studies, lends weight to their potential representativeness (see Section 9.4.1).

Involving only one key worker, however, also placed limits on the study in exploring the degree to which children's own responses may vary in response to different conversational partners. Ridley, Radford and Mahon (2002), for example, showed how a specialist and a mainstream teacher differed in their attempts at conversational repair and how this affected conversation for one particular child with language difficulties. With its focus on children's own use of language, this study was restricted in its ability to compare responses to variation between adults in conversational initiation and response. Such comparison may act as a further source to illuminate the type of responses that can encourage children to develop conversational competence.

Two further factors limited the scope of the present study. Firstly, the focus was only on verbal interactions. Some comment is made on the use of proximity. CA transcription often includes records of the use of gaze and some gesture. During these conversations gaze, for instance, could be clearly seen to act as encouragement to

initiate or respond on more than one occasion. It was, though, outside the bounds of what was possible here to transcribe this consistently and reliably enough to incorporate it into the analysis. This decision had to be made for practical reasons, but could be the focus for another study. In this vein though Mercer (2010, p.10), considers spoken language as “the prime cultural tool of the classroom” and as such is deserving of study in its own right. Second, working as a lone researcher it was not possible to access shared discussion of CA, which would have added weight to the interpretation. It might have been appropriate to go back to the practitioners involved in the nursery to discuss the findings, but a significant amount of time elapsed between data collection and transcription.

Chapter 10: Conclusions

10.1 Summary of research

This study applied a parallel mixed-method research design to address the need for quantitative and qualitative data and analysis on what precisely encourages talk in conversation between an adult and a small group of three- and four- year old children in the nursery. Firstly, the question of what opportunities there were for children to initiate and respond verbally in these small group conversations was addressed. Use of video observations enabled the examination of interactions in the context of a typical nursery situation, focussing on the unique nature of the opportunities afforded. This study differed from much previous research in that analysis concentrated not only on the adult's use of language but more especially that of the children. Measures of children's language levels were collected, enabling interpretation of interactions in the light of their language needs. Quantitative and qualitative data were used to build on and complement each other, and questionnaire reports provided further cross-validation. The unique value of using quantitative data analysis to frame the context for further in-depth qualitative analysis was demonstrated in facilitating investigation at both the group and individual levels (Goldman & McDermott, 2007; Mercer, 2010).

The second question to be investigated was to what extent the likelihood of children taking up the opportunities offered to talk was linked to their language levels, on initial assessment and later on. Children's interaction rates in the nursery conversations varied and were positively correlated with their language scores on the CELF Preschool (2) UK both at the start of the study and at least one year on. As a group, the children's language scores increased over time. Children's interaction rates in the nursery were not related to scores on a narrative assessment over time, although narrative skills also showed progress over time.

In examining the third question addressed by this study, that of how conversational experiences differed for children according to their language abilities, different patterns of turn-taking and repair were demonstrated in the group conversations. Along with topic choice, these patterns were shown to affect affordance of opportunity to talk differently for children according to their differing language levels. Questionnaire reports from practitioners and parents confirmed a difference in

likelihood of participation in small group conversations according to children's language level. There was some indication that children with EAL may develop narrative skills later than those for who English is a first language, but this would require further study.

Some support was offered for the hypothesis that feedback and repair play a facilitative role in language development. Those children who initiated most also received and made more responses. This too was positively associated with higher language levels both before and one year after the observations. However, language level accounted for only about 25% of the variance in interaction rates. Overall, although children's higher language level was positively associated with more frequent interaction in nursery, the gap in language levels did not appear to widen and the group as a whole showed an increase in language score over time. It could be concluded, therefore, that overhearing conversations affords a degree of support for language development in the absence of the impetus to practice using language in this situation.

Through comparison of language level to participation rates, findings have contributed to the body of understanding on differences in the typical paths to language development and children's concomitant needs. Much needed insights were provided into the nature of the communication environment in the nursery and the processes operating in terms of the nature of the activity, adult behaviours and the corresponding impact on children's verbal behaviour (Cabell et al, 2011; Lonigan et al, 2011). In addition, qualitative analysis provided further evidence for the importance of co-construction of learning through episodes of sustained shared interaction (Jordan, 2009; Rogoff, 1998; Siraj-Blatchford, 2009a; 2009b). In this case sustained interactions were shown to be created through group processes and to support language use for different children in varied ways. Children with higher language levels, for instance, may need opportunities to learn about turn-taking whilst those with lower language levels benefit from modelling of vocabulary by others.

Previous research has indicated that it may not be attention to adult skills and training that makes a difference to children's language development (Cabell et al, 2011). As

well as a focus on adults, attention needs to be given to children's own responses in the context of the nursery. The present study helped to shed new light on why children may not always respond to the strategies used by the adult, because of their own preferred response style and understanding of the situation. This is an important finding because it can shift the focus from the adult to the whole context as a facilitator of communication. The value of the small group in enabling conversation to continue, where some children may choose not to respond but are still hearing child directed speech, needs to be fully recognised as a vital aspect of the communication supportive Early Years environment.

10.2 Implications for practice

The key implication for practice centres essentially on the transition to be made between the informal talk at home and the more institutional patterns introduced in nursery. The small group conversations provided a mix of natural conversation and more formal educational talk and as such could be seen as an important connection between the two worlds. They also served to bridge the joint goals of the Early Years educator; imparting new knowledge and encouraging language development (Radford et al, 2006). The consequence of these different conversational patterns for the children was that they were potentially having to learn new ways of doing language. The small group conversations could be seen to act to facilitate this new learning for them in several ways. As such, some pointers are offered as to what may constitute a good language environment, as part of universal provision for all children (Lindsay et al, 2008). These factors are now considered in this section.

10.2.1 Patterns of informal and educational talk

Patterns of talk each supported children in different ways, both to hear and use language. Natural conversation allowed children to initiate and follow their own ideas, if they wished. In more formal conversations the adult-management of turn-taking and topic introduced a common vocabulary for talk and encouraged contributions from a greater number of children. However, at times the practitioner was able sensitively to adapt her responses to children, shifting from more formal talk by picking up on children's contributions, accepting contributions out of turn and allowing changes in direction of topic. These times, characterised by a mixed, formal and informal,

conversational pattern, had the effect of opening up the conversation. Here then, sustained conversation was seen to develop, often involving contributions from more than one child with the adult acting as intermediary. Such skill, however, may not be easily acquired by practitioners.

10.2.2 Small group conversations as supportive of language development

The Better Communication Research Programme recently published the Communication Supporting Classrooms Observation Tool (Dockrell, Bakopoulou, Law, Spencer & Lindsay, 2012). Based on a review of current literature, the Programme set out to develop and pilot a tool to profile the language environment in Reception and Key Stage 1 classrooms. Small group work and opportunities to engage in structured conversations with adults and peers featured as essential learning opportunities to be included in Reception classrooms. Interactive book reading facilitated by an adult is also listed as one of the key language learning opportunities. The tool provides relevant indicators for the Early Years environment, even though not aimed directly at the nursery age group. The present study offered research to further confirm the value of such small group conversations as a vital element in communication supportive classrooms, extending to the Early Years setting. The value of this context for supporting turn-taking and providing models to copy, with an adult as intermediary to make connections for children, can be clearly recognised through the evidence offered by the present study. The study also highlighted the use of shared discussions about books and stories as a means of developing participative turns in conversation.

Some unique opportunities were offered for supporting children's language development in various ways matched to need. It was noted that children were more likely to talk in a small group than in a whole class group. Equally, although children were shown to initiate more at times when the adult was available to them for individual conversation, this did not result in more follow-up responses from children. Further, those children with lower language levels frequently declined initiations or repairs from the adult when offered. Offering opportunities for individual talk, then, for some children would not appear to be the most fruitful avenue for developing language.

Small group conversations were shown to help children to develop their conversational competence. Those children with lower language levels were given help in gaining the floor, through adult-management of turn-taking and opportunities to repeat vocabulary modelled for them. Repairs were offered, and although not necessarily responded to by the child directly, where other children picked up the offer this served to provide a model answer for the child to hear. Children with higher language levels were shown to receive feedback on the relevance of their talk to the group and on the need to give others a turn. In this way they were learning about the requirements of more educational talk as distinct from natural conversation. They too were practising skills in gaining the floor at appropriate times and were able to take up repairs in the form of invitations to question their own responses, by offering more information to make themselves understood.

10.2.3 The importance of topic in encouraging talk

The study highlighted the importance of choice of topic in providing a bridge between home and school talk, with particular types of topic stimulating children to contribute. Such topics may have been child or adult initiated, but where they involved familiar vocabulary or were of relevance to the child's personal experience this was seen to encourage children with lower language levels or EAL to join in. The importance of talking about things that are familiar or relevant may seem obvious, but is sometimes difficult to achieve. This study's findings reinforce for practitioners the value in listening to children, finding out and remembering things about their family experiences and introducing this information in conversation. As part of the support for communication, this can act to help provide more similarity between topics for conversation at home and school (cf Tizard & Hughes, 2002). In addition, the use of structured routines or talking about a familiar story was also associated with an increase in the number of children responding. It would appear that these situations can provide a predictable context for introducing and practising key vocabulary.

10.3 Limitations and possible research developments

It is important to reflect on the limitations faced by this study in attempting to address the issue of language development through applying a mixed-method approach. There exist inherent methodological tensions between the different methods chosen which

place restrictions on the conclusions that can be drawn. This meant that there were, inevitably, constraints presented with respect to sample size, the attempt to synthesise different types of data as well as the use of CA as a tool for analysis.

Sample size limits the statistical representativeness and analysis in this study, whilst also attempting to handle data from a greater number of participants than would typically be included in a case study. Compromises had to be made over sample size, to keep the observational data manageable whilst at the same time giving sufficient power to statistical comparisons required for quantitative analysis. This restricted the scale of the study, whilst at the same time possibly also restricting the in-depth exploration possible of individual needs and responses. The sub-sample of children with EAL, for example, was too small to allow any firm conclusions about differences in development. The data, however, provided some important new insights worthy of further exploration.

Moreover, quantitative methods, and standardised testing in particular, are interested in averaging across individuals. In separating factors relating to person and context there is an assumption of independence, which runs counter to a model of interrelationship. It is important to avoid considering the two measures of more independent language as static, endpoint measures. Each of the three measures represents an aspect of language development within a particular context. However, this study did not include any longitudinal focus on dialogical contexts for language, which would offer further potential particularly for exploring patterns in emergent language (Larsen-Freeman & Cameron, 2008).

Methods were combined to bring together different kinds of data, in order to represent language use at an independent and a dialogical level, in an attempt to look at the interrelationship between person, process and environment (Darling, 2007). This introduced limitations in the degree to which the different affordances offered by each measure were taken into account. In using a standardised test, factors around children's individual understandings of the test situation were not investigated. Equally, in the narrative assessment, the effects of perceived purpose to the task were not explored. Such effects have been shown, for instance, to affect spoken and written

narratives (Donaldson, 1996). The standardised measure did appear to show some association with interactions in the small group conversations. The narrative assessment appeared to show less association with interaction rates, but the measure itself may not have afforded children the best opportunity to demonstrate their skills in independent use of language. More exploration, perhaps using CA itself as a tool, of the affordances offered in each context would be worthwhile.

The quantitative data showed the relationships between independent language levels and interaction rates in the nursery conversations. It did not, however, offer any insight into how skills may be used and developed. In employing CA to explore the content and processes, though, certain limitations need to be acknowledged. CA was not originally designed to look at language learning as such and does not offer a theory about learning (Larsen-Freeman, 2004; Markee & Kasper, 2004). It focuses on the conversational process and the inter-subjective space as a site for potential learning, and makes observable particular types of behaviour which may be relevant to learning. This in itself, however, does not necessarily indicate that anything carries forward from one context to the next, in the form of learning. Its value is in providing new insights and identifying affordances in a particular context. It has been suggested that longitudinal studies would be a way of strengthening the potential of CA as a tool for exploring the processes involved in the learning of language (Larsen-Freeman, 2004; Larsen-Freeman & Cameron, 2008).

CA purposely avoids any focus on learning or intention as inner states (Wagner, 2004). One consequence of this is that it does not explicitly explore the role of external factors that may be mediated through a particular context. For example, the wider exosystemic influences at work through the practitioner's intentions, motives and expectations about encouraging individual children to talk, were not made visible in this study. Although there are implications for practice relating to advice and training given to practitioners, CA does not directly access the practitioners intentions and this could usefully have been explored further through discussion with those involved.

Findings from this study present several areas worthy of further exploration. Amongst these would be the measurement and development of narrative skills, particularly for

children with EAL; developing the method in shared work with Early Years practitioners and further investigation of the role of gaze and gesture in communication.

The study showed an apparent dip in narrative skills from the beginning to the mid-point assessment. In addition some of the children were noted not to engage with the task. It would be worth exploring alternative methods for assessing narrative skills, perhaps using materials more familiar or appealing to children. Further, there appeared to be a lag in development of narrative skills for children with EAL. This could play an important part in later academic development. Further investigation with larger numbers of children is required to see if it is indeed the case that children with EAL show slower development of narrative skills in comparison to non-EAL children, even where their general development of vocabulary and sentence comprehension are not delayed.

Opportunities are opened up when working with video, for sharing findings both with other researchers and participants. Working as a lone researcher has implications for the analysis, in that the observations of the researcher form only one possible perspective on what has been viewed (Goldman & McDermott, 2007). Unfortunately in the present study such opportunities for sharing did not present themselves, but there would be value both in sharing interpretations with others and also in applying the method to support practitioners in evaluating their own practice. The use of Video Interactive Guidance, for instance is increasingly adopted to support parents or teachers in self-evaluation of their interactions with children (see for example Kennedy, Landor & Todd, 2010). Application of the type of turn-by-turn analysis used here to such interactions could help practitioners to focus on how interactions unfold, looking both at what they do but also at what is achieved in terms of immediate outcomes for children. The focus is shifted from deficits, either in adult or child behaviour, to the context of joint accomplishment and as such can help to maintain a positive aspect to evaluation. It is extremely detailed in its application and as such could only be applied on a limited basis, but has potential to offer in this regard.

The current study focussed on verbal interactions in the main and the role of gesture and gaze were not explored. There is, however, a growing body of evidence that use of

gesture plays an important part in later language development. Rowe and Goldin-Meadow (2008; 2009), for example, showed that children's own early use of gesture can predict later language development. The use of non-verbal communication has also been shown to be used effectively by children in the nursery (Flewitt, 2005). The influence both of children's own use of gesture on later language skills and of the effect of gaze and gesture by the adult on encouraging children to join in was beyond the scope of the current study. It could well, though, impact on the relationship between interactions in the nursery and children's language development.

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Appendix 1: Consent forms

Sample letter to parent

January 2010

Dear Parent

Nursery Research Project, 2009/2010 – Early Language Development

I am writing to let you know that staff at XXX Nursery have agreed to help with a research project on children's early language skills. As part of this project I will be working with some of the staff and children in the nursery. It is hoped that the project will help us to learn more about how children learn and develop language skills in the nursery. This will involve doing some individual assessments of language skills with the children and videoing some teaching sessions.

I would like to include all the children from your child's nursery group. This would mean your child participating in some individual language assessments with myself as researcher and having video observations of them in group activities included in the study. Information about your child will only be included as long as you are happy about this and have signed the attached form to give your consent. If you would like to know anything more about the research, please ask your child's nursery group leader and she can arrange for you to talk to me.

Please be assured that all individual information will remain anonymous and confidential to the researcher.

Best Wishes,

Yours sincerely,

Ms Sarah King
Senior Specialist Educational Psychologist

Parental Consent Form (Cohort 2)

Thank you very much for agreeing to your child being included in the early language development study I am carrying out, with the help of staff at the Nursery. It is hoped that this study will help us understand better how children learn and develop language skills and abilities in the nursery.

Please could you complete, sign and return the consent form below. You are free to withdraw this consent at any time. If you do wish to withdraw, all you need to do is talk to your child's nursery group leader about it and your child's responses will not be included in the study.

Should you be interested, you will be offered the opportunity to hear about the results of the study as the study progresses, but information about individual children will remain confidential and will not be discussed with anyone. The video observations will only be used for the purposes of this study and will not be shown to anyone publicly unless your permission has been given below.

- I am willing for my child to participate in individual language assessments with a fully qualified researcher. YES / NO
- I am willing for video observations of my child in group activities to be included in the study. YES / NO
- I am willing for video observations of my child to be shown and used for
 - teaching and training purposes YES / NO
 - academic seminars and conferences YES / NO
 - clips in articles and publications. YES / NO

Child's Name _____ Date of Birth _____

Parent/ Guardian's Name _____

Signed _____
Date _____

Your help is very much appreciated

Consent Form – Nursery practitioner

Thank you very much for agreeing to take part in the early language development study I am carrying out. It is hoped that this project will help us better understand how children learn and develop language skills and abilities in the nursery.

Please could you complete the consent form below. You are free to withdraw this consent at any time, if you no longer wish to be part of the project.

I am happy to discuss the results of any assessments or observations of the children with nursery staff, but am not permitted to discuss children's individual results. You will be offered the opportunity to discuss the findings as the study progresses, but please ask at any time if you would like to know more.

I am willing for video observations of myself and the children in group activities to be included as part of the study.

YES/NO

I wish any information on myself that is included as part of the study to be anonymous

YES/NO

Name _____

Position in Nursery _____

Signed _____

Date _____

Your help is very much appreciated.

Appendix 2: Narrative assessment

2 a: Literature search on studies using narrative assessment of language; comparison of methods of analysis

Study	Narrative Material	Population and focus	Methods/ Categories Analysed	Utility/applicability to present study
Berman, R. A., & Slobin, D. I. (1994). <i>Relating events in narrative: A crosslinguistic developmental study</i> . Hillsdale, NJ: Lawrence Erlbaum.	Frog Story	Development of linguistic form in children. 5 languages – English, German, Spanish, Hebrew, Turkish. 3,4,5 and 9 yrs old and gp of adults. 268 participants in all.	Coded clauses. Qualitative comparison. Linguistic Forms that play central role in narrative construction: i.e. temporal and causal relations, event structure, management of information flow. Morphemes (including tense markers, conjunctions); Syntactic constructions (clauses/relative clauses) Word order (left dislocation). Temporal adverbs (suddenly, later on etc) Verbs of motion	3- and 4-year olds included – data on mean no of clauses. Definition of clause “any unit that contains a unified predicate i.e. a predicate that expresses a single situation (activity, event, state).” Widely quoted study.
Boudreau, D. M., & Hedberg, N. L. (1999). A comparison of Early Literacy skills in children with speech and language impairment and typically developing peers. <i>American Journal of Speech-Language Pathology</i> , 8(Aug), 249-260.	? Frog Story	SLI group / comparison control group.	Narrative measures: <ul style="list-style-type: none"> • Linguistic structure • Recall of information • Total number of events included. 	Quoted in later studies e.g. Justice (2006), Heilmann (2010).

Study	Narrative Material	Population and focus	Methods/ Categories Analysed	Utility/applicability to present study
<p>Dickinson, D. K., & Tabors, P. O. (Eds.). (2001). <i>Beginning literacy with language: young children learning at home and school</i>. Baltimore: Paul H. Brookes.</p>	<p>Bear Story (3 slides) Look at slides and asked to tell a story.</p>	<p>Large scale US study of 5 year olds/follow up of later literacy skills. Used alongside picture description, definitions, superordinates (category naming), story comprehension, a measure of Emergent literacy and the Peabody Picture Vocabulary Test (receptive language).</p>	<p>Used as measure of oral language skill.</p> <ul style="list-style-type: none"> • Structure – no. of clauses and clauses with complicating action. • Story elements – scored for presence of certain story elements i.e. opening/closing, mention of key item, evaluative elements, problem stated, resolution, climax, coda (Score max 7) • Syntactic complexity- No of words/no of clauses = words-per-clause. <p>No. of complicating action clauses and words per clause rated on 5 point scale(0-4) and added to score for story elements = NP Score</p>	<p>One overall score measure.</p> <p>Includes semantic and syntactic skills.</p> <p>Would 'clauses with complicating action' account for conjunctions i.e. links made?</p>
<p>Botting, N. (2002). Narrative as a tool for the assessment of linguistic and pragmatic impairments. <i>Child Language Teaching and Therapy</i> 18(1), 1-22.</p>	<p>Frog story</p>	<p>Clinical population- SLI (5 chn) and pragmatic diffs.(5chn). 7&8 yr olds. Focus on looking at differences on the task.</p>	<p>1. Length and narrative devices:</p> <ol style="list-style-type: none"> i. No of words ii. No of propositions (phrase with noun+verb) iii. Tense marking errors iv. No. of narrative devices used – 5 categories; Frames of mind, negatives, causatives, hedges (might/perhaps), character speech (no. of actual words spoken by a character). 	<p>Looking for devel. of theory of mind, emotion.</p> <p>Tense marking seen as relevant as differentiator of SLI – unusual in typical devel. beyond age 4yrs.</p> <p>Seems to be some duplication or double counting.</p> <p>Covers lang structure and story skills</p>

Study	Narrative Material	Population and focus	Methods/ Categories Analysed	Utility/applicability to present study
Norbury & Bishop cont.			4. Additional information (not included in 51 statements) 5. Cohesion Tracking references to characters – Indefinite Noun Phrase, Pronoun or definite noun) as % of total references – measure of ability to track story elements. Evaluative comments (global story perspective) Similar to enhancers (see Botting.)	
Justice, L. M., Bowles, R. P., Kaderavek, J. N., Ukrainetz, T. A., Eisenberg, S. L., & Gillam, R. B. (2006). The Index of Narrative Microstructure: A Clinical Tool for Analyzing School-Age Children's Narrative Performances. <i>American Journal of Speech-Language Pathology</i> , 15(May), 177-191.	Make up own story following model from adult – single picture of a dragon.	250 children 5-12 yrs.	T-Unit segmentation (common tool for parsing narrative into reliable units). Indices for 1. Productivity – Total no of words - total no of different words - total no of T-units (Length). 2. Complexity - Six indices of complexity Mean length of T-units (in words) Mean length of T-units (in morphemes) No of T-units with 2 or more clauses (complex) No of Co-ordinating conjunctions.	+ Gives an overall score for a) productivity b) complexity. (INMIS) - Very complicated and time-consuming to calculate. - No measure of story elements - focus .

Study	Narrative Material	Population and focus	Methods/ Categories Analysed	Utility/applicability to present study
Justice et al (2006) cont			No of Subordinating conjunctions Proportion of complex T-units Formula given for working out an overall index of productivity and complexity for each child.	
Winkel, H. (2007). The expression of temporal relations in Thai children's narratives. <i>First Language</i> 27(May), 133-158.	Frog Story	Cross cultural comparison of devel of one aspect of typical lang. 10 chn. 4,6 and 9 yr olds. Analysis of Thai development.	Mesasures include: Mean no of clauses and words Aspect markers Temporal connectives (when, where) Verbs and predicates (states, activities, accomplishments (duration and end point) Achievements (instantaneous) Causal connectives Relative clauses (co-occurences of 2 actions)	-Very detailed look at syntactic markers. Used CLAN software to analyse. +Some common themes
Hoffman, L. M. (2009). The utility of school-age Narrative Microstructure Indices: INMIS and the proportion of restricted utterances. <i>Language Speech and Hearing Services in Schools</i> , 40(4), 365-375.	Frog Story	Comparison of INMS to simpler measure for clinical differentiation. 48 chn (24 SLI) 8-10 yrs	Used 2 INMIS measures – Productivity Score and Complexity Score. Compared to Proportion of restricted utterances (any utterance with semantic or syntactic error). Found this 3 rd simpler measure distinguished the 2 groups as well as the more difficult to calculate INMIS.	Application of INMIS to Frog Story. Looking for differentiation – not a measure of overall skill.

Study	Narrative Material	Population and focus	Methods/ Categories Analysed	Utility/applicability to present study
<p>Heilmann, J., Miller, J. F., Nockerts, A., & Dunaway, C. (2010). Properties of the Narrative Scoring Scheme Using Narrative Retells in Young School-Age Children. <i>American Journal of Speech-Language Pathology</i> 19 (May), 154-166.</p>	<p>Frog Story</p>	<p>129 chn 5-7 yrs (3 pre-school). Diff ethnic backgrounds.</p>	<p>Developed a Narrative Scoring Scheme and compared it to INMIS. Easier to calculate and provides an index of children's overall narrative skills. Found vocabulary skills related to story organisation skills. Guidance given for 3 point scale for rating (0-5) on story characteristics: Introduction; Character development; Mental states; Referencing; Conflict resolution; Cohesion; Conclusion.</p>	<p>Measure of global language skills. Clinically evaluated method of scoring. No measure of syntactic features/complexity – except referencing.</p>

Appendix 2b: Narrative Production Scoring Guidelines

1. Syntactic complexity/Linguistic Structure **Max Score 5 points (Scale 0-5)**

Number of clauses (any utterance unit containing a predicate i.e. subject plus verb/adjective).

Number of morphemes.

(Exclude repetitions, hesitations or unintelligible utterances, or non-story related language, asking questions of adult etc..)

No. of morphemes/ No. clauses = MLUm

Converted to score on 5 point scale.

(Berman & Slobin 1994– used clauses as a unit of analysis, and it is commonly used as the unit in other analyses. Dickinson & Tabors 2001– used words/clauses converted to 5 point scale. Length of utterance is taken as a measure of the improvement of language output with maturity and language ability (Justice 2006).)

2. Narrative Devices/skills

Score 1 for evidence of each of the following 5 items: Max 5 points

- i) An opening or closing phrase (e.g. “There was”, “the end”.)
- ii) Mention of story problem/theme (looking for the frog)
- iii) Mention of resolution to the problem
- iv) Referencing for the listener through consistent and clear use of antecedents to pronouns (feature of conversational competence, Ochs & Schiefflin, 1983)
- v) Inclusion of evaluative element/enhancement e.g. reference to character speech or frames of mind; causal statements; inferences giving information not directly in the pictures.

(Using age-relevant items from other studies (Dickinson & Tabors, 2001; Botting, 2002; Norbury & Bishop, 2003; Winskel, 2007; Heilmann et al 2010). Dickinson and Tabors, 2001 use a similar 5 point scoring for narrative aspects. Measures knowledge of narrative conventions and skills.)

Number of conjunctions used (and, then, but etc..) (Measure of linking ideas into a coherent story) –converted to a scale 0-5. **Max Score 5 points (Scale 0-5)**

3. Semantic skills/Story elements **Max Score 5 points (Scale 0-5)**

Max 2 points for each of 51 possible story events referred to.

Score 1 point for any partial reference to the event.

Score 2 points for exact reference to the event as described.

Converted to a score on a scale 0-5. (Norbury & Bishop give a scoring scheme for 51 semantic elements. Measure of vocabulary and meaning.)

Total Narrative Production score = Max 20

Scaled Scores were calculated as follows:

MLUm	Conjunctions	Elements
Range = 0 - 8.5	Range = 0 - 35	Range = 0 - 43
Interval = 1.7	Interval = 7	Interval = 8.6
0 = 0	0 = 0	0 = 0
1 = 0.1 - 1.7	1 = 1-7	1 = 1-9
2 = 1.71 - 3.4	2 = 8-14	2 = 10 -19
3 = 3.41 - 5.1	3 = 15 -21	3 = 20 - 29
4 = 5.11 - 6.8	4 = 22 -28	4 = 30 -39
5 = 6.81 - 8.5	5 = 29 -35	5 = 40 - 49

Appendix 3: Video coding guidance

Verbal interactions; coding definitions

1. Adult initiates (Adult Initiations)

An initiation is a verbal initiation that invites or gives the opportunity for a verbal response.

An initiation may be either:

- A question (closed, open or rhetorical).
- A statement or exclamation that invites comment.
- A direct statement to a child.
- A statement to direct attention to task.
- A stop in mid-sentence to elicit a response.

It is **not**

- A command/direction /instruction on how to do something to the group.
- A reprimand, either to the group or an individual.
- A description of action, what is happening or will happen.

To group – addressed generally

To Target Child (TC) – specific question or statement to the child being observed, which allows for response, accompanied by name or eye-contact. It could be a request to do something.

To another – talk to another child in the group or to another adult.

N.B. this is only recorded when the target child makes a response to it.

2. Target child initiates (Child Initiations)

The target child (TC) is the child who is being observed.

A verbalisation consists of at least one recognisable word which is either audible or lip-readable. (It may be a sound rather than a word, where this is relevant to the context e.g. initial sounds or sound effects to illustrate a story.)

An initiation may be either:-

- A statement.
- A question.

- A verbal comment inviting a response i .e. addressed to group or individual (otherwise it is self-talk).

which does not follow directly from a previous verbalisation.

It may be addressed either

To group – without attempt to gain the attention of any specific person

To adult – target child looks directly at, uses the name of or touches the adult

To child – target child looks directly at, uses the name of or touches the child.

3. Target child responds to talk (Responses Made)

Any verbalisation (see above), in response to a verbalisation from another person, i. e. following on directly.

It is recorded in the appropriate column, according to who initiated the original verbalisation. This could be a response to talk from either:-

Adult to group – a general initiation made by the adult to the group

Adult to TC – a specific initiation made by the adult to the target child

Adult to another child – a specific initiation/response from the adult to another child

Another child – a specific initiation from another child to the target child or to the group.

4. Adult responds to target child (Responses Received)

The adult's response to verbalisation from the target child may be either:-

Talk to group – a general comment to the group, which acknowledges the target child's verbalisation either through use of content or by naming the child, without inviting the opportunity for further talk by the individual

Talk to Target Child – a direct response to the child usually accompanied by eye-contact.

5. Other (e. g. Self-talk)

Self-talk, is talk which is usually inaudible to others and does not invite a response.

Target Child (TC): _____ Session: _____
 Activity: _____
 Total length: _____ Group size: _____

Video Ref	Adult initiates			Target child initiates			Target child responds to talk from				Adult responds to target child with			Other (e.g. self-talk)
	To group	To TC	To another*	To group	To adult	To child	Adult to gp	Adult to TC	Adult to another child	Another child	Talk to gp	Talk to TC	Non-response	

*Only recorded when TC makes a response

Appendix 4: Parent and practitioner questionnaires

4a: **Pre-School Everyday Communication Checklist**

Please tick the appropriate boxes below

		Always	Some times	Rarely
1.	My child gets my attention by - touching or tapping me - calling me or saying something.			
2.	If something interested my child they would - point at it - say it's name - say something about it.			
3.	If something happens my child lets me know by - showing me - answering my questions - telling me clearly.			
4.	My child takes part when we are together by - pointing, smiling and gestures - words and phrases - talking in sentences.			
5.	During a conversation my child - starts the talking - keeps conversation going by taking another turn - likes to carry on talking on and on.			
6.	Conversation breaks down with my child because - I can't understand their speech - they can't explain what they mean.			
7.	If I don't understand my child he/she will - give up - get upset - keep on repeating what they are saying - try to find another way to say it.			
8.	When my child overhears a conversation she/he - pays no attention - reacts to their own name - reacts to important words - asks what is being said			

		Always	Some times	Rarely
9.	My child talks to - dad/mum - others in the family - other adults they know well e.g. teacher/carer - other children - visitors to the home - anyone they meet.			
10.	My child talks -at home - at nursery/ daycare - at friends' homes - in a group.			
11.	My child talks when -looking at books with an adult - doing things with an adult - playing by him/herself -playing with other children.			
12.	The things my child likes to talk about most are:			

Any other comments about your child's language development.

Completed by _____

Date _____

(Based on The Pragmatics Profile by Hazel Dewart and Susie Summers, 1995)

4 b: Follow-up questionnaire for Reception teachers

Early Language Development Research Project

Thank you very much for allowing me to follow up the progress of _____ who was involved in this project.

Please could you take a few minutes to complete the following information about the child.

1. Has the child participated in any specific interventions aimed at developing his/her Speaking and Listening skills during this academic year (2009/2010)?

(e.g. Speech and Language Therapy programmes or individual/small group teaching sessions with a specific focus on oral language skills.)

YES / NO (Please circle as appropriate.)

If yes, please give brief details below.

2. How would you rate the amount of talking the child does in class?

	A lot (Always has something to say)	Some (Sometimes has something to say)	Very little (Rarely has something to say)
During 1-to-1 conversations with an adult			
During whole class conversations with an adult			
During small group conversations with an adult			
During play with other children			

Many thanks for your help, Sarah King, Educational Psychologist.

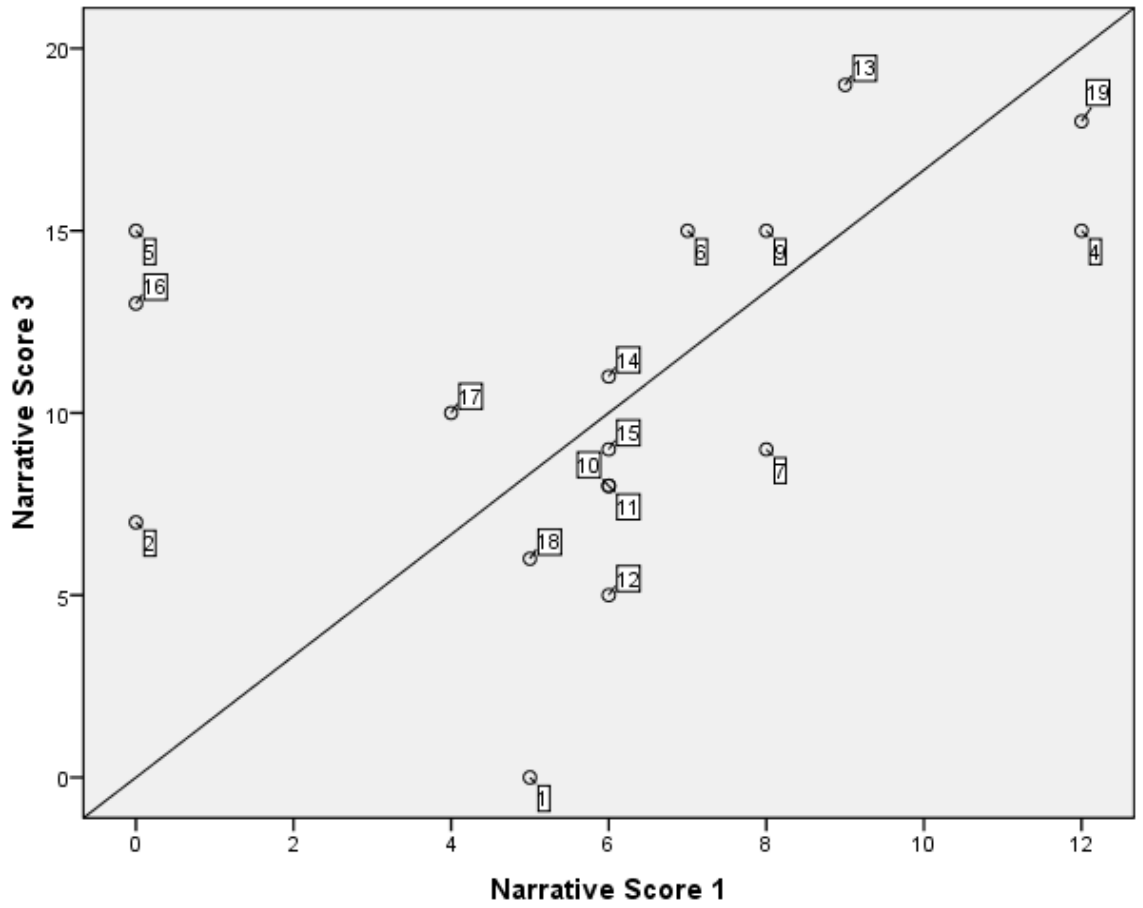
Appendix 5: Inter-rater agreement of Discussion Types within sessions

Session No.	Rater 1		Rater 2		% agreement in time in seconds
	Discussion Type	Length (Minutes, Seconds)	Discussion Type	Length (Minutes, Seconds)	
1	Routine Adult-led Topic Individual-time	2 m 48s 24 m 28s 3 m	Routine Adult-led Individual-time	2 m 48s 24 m 44s 3 m 2s	100% 98.92% 98.90%
5	Adult-led Topic	33 m 37s	Adult-led	33 m 39s	99.90%
9	Child-led Topic Routine Adult-led Topic	3 m 7s 3 m 7s 16 m 46s	Child-led Topic Routine Adult-led Topic	3 m 11s 3 m 21s 16 m 48s	96.33% 93.03% 99.80%
11	Child-led Topic Routine Adult-led Topic Individual-time	5 m 54s 5 m 48s 19 m 3s 3 m 21s	Child-led Topic Routine Adult-led Topic Individual-time	5 m 54s 5 m 51s 18 m 2s 3 m 33s	100% 99.14% 94.83% 94.37%
14	Child-led Topic Routine Adult-led Topic	5 m 5 m 6s 30 m 52s	Child-led Topic Routine Adult-led Topic	5 m 5 m 1s 30 m 57s	100% 98.37% 99.37%
18	Child-led Topic Routine Adult-led Topic	8 m 2s 0 m 44s 11 m 40s	Child-led Topic Routine Adult-led Topic	7 m 59s 0 m 44s 11 m 40s	99.38% 100% 100%

Appendix 6: Group, individual and cohort comparisons for language scores and interaction rates

6a) Comparison between Mean CELF Preschool 2 (UK) and Narrative scores (and standard deviations) for Cohorts 1 and 2

Measure	Whole sample (N=19)	Cohort Comparison		<i>t(df), p</i>
		1 (N=9)	2 (N=10)	
CELF Standard Score				
CELF Time 1	85.17 (15.40)	85.11 (15.97)	83.80 (15.52)	<i>t</i> (17)=0.18, <i>p</i> = 0.86
CELF Time 2	90.28 (16.13)	92.89 (16.75)	87.20 (15.18)	<i>t</i> (17)=0.78, <i>p</i> =0.45
CELF Time 3	95.50 (14.42)	101.12 (14.81)	91.00 (13.10)	<i>t</i> (16)=1.54, <i>p</i> =0.14
Narrative scaled score				
Narrative 1	5.94 (3.47)	5.88 (4.12)	6.00 (3.09)	<i>t</i> (16)=-0.07, <i>p</i> =0.94
Narrative 2	6.11 (4.97)	7.22 (5.17)	5.10 (4.82)	<i>t</i> (17)=0.93, <i>p</i> =0.37
Narrative 3	10.61 (4.93)	10.50 (5.50)	10.70 (4.71)	<i>t</i> (16)=-0.83, <i>p</i> =0.93



Scatter diagram showing the relationship between children's scores on the Narrative Task at time 1 and time 3.

6 b) Mean interaction rates (and standard deviations) for Cohort 1, Cohort 2 and Cohort 2 without C 19.

Measure	Whole sample (N=19)	Cohort Comparison		<i>t(df), p</i>	Excluding C19		<i>t(df), p</i>
		1 (N=9)	2 (N=10)		1 (N=9)	2 (N=9)	
Interaction rpm							
Adult initiations (group and individual)	2.10 (0.16)	2.02 (0.16)	2.17 (0.11)	<i>t</i> (17) =-2.47, <i>p</i> =0.02*	2.02 (0.16)	2.18 (0.11)	<i>t</i> (16)=-2.53, <i>p</i> =0.02*
Adult initiations to individual	0.26 (0.09)	0.30 (0.11)	0.23 (0.05)	<i>t</i> (17) =1.92, <i>p</i> =0.07	0.30 (0.11)	0.23 (0.05)	<i>t</i> (16)=1.68, <i>p</i> =0.11
Child initiations	0.51 (0.44)	0.59 (0.42)	0.43 (0.47)	<i>t</i> (17)=0.76, <i>p</i> =0.46	0.59 (0.42)	0.30 (0.21)	<i>t</i> (16)=1.86, <i>p</i> =0.08
Responses received	0.60 (0.60)	0.64 (0.42)	0.57 (0.76)	<i>t</i> (17)=0.24, <i>p</i> =0.81	0.64 (0.42)	0.34 (0.20)	<i>t</i> (11.48) ^α =1.93, <i>p</i> =0.08
Responses made	0.76 (0.69)	0.81 (0.48)	0.72 (0.86)	<i>t</i> (17)=.30, <i>p</i> =0.78	0.81 (0.48)	0.46 (0.25)	<i>t</i> (12.08) ^α =1.96, <i>p</i> =0.07

^α Equal variances not assumed (*F*=5.00, *p*<0.05).

* *p* = .05.

Mann-Whitney <i>U</i> -test		
Extended Turns - %Child Initiated	N(1)=9, N(2)=10	<i>U</i> =24.5 <i>p</i> =0.09
Extended Turns - %Adult Initiated	N(1)=9, N(2)=10	<i>U</i> =41 <i>p</i> =0.74

Appendix 7: CELF Pre-School 2 (UK)

7a: Table of raw and scaled scores on CELF Preschool 2(UK) sub-tests as a function of time of testing

Child		Time One						Time Two						Time Three					
		Raw Score 1			Scaled Score 1			Raw Score 2			Scaled Score 2			Raw Score 3			Scaled Score 3		
		SS	WS	EV	SS	WS	EV	SS	WS	EV	SS	WS	EV	SS	WS	EV	SS	WS	EV
Cohort 1	1	3	2	8	4	3	6	12	5	11	8	5	7	14	15	19	7	9	8
	2	2	1	12	3	2	9	4	6	18	4	5	10	12	6	18	6	3	8
	3	16	15	24	11	11	12	20	20	34	13	12	14	21	22	34	14	13	13
	4	14	11	28	9	9	13	13	14	33	7	9	14	20	19	38	11	9	15
	5	7	4	4	6	5	4	8	2	3	7	3	4	18	16	25	11	10	11
	6	7	13	11	7	12	8	17	13	16	13	10	10	17	15	24	10	10	11
	7	8	11	20	7	10	12	15	15	32	10	11	15	19	19	34	12	12	14
	8	6	5	7	5	5	5	14	6	21	8	3	10	N/A	N/A	N/A	N/A	N/A	N/A
	9	6	11	11	5	10	8	7	12	16	6	9	9	14	16	24	7	10	11
Cohort 2	10	10	12	19	8	10	12	14	15	20	9	11	10	14	19	26	7	12	11
	11	9	4	4	8	5	4	11	4	10	8	4	6	14	13	15	7	8	7
	12	3	1	3	4	2	4	2	3	4	3	4	4	8	10	9	4	5	5
	13	14	7	20	9	6	10	18	15	26	11	10	11	19	13	28	10	6	10
	14	5	5	9	5	6	7	9	8	16	7	7	9	18	17	23	10	10	10
	15	11	6	4	9	7	4	10	14	10	8	11	7	16	10	17	10	5	8
	16	5	12	13	5	10	9	13	13	16	9	10	9	15	15	28	8	9	12
	17	3	4	9	4	5	7	6	4	11	5	4	7	13	11	20	7	6	9
	18	10	4	5	8	5	5	10	3	10	7	3	6	11	8	23	6	4	10
	19	16	19	29	11	13	14	17	20	29	10	12	12	20	22	36	11	13	14

SS = Sentence Structure WS = Word Structure EV = Expressive Vocabulary

7b: Table of standard scores for the CELF-Preschool 2(UK) as a function of testing time, including mean scores (and standard deviations) for each cohort and total sample

Child		Time One	Time Two	Time Three
		Standard Score 1	Standard Score 2	Standard Score 3
Cohort 1	1	***67	*81	87
	2	***69	*79	**75
	3	108	118	119
	4	102	100	110
	5	**71	***69	104
	6	94	106	102
	7	98	112	116
	8	**71	*83	N/A
	9	86	88	96
Mean (SD)		85.11 (15.97)	92.89 (16.75)	101.12 (14.81)
Cohort 2	10	100	100	100
	11	**75	**77	*84
	12	***61	***63	***69
	13	90	104	92
	14	**77	86	100
	15	*81	92	86
	16	88	96	98
	17	**73	**73	*84
	18	**77	**73	*81
19	116	108	116	
Mean (SD)		83.8 (15.52)	87.20 (15.18)	91 (13.10)
OverallMean (SD)		85.17 (15.40)	90.28 (16.31)	95.5 (14.42)

***2 SDs below mean **1.5 SDs below mean *1 SDs below mean

Appendix 8: Individual and mean verbal interaction rates as a function of session

8a) Rate per minute of Adult Initiations to group and individual

		Session Number											
		1	2	3	4	5	6	7	8	9	10		
Child	1	1.36	2.4	2.57	2.48	-	2.91	2.06	2.16	2.91	2.56		
	2	1.58	0.99	2.63	2.54	1.96	2.53	1.96	1.92	2.72	1.8		
	3	-	-	3.02	2.26	1.99	2.6	1.74	1.91	2.58	1.78		
	4	1.54	1.2	1.76	2.54	1.81	2.37	1.8	2.13	2.58	1.9		
	5	1.17	1.34	2.9	2.26	1.93	-	1.96	2.06	3.07	1.76		
	6	1.26	1.15	-	3.46	1.93	2.53	1.79	2.11	-	2.26		
	7	1.2	1.24	1.93	2.43	1.81	2.6	1.8	1.95	2.58	1.73		
	8	-	1.57	2.63	2.37	2.02	2.68	1.76	2.27	2.39	2.31		
	9	1.21	1.48	3.32	2.31	2.2	2.53	1.95	1.88	2.67	1.58		
Mean		1.33	1.42	2.60	2.52	1.96	2.59	1.87	2.04	2.69	1.96		
		11	12	13	14	15	16	17	18	19	20	21	22
	10	1.96	1.93	2.49	2.69	2.45	1.28	2.45	3.02	1.45	1.67	1.92	-
	11	1.93	2.71	2.42	2.56	2.38	1.3	2.29	3.23	2.55	1.65	1.85	2.52
	12	-	2.01	2.95	2.75	2.22	1.65	2.32	3.5	2.44	1.98	-	2.53
	13	1.71	1.88	2.44	2.54	2.26	1.59	2.17	2.69	2.29	1.47	1.92	2.54
	14	1.95	1.61	2.44	2.96	2.32	1.8	2.29	2.84	2.03	1.73	-	-
	15	1.74	1.93	-	-	2.47	1.42	2.07	2.69	2.01	1.67	-	2.57
	16	1.65	2.19	2.52	2.64	2.53	1.83	-	-	-	-	2.19	2.54
	17	2	2.72	-	2.66	1.91	1.76	-	-	-	-	1.92	2.57
	18	1.87	1.89	-	2.71	2.52	1.82	2.31	2.59	2	2.05	1.92	2.44
	19	1.74	1.53	2.38	2.73	2.39	1.47	2.32	2.54	2.34	1.5	1.92	2.25
Mean		1.84	2.04	2.52	2.69	2.35	1.59	2.28	2.89	2.14	1.72	1.95	2.50
Mean exl C19		1.85	2.10	2.54	2.69	2.34	1.61	2.27	2.94	2.11	1.75	1.95	2.53

8b) Rate per minute of Child Initiations

	Session Number									
	1	2	3	4	5	6	7	8	9	10
Child 1	1.76	1.03	1.5	1.47	-	0.15	0.79	0.42	0.23	0.61
2	0.11	0.17	0	0.17	0.48	0.31	0	0.04	0.05	0.18
3	-	-	0.2	0.06	0.98	0	0.11	0.77	0.8	1.11
4	0.18	0.22	0.59	0.17	0.71	0.54	0.69	0.27	0.14	0.36
5	0.11	0	0.19	0.06	0.3	-	0.26	0.09	0	0.26
6	0.33	0.51	-	0	0.48	0	0.17	0.46	-	0.14
7	2.34	0.77	2.52	1.47	2.05	0.15	1.53	1.74	0.47	0.82
8	-	0.42	1.11	0.11	0.51	0.61	0.88	0.82	0.52	0.53
9	0.69	0.15	0.42	0.45	0.65	0.61	0.6	0.34	0.56	2.13
Mean	0.79	0.41	0.82	0.44	0.77	0.30	0.56	0.55	0.35	0.68

	Session Number											
	11	12	13	14	15	16	17	18	19	20	21	22
Child 10	0.43	0.36	1.12	0.22	0.48	0.66	0.37	0.31	0.89	0.92	0.73	-
11	0.76	0.3	0.84	0.49	0.27	0.54	0.39	0.48	0.77	1.15	0.27	0.27
12	-	0.21	0.06	0.06	0.03	0.09	0.37	0.13	0.2	0.78	-	0.19
13	0.16	0.21	0.36	0.27	0.41	0.12	0.3	0	0.46	0.5	0.12	0.11
14	0.03	0.03	0.25	0.06	0	0.03	0.13	0.49	0.39	0	-	-
15	0	0.22	-	-	0	0.18	0.17	0	0.35	0.03	-	0.11
16	0.6	0	1.17	0.68	0.36	0.55	-	-	-	-	0.22	0.19
17	0.28	0.49	-	0.63	0.36	0.26	-	-	-	-	0.27	0.16
18	0	0	-	0.07	0	0	0	0	0	0	0	0
19	1.11	1.17	2.41	1.81	1.3	1.68	1.37	0.93	2.34	2.6	1.54	1.39
Mean	0.37	0.30	0.89	0.48	0.32	0.41	0.39	0.29	0.68	0.75	0.45	0.30
Mean excl. C19	0.28	0.20	0.63	0.31	0.21	0.27	0.25	0.20	0.44	0.48	0.27	0.15

8c) Rate per minute of Responses Received

	Session Number									
	1	2	3	4	5	6	7	8	9	10
Child 1	1.8	0.63	1.5	2.14	-	0.92	0.69	0.42	0.8	1.88
2	0.29	0	0	0.11	0.06	0.15	0.05	0	0.14	0.06
3	-	-	0.2	0.4	1.01	0.38	0.53	0.55	1.17	0.74
4	0.62	0.44	0.39	1.19	1.04	1.22	0.85	0.59	0.61	0.77
5	0.11	0.04	0.56	0.45	0.27	-	0.21	0	0.06	0.22
6	0.2	0.3	-	0	0.3	0.08	0.11	0.15	-	0.14
7	1.48	0.6	2.1	1.98	1.25	0.31	1.43	1.3	0.75	1.02
8	-	0.51	1.52	0.62	0.54	1.38	1.2	0.69	1.5	0.86
9	0.32	0.3	0.42	0.45	0.36	0.46	0.22	0.17	0.61	1.54
Mean	0.69	0.35	0.84	0.82	0.60	0.61	0.59	0.43	0.71	0.80

	Session Number											
	11	12	13	14	15	16	17	18	19	20	21	22
Child 10	0.4	0.42	0.36	0.2	0.58	0.87	0.86	0.36	2.09	0.36	0.69	-
11	1.26	0.57	0.47	0.24	0.31	0.85	0.75	0.36	0.92	0.73	0.42	0.62
12	-	0.04	0.03	0.06	0.1	0.23	0.2	0.13	0.3	0.29	-	0.38
13	0.16	0.03	0.14	0.27	0.35	0.14	0.59	0.24	0.41	0.23	0.38	0.43
14	0.22	0.03	0.28	0.06	0.1	0.29	0.3	0.78	0.3	0.07	-	-
15	0.24	0.73	-	-	0.12	0.54	0.27	0	0.59	0.13	-	0.38
16	0.38	0.16	0.66	0.24	0.21	0.55	-	-	-	-	0.35	0.21
17	0.7	0.29	-	0.32	0.23	0.33	-	-	-	-	0.27	0.38
18	0.09	0	-	0.1	0.08	0	0.04	0	0.09	0.07	0.08	0.11
19	1.59	3.32	2.35	2.25	2.1	1.53	2.96	3.47	3.46	3.34	3.54	2.87
Mean	0.56	0.56	0.61	0.42	0.42	0.53	0.75	0.67	1.02	0.65	0.82	0.67
Mean exl. C19	0.43	0.25	0.32	0.19	0.23	0.42	0.43	0.27	0.67	0.27	0.37	0.36

8d: Rate per minute of Responses Made

	Session Number									
	1	2	3	4	5	6	7	8	9	10
Child 1	1.21	1.2	1.77	2.54	-	0.99	0.85	1.14	1.08	1.28
2	0.22	0	0	0.45	0.15	0.15	0.05	0.04	0.42	0.18
3	-	-	0.7	0.96	1.07	0.54	0.85	0.41	1.22	1.19
4	0.73	0.89	0.78	1.81	1.34	1.99	1.8	1.04	1.27	0.97
5	0	0.09	0.56	0.4	0.18	-	0.26	0.23	0.34	0.26
6	0.3	0.21	-	0	0.24	0.15	0.56	0.21	-	0.07
7	1.44	0.51	0.84	2.26	1.16	0.61	1.85	1.56	1.03	2.24
8	-	0.69	0.91	0.96	0.74	1.61	1.76	1.24	1.64	1.38
9	0.32	0.4	1.13	1.24	0.45	0.61	0.49	0.43	0.84	1.87
Mean	0.60	0.50	0.84	1.18	0.67	0.83	0.94	0.70	0.98	1.05

	Session Number											
	11	12	13	14	15	16	17	18	19	20	21	22
Child 10	0.37	0.73	0.78	0.22	0.78	0.89	0.94	0.31	2.04	0.26	0.88	-
11	1.52	1.51	0.76	0.17	0.51	0.9	1	0.66	0.92	0.96	0.35	0.91
12	-	0.04	0.2	0.06	0.16	0.32	0.33	0.46	0.35	0.49	-	0.83
13	0.44	0.1	0.31	0.51	0.64	0.2	0.56	0.69	0.46	0.5	0.69	0.83
14	0.19	0.06	0.28	0	0.17	0.29	0.3	0.73	0.26	0.13	-	-
15	0.3	0.67	-		0.24	0.62	0.17	0.1	0.39	0.17	-	0.38
16	0.44	0.31	0.45	0.32	0.6	0.84	-	-	-	-	0.39	1.26
17	0.56	0.58	-	0.44	0.55	0.42	-	-	-	-	0.31	0.35
18	0.09	0	-	0.07	0.12	0	0.04	0	0.09	0.07	0.08	0.11
19	1.83	3.74	2.83	2.34	3	2.05	2.96	4.16	3.2	3.71	3.62	4.15
Mean	0.64	0.77	0.80	0.46	0.68	0.65	0.79	0.89	0.96	0.79	0.90	1.10
Mean exl. C19	0.49	0.44	0.46	0.22	0.42	0.50	0.48	0.42	0.64	0.37	0.45	0.67

Appendix 9: Qualitative analysis: Transcription conventions and additional extracts

9 a: **Transcription conventions**

Adapted from Have, P. t. (2007). *Doing Conversation Analysis* (2nd ed.). Los Angeles, London, New Delhi, Singapore: Sage Publications.

Sequencing

[onset of overlapping speech

] end of overlapping speech

= latching i.e. no gap between utterances

Timed intervals

{00.00.00} Time code Minutes: seconds: tenths of a second

(0.0) Numbers in parentheses indicate elapsed time in tenths of a second, only recorded for noticeable pauses of over 3 seconds.

(.) A tiny gap between utterances.

Characteristics of speech production

WORD Speech is noticeably louder.

~word~ Speech is noticeably quieter.

: Elongated speech sound.

. Noticeable fall in tone.

? Noticeable rise in tone.

Transcriber's comments or doubts

(xxx) Unclear/inaudible speech

(word) dubious hearings

(?) dubious speaker identification

(())description of action or event, including direction of looking or gesture.

9 b: Summary table and additional extracts used in qualitative analysis

Extract Number	Topic	Discussion Type	Children included by language level on initial assessment			
			Higher		Lower	
			Non-EAL	EAL	Non-EAL	EAL
Informal conversational patterns						
i)	Cornflour and water play	Individual-time	C4, C9			
ii)	Nature walk	Adult-led				C18
iii)	DVDs and cartoons	Child-led	C19			
Educational conversational patterns						
iv)	Mother's Day	Adult-led	C4, C7			C1
v)	Caterpillar parcel	Adult-led	C10, C16, C19		C11	
vi)	Colours	Routine	C4, C7, C9	C3	C1, C2, C8	C5
Mixed conversational patterns and sustained shared conversation						
vii)	Snails	Adult-led	C4, C7, C6		C2	C1
viii)	Snails	Adult-led	C4	C3	C8	
ix)	Caterpillar parcel	Adult-led	C10, C13, C16, C19		C17	C18
Topic: Using familiar vocabulary and personal experiences						
x)	Caterpillar parcel	Adult-led	C10, C13, C16, C19		C11, C17	C18
Feedback and repair						
xi)	Mother's Day painting	Adult-led	C4, C6, C7, C9			C5

i)

Context: Session 10; Individual-time. Children had been introduced to cornflour and water play. The other children had left and only Child 9 and Child 4 were present with the adult. Child 9 developed the conversation by giving information from her own personal experience, although the relevance to the initial topic was not explicitly made.

{00:27:58.02} ((The two children call to A to add more colouring))
1 A: If we add just a little bit more what do you think will happen to our
2 C4: RE::D
3 A: It MI::ght go RE::d (.) Goodness me are we rea::dy ju::st a li::ttle bit more
4 C9: Loo::k I mixed it a::ll up (5) I wa:::nt to mi:::x it (C4).
{00:28:16.22} ((Both children mix together))
5 C9: PI::nk
{00:28:35.08}
6 A: [((Asking nearby children to play more quietly))
{00:28:46.15}
7 → C9: [Look it's Pi::nk
8 A: It's VE::ry pi:nk isn?t it (1)
9 C9: It looks like a Ca:::stle
10 A: Like a castle oh::::
11 C9: In my (.) my my castle
12 A: Have you got a castle at home
13 C9: Ye:::s I have a castle that's in my ga::ra::ge
14 A: and who lives in You::r castle
15 C9: My castle is in the garage
16 A: Your castle is in the garage (.) Who lives in your ca:stle who lives insi:::de your castle
17 C9: (xxxxx)
18 A: Wo:::w
19 C9: (xxxxx)
{00:29:24.07}

This extract was characterised by pauses and gaps in conversation of several seconds in length. Child 9 used the topic of colour from earlier turns and self-selected to take up the topic (→).

ii)

Context: Session 14. Adult-led topic; all the children in the group were together but were moving from one area to another on a nature walk. All the children had just been looking at a woodlouse that one of the children found. The Adult and Child 19 had spoken about its legs and then about putting the woodlouse safely back in the grass. Child 18 stood close to the adult as they all moved off. This extract was one of the very few occasions on which Child 18 spoke and in this instance he initiated the conversation, based on his own personal experience.

{00:26:41.15} C18: (My spi)
A: rig[ht lets go this way
C18: [my spiders insi:::de
A: what darling
((Bends down towards C18))
C18: My spiders insi:de
A: your spider (.) have you got a spi:::der
C18: yeh in[si:::de
C19: [Mrs A
A: in your house
C18: ((Nods once))
A: Huh is he bi::g one or a li::ttle one
C18: (xxxx)
A: Just a li::tle [one
{00:26:56.21} C19: [Mrs A

iii)

Context: Session 20; Child-led topic. 8 of the children were present and the Adult was waiting to see if any further children would arrive before starting the session. Child 19 initiated the conversation by asking about another child, Child 10, who was being comforted by the adult. He picked up on the topic of DVDs and offered his own knowledge and ideas based on this topic. The adult also asked for information from the child and gave personal observations.

1 C19: Why is what did ((C10)) just sa:::y
2 A: She's a little bit upset because she's having her DVDs taken off her (2) so she's a little bit upset about it but we'll cheer you up in nursery won't we
3 C19: [I know
4 A: [We'll have a smile won't we
5 C19: Tomorrow when we have the Ben TEN one then we can then you can watch princess one (.) that'll cheer her up
6 A: Do you think so:::.
7 C19: Yes
((Nods))

8 A: Would that cheer you up ((Looks at C10))
9 C10: ((Nods))
10 A: Ye:::::s that's what I'll have to do then
11 C19: After when we (.) after the All of the Ben ten ones are over
12 A: Yeh and then we'll buy a princess one
13 C19: And you could get those (xxxxxxx) episodes of them
14 A: Do you know what that's rea::::[lly kind
15 C19: [I put (Ben and Hollie's little kingdom) at
the weekend
16 A: ((laughs))
17 C19: Ahahaha
18 A: We'll have to have a look that one tomo[rrow
19 C19: [Well that's got the princess and its
got the princess and the elves Ahaha
20 A: OK so that's the one we'll look for what's it called again
21 C19: Ben and Holly's little kingdom
22 A: Ben and Holly's little kingdom
23 C19: ((Nods))
24 A: I'll have to write that down and I'll remember and I'll have a look for it on
Saturday (.)when I go to (town) I'll go and have a look y?es
25 C19: And you've just (.) if you don't know the DVD section then tell them
26 A: ~Oh right~ so if I ask them they'll show me where it is
27 C19: Yeh you have to follow them
28 A: Right OK then that's (x[xx)
29 C19: [You have to follow the man (xxxxxxxxxxxxxx)
30 A: What sho::p do you think would be best to go for a DVD [where could I
buy one from

iv)

Context: Session 1; Adult-led topic. 7 of the children were present. The adult introduced the topic of Mother's Day in preparation for demonstrating a painting activity in which the children would paint a picture of their own mum's face. Several children contributed without prompting, adding their own information.

1 A: There we go. Right who can remember ?(.) what day it is on Sunday? Mm?
2 C7: Swimming day
3 A: It's not swimming day...something very special is
happening for somebody on [Sunday.]
4 C1: [painting day]
5 A: It's not painting day on Sunday (2)
6 A: a good try though, a good guess. (What's happening?)(.) Something
[special
7 C4: [Nearly Mothers day
8 A: Oh wow, ((C4)) said it's Mother's day and what happens on
Mother's day?

- 9 C1: [MOTHER'S DAY]
 10 C4: [You give]
 11 A: It [is mother's day, that's right ((C1))]
 12 C4: [You give] you give mummy some mone...you
 give mummy something
 13 A: And why do we give mummy's something?
 14 C4: Cos (1) it's mother's day.
 15 A: Because it's mother's day and we're telling our mummy's how spec[ial]
 (.) they are.
 16 C7: [and]
 and you need to give a (.) aprize
 17 A: (1)You need to give her a surprise? that's right

v)

Context: Session 21; Adult-led topic. 7 children were present. The adult brought a parcel for the children to look at. In the parcel was a container with caterpillars. First they looked at the address and this led to talk about their own addresses, then they had a guess at what was in the parcel. The children showed a genuine interest and curiosity. Turn-taking was managed in various ways for Child 19. The relevant turns are produced here (→).

- 38 A: Where do you live by (.) do you know where you live by has it got some
 sho?ps o[r
 39 C16:
 [Sh:::o::ps
 40 C19: or houses
 41 A: its got some shops where you live
 42 C19: Or HOuses
 43 A: Look We need to be listening to ((C16)) cos it's ((C16))'s turn isn't it, so
 (→) you need to listen
 44 A: Got any shops where you live
 45 C16: (.) Yes

- 56 A: What number's on your door
 C10: I don't know

- 58 A: You're not sure- yet
 59 C10: (xxx)
 ((Shakes head))
 60 A: No
 61 C19: Mrs (A)
 62(→) A: You have told us haven't you ((C19))
 63 C19: I need to tell you one more th[ing
 64 A: [No

65(→) A: Go on then very quickly
66 C19: So:: i::f someone lives next to some people's houses then (.) I got a next door neighbours too
67 C10: [And me:::]
68 A: [That's right] yes if you have people who live (.) sometimes we are in the middle and we've got one person one side somebody the next side
69-88 (During these lines Child 19, 13 and 10 take turns with the adult. Child 11 is then selected for a turn by the Adult.)
89 C11: Er I don't know (.) I don't know number
90 A: You don't know the number ((Shakes head))
91 C11: No I don't know wh[at
92 C19: [Mrs ((A))
93(→) A: PERhaps when you go home today perhaps you can ask your mummy's what number is on your door and you can come and tell me tomorrow
94 C19: May be (.) I look up on the door then I see the number
95 A: Right the[n
96 C19: [Look your numbers got Thirty x
97 A: That's right a three and a x so I live at number thir:::ty x, that's number on my door lets see if you can remember to ask your mummies and tell me what number you live at

vi)

Context: Session 4; Routine discussion. 8 of the children were present. This extract followed on directly from Extract 7.1. The adult had indicated that she was ready to move on to the Adult-led topic, but Child 8 initiated to continue the topic set by the previous turns. Rather than allowing the conversation to develop between herself and the child, she opened it up to the group by posing a question. She then selected specific children for a turn, whilst children also made spontaneous contributions on the topic.

39 C8: (Mrs((A)))
40 A: Yes ((C8)) ((Looks at C8))
41 C8: (I went xx) Mickey Mouse (xxxxxxxxxxxxxxxxxxxxxx)
42 A: Did you have your pre:sent?
43 C8: ((Nods))
44 A: Did you have your car? ((Nods))
45 C8: (xxxx)
46 A: A:nd you::r book?
47 C8: And er and er and (big car xxxx)
48 A: I wonder what co:LOUR C8's car is (.) what colour do you think it is C2?

This was followed by a series of turns, shown below, in which all the children took a turn.

- 49 C1: I know
50 C9: Green
51 A: You think it's green one (.) wh[at do you think
52 C7: [I think I think it's blue
53 A: You think it's a blue one=
54 C4: =I think it's a re::d one
55 A: A red one (.) what colour does ((C2)) think it is?
56 C9: I think [it
57 A: [~Just hang on let ((C2)) have a go first~
58 C2: (yellow)
59 A: You think it's a ye:::llow one What colour do you think it is ((C3))
60 C3: Orange
61 A: Huh orange (.) what colour do you think ((C5))?
62 C5: Purple
63 A: Pu:::rple (.) what colour does ((C4)) think it is ?
64 C4: Red
65 A: A red one (.) and what colour does ((C1)) think it is?
66 C1: (.) ~(xxxxx)~
67 A: ~Silver~ (.) do you know I was going to guess silver (.) I think it might be
68 C7: White
69 A: (2) A white one
70 C8: (No it's a) black
71 A: A black one did anybody guess black?
72 C4: ((Shakes head))
73 C?: Blac:k
74 A: We didn't guess a black car did we? We said all the other colours but we didn't say black
- 86 C5: And we said a purple
87 A: You thought a purple one. you're all in purple today aren't you? V::er::y smart in purple.
88 C9: Mrs ((A)) my (.) my shoes is (flashing)
{00:08:13.11}
89 A: Very good (.) Right then are we ready to have a look at our book? (2)

vii) and viii)

Context: Sessions 7 (vii) and 8 (viii); Adult-led topic. The children were talking about snails in Extract vii) and in viii) they were looking at real snails. In both sessions the children showed interest and curiosity and made responses without being prompted.

In both extracts the adult responded to the children's contributions, combining and extending their responses.

vii) In this example turns did not develop between the child and the adult directly, but their turns were accepted and extended to develop the conversation, in line with the goal that had been established by the adult.

16 C4: [I think he's got a sli:::me thing
17 C?: [(children call out various numbers
18 A: Do you think he's got any legs ((C4))
19 C4: No he's got a slippery thing
20 A: How many do you think
21 C6: I think he's got Five
22 A: You think he's got Fi::ve legs how many do you think ((C2))
23 C2: Lots
24 A: Lo:?'ts of legs
25 C2: ((Nods))
26 A: well I'll tell you some.thing a snai::l hasn't got any legs at all
(shakes head))
27 C4: Got a slippery thing
28 A: So how does he move ((C4))
29 C7: With his sli:::me
30 A: Wo:::w
31 C1: I didn't guess one
32 C4: He goes rea:::lly slo:::wly
33 A: Oh he goes (.)[he u:::se:::s
34 C1: [I didn't guess one
35 A: You didn't guess one I'll ask you another question [later
36 C7: [Sli:::me
37 A: He u:::ses sli:::me to move himself across and he leaves a bi:::g trai:::l of
slime and it's all shiny have you ever seen that in your ga:::rden

viii) In this example the conversation showed both children taking alternate turns before the adult had another turn, although turns were still addressed through the adult. The conversation was developed away from simple giving of information about items of food and became more elaborated.

{00:07:40.02}☐

59 A: What do you thi:::?nk. the snail likes to eat
60 C4: E::r cabbage
61 C8: I think he likes to eat I think he likes[to eat
62 C3: [He's go:::ne in his home
now
63 C8: [I think I

64 C3: [He's gone in his home
65 C8: I think he likes to E::::[::at grapes
66 C3: [He's coming ba::ck ou::t
66-79 ((During these turns C9, C7 and C4 take alternate turns with A, giving answers about different foods))
80 C3: May be the shell is his home
81 A: You're right the shell is his home and do you know he goes back into his she::ll if he's a little bit fri:ghtened (.) so I think that's why he's gone back into his shell because he's a little bit scared
82 C8: You know he's a little bit scared of us
83 A: That's right why do you think he's scared of us ((C8))
84 C8: [l i l th
85 C3: [(xxxxxxx) like a giant
86 C8: I think we look like a giant
87 A: we're like giants cos he::'s so:: small (.) We:: are like giants aren't we
88 C8: We have to be careful with him
89 A: that's (.) we have to be very careful look at this beautiful
{00:09:20.09} pattern

ix)

Context: Session 21; Adult-led topic. 7 children were present. This extract followed on from the conversation in Example v). The parcel had been opened and the container passed round for each child to have look. The adult established a turn to talk for each child as they held the container with the caterpillars in it. The children showed curiosity and interest and made spontaneous contributions. Over the course of the conversation two specific ideas were generated by the children and these were picked up on over several turns, later in the conversation and gradually developed by the adult, with invitations to the children to contribute. The relevant turns are included here, from Child 13, Child 10 and Child 19.

Two new ideas were introduced by children in this part of the conversation (→).

→ C19: you can see little holes around the to::p
201
202 A: Why do you think we've got those holes ((C19))
203 C19: Cos maybe they've been doing eating it
204 A: Oh you think the::y've made the ho::les? You think they've been ni:bbling at [(xxxx)
205 C10: [it wants to come out
206 A: (.)We've got to leave the:m in the:re shall we let ((C16)) have a li::ttle look ((C10 passes pot to C16))
207 C19: ~((C16) caterpillars inside)~
208 A: What do you thi::nk ((C16))

209 C16: (One of them is hanging off the to:::p)
 210 A: (xxxx something) how many can you see:::
 211 C16: (2) Lots
 → C13: Did caterpillars did caterpillars (turn into butterfly in there)
 212
 213 A: ((Nods and looks away))
 214 C13: Mmm
 215 C10: And then it (.) and you can let it go
 216 A: ((Nods))
 217 A: (8) Why do You think we've got those holes in the top ((C16))
 218 C16: ((Looks at A and leans forward))
 219 A: Why do you think we have those (little) holes (.) can you see them in the
 to:?[p
 220 C16:
 [I don't kno:::w
 221 A: on the top on the lid can you see all the little holes on the top there why
 do you think we've got tho:::se
 222 C16: (4) (cos the) caterpillar wo::n't come ou:::t
 223 A: Ah wev'e got the li::d on so the caterpillars can't wriggle off haven't we
 ((takes pot from C16))
 do you want to ho:::ld it ((C18))
 224 C18: ((Shakes head))
 225 A: No?
 226 C10: I do:::
 227 A: ((Lifts up cover and holds it towards C18. C18 moves back))

Several turns later the two children each picked up on each other's topics (→).

→ C13: Can you show me the ho::les
 242 ((A holds cup in front of C13))
 243 A: (.) Can you see them wri::ggli?ng
 244 A: (.) Wriggling look at the top and some of them are on the top lets see if
 we can count how
 many's there - one two three Fou:r (pause) fi:::ve
 ((Children count with A))
 245 A: Fi:::ve (.) we've got fi:::ve caterpillars in there=
 → C19: =And they are going to grow into bu::tterflie:s and then we are going to
 246 let them ou:::t
 247 A: they wi::ll grow into butterflies, but what's got to happen fi?rst we've got
 our cate::rpillars (.) then what happens
 248 C19: (1) Then they have to eat foo:::d
 249 A: Then we that's the food they're going to eat can you see that on the
 bo:ttto:m
 250 C10?: Yeh
 251 A: can you see it doesn't look very nice does it I dont think we would eat
 that would we ((shakes head))

252 C?: No:::?
 253 A: E::r:: but this is for the caterpillars to eat so they'll stay in there and they'll eat the foo:::d and then what will happen?
 254 C13: (xxxx[xxxxxxxxx])
 255 C19: [They'll AND then they will wrap themselves into a
 256 A: Good girl
 ((Nods))
 257 C19: There must be there must be a cocoon up (.) there must be loads of little cocoons down
 it's foo:::d

Later on in the conversation the adult returned to the topic of the holes.

306 A: Right, the ma:::n has made the holes in OK the catarpillars haven't made those holes a ma:::n has gone round or a lady and put holes all in the top of the lid why why do you thi::?nk
 307 C19: So (.) so they (.)
 → C13: So can they breathe
 308
 309 A: So they can breathe good girl
 310 A: they make the ho:::les so the caterpillars because the::y're living (.) they're rea::l these are rea:l caterpillars not pretend
 311 C17: coming down ((Leans closer to look in pot))
 312 A: It won't come out sweetheart we've got the lid on
 313 A: s[o he can breathe]what would happen if he hadn't got those holes in the to::?p and the caterpillars couldn't breathe what would happen
 314 C10: [(I can see the caterpillar went like that)]
 315 C19: (1) they would die
 316 A: They wou.ld die.
 317 C17: He's he's (xxxxxxx)
 318 A: He's up at the top ((To C17))THat's why:::
 319 C19: Like if we di:::dn't have a:::ny no:::strils then we:: would die:::?
 320 A: we couldnt breathe could we? we could breathe through our mou::th
 321 C19: well That's where the ge::rms come i:n
 322 A: Oh right So that's why:: it sai::d on he:re URGent open immediately if I didn't o:pen it and those caterpillars were in there too long I would have opened it and they would have all been dead so that's why I had to o:pen it strai::ght awa::y.
 323 C19: So cos they ca:::n't breathe in a boxes
 324 A: That's right (.) and that's why you've got a:ll those li::tle dots, a:ll those little holes on our top.
 325 C19: that's why that's why he wried urgent open it now (.) right now.
 326 A: Open it right now we said (.) imme:::diately that means strai:ght away doesn't it
 327 C19: So::
 328 A: Straight away right now

329 C19: so tha::t mea:ns to look I can't sti::ck this back on
 330 A: No it's already come open now so it won't stick back down
 331 C19: you just opened it at ho::?me
 332 A: I di::d now what I am going to do::: is pop these back in here (.) because
 the ~other children have seen it yet~ we've been rea:::lly lucky and we've
 been the first ones to see them

x)

Context: Session 21; Adult-led topic. 7 children were present. This extract followed on from the conversation in Example v) and preceded Extract ix). The extract was part of the larger extended conversation in which children contributed spontaneously and showed genuine interest and curiosity, although in this segment the children did not make spontaneous contributions. The children were asked to guess what was inside the parcel and their responses drew on their personal experiences and interests. All the children made a guess of a similar type, regardless of their language level.

In this way all the children were able to make a contribution, but the adult's attempts to shape the responses were not successful.

105 A: Start with ((C17)) what do YOU think is inside my box when I opened it
 106 C17: A car
 107 A: You think I've got a car in there
 108 C17: ((Nods))
 109 A: what colour car do you think it is
 110 C 17: (xxxx)
 111 A: A Blu::e car thats a good guess cos I think a little blue ca::r would fi:t in
 my litt:le square box. Do you think that is a good guess?
 112 C19: Yeah
 113 A: Mmm
 114 A: What do you think ((C18))?
 115 C18: ~batman's car~
 116 A: ~A batman's car~ you think that's inside my little box Batman's ca::r
 117 A: What do you think ((C16))
 118 C16: power ranger car
 119 A: A power ranger-car inside my li::ttle box:: (1) is that what you think it is
 why do you think its got urgent and open immediately (.) would I ha:::ve
 to if it was a Power
 Ranger ca::r Mmmm I wonder
 120 C16: (xxxxxx)
 121 A: What do you think ((C10))
 122 C10: A princess
 123 A: (1) You think there's a princess, a REAL princess in there

124 C10: ((Nods head))
 125 A: How big's this Pri?nce?ss
 126 C10: Bigger
 127 A: She must be very sma::ll if she fits in my: box (.) must be a ve::ry little Princess to fit in the::re?
 128 A: What do you think ((C19))
 129 C19: I think its Ben 10 (with her goofy) cousin Gwen and Ben (xx) goofy cousin
 130 A: You think that's inside my bo?x
 131 C19: Ben and Gwen
 132 A: would I have to o:pen it strai::ght away
 133 C19: If they (.) if those two would fi:t in. together
 134 A: Do YOu think they would
 135 C19: (1) Yeah cos lv'e got colle::ctions of them the're NOt ve::ry big: thou:gh they're a bit sm[all].
 136 A: [This box is ve::ry small do you think they would they fit in there
 137 C19: ((Looks away)) (3)Yeah
 138 A: Mmm do you think so:::?
 139 A: What do you think ((C11))
 140 C11: Er (1) batman car
 141 A: You think it's a car as we::ll
 142 C11: Batman car
 143 A: A Batman car Mmm don't think it's a car in there
 144 A: What do you think ((C13))
 145 C13: A car
 146 A: It's not a ca:::r I've just sai:d its Not a car in there so what do Yo.u think might be in there
 147 C13: A princess
 148 A: ~A what~
 149 C13: A princess
 150 A: A pri:n::cess

xi)

Context: Session 1; Adult-led topic. This extract is taken from the same conversation as Examples iv) and 7.4. The children were watching the adult painting a picture of her mother's face before doing their own painting. The children joined in on the topic of eye colour. Revisions were made, but by other children and not by those who had made the dispreferred turns.

95 C6: [My] Mummy has got blue eyes.
 96 A: Your mummy's got blue eyes? [So you'll need to[use what colour paint?
 97 C7: [I.. [My
 98 C6: [Blue
 99 A: The blue paint, good girl]
 100 C7: [My my my] my mummy's got black eyes
 →101 A: Your mummy's got black eyes (.) has she got very da[rk brown eyes]

102 C5: [And My
 103 C7: [Yes]
 104 C5: my mummy got a yellow eyes
 →105 A: Your mummy's got yellow eyes? that's a bit different i[sn't it?]
 106 C9: [My my]
 107 C9: My mummy got yellow eyes
 →108 A Yellow eyes. Usually eyes are either green or blue
 or brown OK (.) so have a think about what
 [colour]
 109 C4 [Or
 black]
 110 A (.) Sometimes they're very dark brown aren't they
 111 C4 Yeh and [black]
 112 A [some eyes] yes (.) they ca[n be dark]
 113 C7 [sometime]s they can be dark blue
 114 A: (.) Sometimes people have dark blue eyes, they do you're quite right

Appendix 10: Questionnaire analysis as a function of home language, language score, gender and age

10 a: Questionnaire differences as a function of first language for Cohort 2.

Mean rankings for amount of talk in different situations in the nursery as a function of children's first language.

Nursery situation	First Language	N	Mean Rank	Mann-Whitney U <i>p</i>
1-to-1 with an adult	English	7	5.93	7.50
	EAL	3	4.50	<i>p</i> =.45
Whole class	English	7	6.14	6.00
	EAL	3	4.00	<i>p</i> =.20
Small group	English	7	6.43	4.00
	EAL	3	3.33	<i>p</i> =.11
Play with other children	English	7	5.86	8.00
	EAL	3	4.67	<i>p</i> =.51

Mean rankings for amount of talk in different situations in the reception class as a function of children's first language.

Situation	First Language	N	Mean Rank	Mann-Whitney U <i>p</i>
1-to-1 with an adult	English	6	6.00	3.00
	EAL	3	3.00	<i>p</i> =.07
Whole class	English	6	5.83	4.00
	EAL	3	3.33	<i>p</i> =.12
Small group	English	6	6.33	1.00
	EAL	3	2.33	<i>p</i> =.03*
Play with other children	English	6	5.50	6.00
	EAL	3	4.00	<i>p</i> =.16

**p*= 0.05 level

10b: Cross-tabular comparison of responses to parental questionnaire

Comparison as a function of children's language score on initial language assessment

Question					Fisher Exact	Question					Fisher Exact
		A	S	R			A	S	R		
1 i)	HL	2	3			8 i)	HL		0	4	
	LL	1	2		1.00		LL		3	0	0.03*
1 ii)	HL	4	0			8 ii)	HL	2	2		
	LL	4	1		1.00		LL	3	1		1.00
2 i)	HL	4	1			8 iii)	HL	1	3		
	LL	1	1		1.00		LL	1	1		1.00
2 ii)	HL	3	2			8 iv)	HL	3	1		
	LL	2	2		1.00		LL	1	3		0.47
2 iii)	HL	5	0			8 v)	HL	4	1		
	LL	3	1		0.44		LL	1	2		0.46
3 i)	HL	2	2			9 i)	HL	5	0		
	LL	3	1		1.00		LL	5	0		N/A
3 ii)	HL	0	3			9 ii)	HL	5	0		
	LL	1	2		1.00		LL	5	0		N/A
3 iii)	HL	3	2			9 iii)	HL	5	0		
	LL	2	2		1.00		LL	3	2		0.44
4 i)	HL	3	0			9 iv)	HL	5	0		
	LL	1	2		0.40		LL	1	4		0.05*
4 ii)	HL	3	0			9 v)	HL	4	1		
	LL	2	1		1.00		LL	1	4		0.21
4 iii)	HL	5	0			9 vi)	HL		4	1	
	LL	4	1		1.00		LL		1	4	0.21
5 i)	HL	3	1			10 i)	HL	5	0		
	LL	1	3		0.47		LL	5	0		N/A
5 ii)	HL	2	1			10 ii)	HL	5	0		
	LL	2	3		1.00		LL	3	1		0.44
5 iii)	HL	5	0			10 iii)	HL	5	0		
	LL	1	4		0.05*		LL	3	1		0.44
6 i)	HL		2	3		10 iv)	HL	5	0		
	LL		1	2	1.00		LL	1	3		0.05*
6 ii)	HL		0	4		11 i)	HL	5	0		
	LL		3	2	0.17		LL	5	0		N/A
7 i)	HL		1	3		11 ii)	HL	5	0		
	LL		1	2	1.00		LL	4	1		1.00
7 ii)	HL		2	2		11 iii)	HL	3	2		
	LL		2	2	1.00		LL	4	1		1.00
7 iii)	HL	2	3			11 iv)	HL	5	0		
	LL	1	2		1.00		LL	3	2		0.44
7 iv)	HL	2	2								
	LL	0	4		0.43						

A=Always S=Sometimes R=Rarely

* $p= 0.05$ level

Comparison as a function of children's gender

Question					Question					
		A	S	R	Fisher Exact		A	S	R	Fisher Exact
1 i)	M	1	3			8 i)	M		2	2
	F	2	2		1.00		F		1	2
1 ii)	M	4	1			8 ii)	M	4	1	
	F	5	0		1.00		F	1	2	
2 i)	M	3	0			8 iii)	M	1	3	
	F	2	2		0.43		F	1	2	
2 ii)	M	2	3			8 iv)	M	2	2	
	F	3	1		0.52		F	2	2	
2 iii)	M	3	1			8 v)	M	2	2	
	F	5	0		0.44		F	3	1	
3 i)	M	4	1			9 i)	M	5	0	
	F	1	2		0.46		F	5	0	
3 ii)	M	0	4			9 ii)	M	5	0	
	F	1	1		0.33		F	5	0	
3 iii)	M	1	3			9 iii)	M	4	1	
	F	4	1		0.21		F	4	1	
4 i)	M	2	2			9 iv)	M	3	2	
	F	2	0		0.47		F	3	2	
4 ii)	M	2	1			9 v)	M	2	3	
	F	3	0		1.00		F	3	2	
4 iii)	M	4	1			9 vi)	M		3	2
	F	5	0		1.00		F		2	3
5 i)	M	1	3			10 i)	M	5	0	
	F	3	1		0.49		F	5	0	
5 ii)	M	1	3			10 ii)	M	4	1	
	F	3	1		1.00		F	4	0	
5 iii)	M	2	2			10 iii)	M	4	1	
	F	4	2		1.00		F	4	0	
6 i)	M		2	2		10 iv)	M	3	3	
	F		1	3	1.00		F	3	0	
6 ii)	M		3	2		11 i)	M	5	0	
	F		0	4	0.17		F	5	0	
7 i)	M		1	3		11 ii)	M	4	1	
	F		1	2	1.00		F	5	0	
7 ii)	M		3	2		11 iii)	M	4	1	
	F		1	2	1.00		F	3	2	
7 iii)	M	0	4			11 iv)	M	3	2	
	F	3	0		0.03*		F	5	0	
7 iv)	M	1	3							
	F	1	3		1.00					

A=Always S=Sometimes R=Rarely

* $p=0.05$ level

Comparison as a function of children's reported home language

Question		A	S	R	Fisher Exact	Question		A	S	R	Fisher Exact
1 i)	Eng	3	3			8 i)	Eng		2	3	
	EAL	0	2		0.46		EAL		1	1	1.00
1 ii)	Eng	6	1			8 ii)	Eng	3	2		
	EAL	3	0		1.00		EAL	2	1		1.00
2 i)	Eng	4	1			8 iii)	Eng	1	4		
	EAL	1	1		1.00		EAL	1	1		1.00
2 ii)	Eng	2	4			8 iv)	Eng	4	2		
	EAL	3	0		0.17		EAL	0	2		0.43
2 iii)	Eng	6	1			8 v)	Eng	4	2		
	EAL	2	0		1.00		EAL	1	1		1.00
3 i)	Eng	3	2			9 i)	Eng	7	0		
	EAL	2	1		1.00		EAL	3	0		N/A
3 ii)	Eng	0	4			9 ii)	Eng	7	0		
	EAL	1	1		0.33		EAL	3	0		N/A
3 iii)	Eng	4	3			9 iii)	Eng	6	1		
	EAL	1	1		1.00		EAL	2	1		1.00
4 i)	Eng	2	2			9 iv)	Eng	5	2		
	EAL	2	0		0.47		EAL	1	2		0.50
4 ii)	Eng	3	1			9 v)	Eng	4	3		
	EAL	2	0		1.00		EAL	1	2		1.00
4 iii)	Eng	5	1			9 vi)	Eng		4	3	
	EAL	3	0		1.00		EAL		1	2	1.00
5 i)	Eng	2	4			10 i)	Eng	7	0		
	EAL	2	0		0.43		EAL	3	0		N/A
5 ii)	Eng	2	4			10 ii)	Eng	6	0		
	EAL	2	0		0.43		EAL	2	1		0.33
5 iii)	Eng	4	3			10 iii)	Eng	6	0		
	EAL	2	1		1.00		EAL	2	1		0.33
6 i)	Eng		3	3		10 iv)	Eng	4	2		
	EAL		0	2	0.46		EAL	2	1		1.00
6 ii)	Eng		2	4		11 i)	Eng	7	0		
	EAL		1	2	1.00		EAL	3	0		N/A
7 i)	Eng		2	3		11 ii)	Eng	7	0		
	EAL		0	2	1.00		EAL	2	1		0.30
7 ii)	Eng		3	2		11 iii)	Eng	4	3		
	EAL		1	2	1.00		EAL	3	0		0.47
7 iii)	Eng	2	4			11 iv)	Eng	6	1		
	EAL	1	1		1.00		EAL	2	1		1.00
7 iv)	Eng	2	4								
	EAL	0	2		1.00						

A=Always S=Sometimes R=Rarely

Comparison as a function of children's age

Question		A	S	R	Fisher Exact	Question		A	S	R	Fisher Exact
1 i)	Oldest	3	1			8 i)	Oldest		1	2	
	Youngest	0	4		0.14		Youngest		2	2	1.00
1 ii)	Oldest	5	0			8 ii)	Oldest	3	1		
	Youngest	4	1		1.00		Youngest	2	2		1.00
2 i)	Oldest	3	1			8 iii)	Oldest	1	2		
	Youngest	2	1		1.00		Youngest	1	3		1.00
2 ii)	Oldest	3	2			8 iv)	Oldest	2	1		
	Youngest	2	2		1.00		Youngest	2	3		1.00
2 iii)	Oldest	3	1			8 v)	Oldest	3	1		
	Youngest	5	0		0.44		Youngest	2	2		1.00
3 i)	Oldest	3	1			9 i)	Oldest	5	0		
	Youngest	2	2		1.00		Youngest	5	0		N/A
3 ii)	Oldest	0	2			9 ii)	Oldest	5	0		
	Youngest	1	3		1.00		Youngest	5	0		N/A
3 iii)	Oldest	3	1			9 iii)	Oldest	4	1		
	Youngest	2	3		1.00		Youngest	4	1		1.00
4 i)	Oldest	1	1			9 iv)	Oldest	4	1		
	Youngest	3	1		0.52		Youngest	2	3		0.52
4 ii)	Oldest	3	0			9 v)	Oldest	4	1		
	Youngest	2	1		1.00		Youngest	1	4		0.21
4 iii)	Oldest	5	0			9 vi)	Oldest		2	3	
	Youngest	4	1		1.00		Youngest		3	2	1.00
5 i)	Oldest	2	1			10 i)	Oldest	5	0		
	Youngest	2	3		1.00		Youngest	5	0		N/A
5 ii)	Oldest	2	2			10 ii)	Oldest	4	1		
	Youngest	2	2		1.00		Youngest	5	0		1.00
5 iii)	Oldest	3	2			10 iii)	Oldest	4	1		
	Youngest	3	2		1.00		Youngest	4	0		1.00
6 i)	Oldest		1	3		10 iv)	Oldest	3	2		
	Youngest		2	2	1.00		Youngest	3	1		1.00
6 ii)	Oldest		1	2		11 i)	Oldest	5	0		
	Youngest		2	4	1.00		Youngest	5	0		N/A
7 i)	Oldest		1	2		11 ii)	Oldest	4	1		
	Youngest		1	3	1.00		Youngest	5	0		1.00
7 ii)	Oldest		2	2		11 iii)	Oldest	4	1		
	Youngest		2	2	1.00		Youngest	3	2		1.00
7 iii)	Oldest	2	2			11 iv)	Oldest	4	1		
	Youngest	1	3		1.00		Youngest	4	1		1.00
7 iv)	Oldest	2	1								
	Youngest	0	5		0.11						

A=Always S=Sometimes R=Rarely