EXPLORING YOUNG CHILDREN'S PEER TO PEER COMMUNICATION IN AN EARLY YEARS SETTING

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ABSTRACT

This study explores the peer-to-peer communication of 27 toddlers aged 2-3 years in a local authority maintained early years nursery setting focused around different materialities. The importance of children's communication is recognised and assessed in terms of the Statutory framework for the early years foundation stage (EYFS) (Department for Education [DfE], 2017a) curriculum and the non-statutory guidance that supports the statutory guidance, Development Matters in the Early Years Foundation Stage (Curriculum Guidance) (Early Education, 2012) that informed practice in the English early years setting where this study was based. Ethnographic observation was used to collect multimodal data including field notes, audio and visual recordings, over an academic year, focused on activities common to many early years settings to develop a rich description of how children communicated their ideas and made-meaning around different materialities. Five groups of play materials were selected as follows: small world; construction; early literacy; socio-dramatic resources and painting. The analysis utilised Halliday's (1975) functional categories identified in young children's emergent language, and is informed by the assumption that children are rich, capable and have many skills made visible through an openness and actively listening to their multimodal communication. This study found that 2-3-year-old children's communication includes gesture, eye gaze, pointing, talk, action and vocalisations that differed between activities, mediated by socio-material artefacts. In addition, there are themes that emerged from the data across activities including the prevalence of self-talk; and differences in how some children communicate during peer interactions compared with more structured, adult-led interactions. Findings support Flewitt (2005a), Peterson (2017) and a neo-Vygotskian, socio-constructionist perspective that children construct meaning together during multimodal communicative interactions. Ethnographic observation facilitated flexibility and reflexivity that enabled a range of communicative behaviours to be captured, some of which might have been missed by more traditional assessment or other methodologies. This is important because communication makes children's thinking visible and accessible to others. The findings offer a way to explore children's nuanced, contextualised communication within the early years environment considering the communicative possibilities afforded by different materials. This study concludes by considering the findings in relation to early

years practice and how practitioners under pressure from the demands of the curriculum, might be enabled to more fully document, assess and celebrate the multimodal communication our children use to make and share meaning together.

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ILLUSTRATIONS

ACRONYMS

DBS (Disclosure and Barring Service)

The Disclosure and Barring Service helps early years providers make safer recruitment processing and issuing DBS checks for England. DBS also maintains the adults' and children's Barred Lists and makes considered decisions as to whether an individual should be included on one or both of these lists and barred from engaging in regulated activity.

EYFS (Early Years Foundation Stage)

The Early Years Foundation Stage is a statutory document that sets the standards for the learning, development and care of children from birth to 5 years old and includes learning goals against which children's progress is assessed. All schools and Ofsted-registered early years providers must follow the EYFS, including childminders, preschools, nurseries and school reception classes. The document has been developed and revised since it was first introduced in 2008.

Ofsted (Office for Standards in Education)

The Office for Standards in Education, Children's Services and Skills is a non-ministerial department of the UK government, who report to Parliament. Ofsted inspect and regulate services providing care, education and skills for children and young people of all ages. We also inspect and regulate services that care for children and young people. Ofsted's role is to make sure that organisations providing education, training and care services in England do so to a high standard for children and students which for early years settings are set out in the EYFS (DfE, 2017a).

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I am grateful for all the support that I have received throughout this study.

DECLARATION

I declare that the research contained in this thesis, unless otherwise formally indicated within the text, is the original work of the author. The thesis has not been previously submitted to this or any other university for a degree, and does not incorporate any material already submitted for a degree.

Signed J Home Dated 25th January 2022

CHAPTER 1: INTRODUCTION

This study explored the peer-to-peer communication of children aged 2-3 years in their early years setting, over an academic year in 2016/17 paying attention to the affordances that different materialities offered. My inspiration arose from working as a practitioner in various early years settings for more than 15 years. My daily work and regular contact and rapport with the children and their families informed my reflections on observations for earlier studies and allowed ideas to emerge. For example, during an observation the year before I began observing for this study, I was struck by a child whose speech had been assessed as delayed by the local speech therapists and was part of a more general developmental delay reflecting the child's Down Syndrome diagnosis. Despite this he demonstrated effective multimodal communicative skills with adults and his peers much higher than his 'assessment' in terms of the Curriculum Guidance (Early Education, 2012) early learning steps would indicate.

I am a qualified early years teacher and had worked in the early years setting where this study is based for eight years. During this study my role was primarily in the toddler room with 2-3-year-olds where I was the room leader and a key person. The Statutory framework for the early years foundation stage: Setting the standards for learning, development and care for children from birth to five (EYFS) (DfE, 2017a) states that it is a statutory requirement for every child in an early years setting to have a key person and that their role includes to ensure that every child's individual needs are met. At the time of this study I was the most qualified member of staff in the setting having gained an MA in Childhood and Youth Studies. Throughout my career I had been interested in how children use communication to make meaning and how different children communicate, and yet how non-verbal communication is rarely discussed or acknowledged by the adults around them. So, when I studied for a BA and then an MA I took the opportunity to further my interest focusing on how all language, verbal and non-verbal, can be more effectively recognised and used to support learning and development. When I came to consider a PhD I knew that I wanted to focus on language and particularly on the different modes of communication that children might potentially use. This decision was informed by the observation described above in which the child used non-verbal communicative behaviours that his peers readily understood

evidenced by their responses and interactions with him, much of which went unnoticed by the adults present. This raises the question concerning that if this child's non-verbal communication and meaning making with his peers was overlooked, thus unrecorded in his learning journey and assessment of his skills, then what else might be missed in the noise and hubbub of a busy early years classroom?

Categorising communication in terms of the verbal and non-verbal risks assuming a deficit view of other modes of communication than spoken language. Non-verbal communication covers a diverse range of modes including eye gaze, gesture and action and the complexity of these is at risk of being lost. Nevertheless, listing these modes throughout would become unwieldly and the term 'non-verbal' is commonly used in policy and practice. For example, in the Effective Pre-school, Primary and Secondary Education Project (EPPSE), discussed on pp.17-18, Taggart et al (2015) describe children's skills which include non-verbal reasoning and verbal comprehension. Likewise, Peterson (2017), discussed on pp.64-65, describe how her study enabled space for recognising and valuing children's non-verbal communication. As a result, they changed the name of the assessment tool from Play-based Oral Language to Play-based Communication because, she argued, it provided a means for supporting verbal and non-verbal communication. Again, in the Curriculum Guidance (Early Education, 2012, p.20) whilst the emphasis is on talk, it explains that, for children learning English as an additional language, it is helpful if adults "value non-verbal communication". Consequently, 'non-verbal' is used throughout this study to describe equally valuable communication that utilises modes other than verbal language.

Situating this Study

The context for this study is central and is a local authority maintained day nursery providing early years education and services for children under 5 years of age. The DfE (2019, p.9) described how "Maintained nursery schools were set up more than a century ago to provide early education and childcare to disadvantaged children in the most deprived areas of England". Maintained nursery schools provide early education and are legally constituted as schools with a head teacher, governing body, and a delegated budget from the local authority (DfE, 2019). The setting is discussed in detail in the Methodology chapter (pp.74-117).

Policy Impacts on Practice

Part of my role in the setting was to assess and track children's development in terms of the EYFS (DfE, 2017a) and the learning goals identified in the non-statutory Curriculum Guidance document, Development Matters in the Early Years Foundation Stage (the Curriculum Guidance) (Early Education, 2012), using a commercially available package. These documents and the policy context at the time of writing are discussed in some detail on pp.19-23. This is because, as Bradbury (2014) emphasised, the early years has been a focus of intense debate under the Labour and Conservative-Liberal Democrat coalition governments. This has led to changes in statutory and non-statutory guidance and to early years practice in England becoming increasingly formalised, including the introduction of regular, statutory inspection. Policy impacted on the context of this study informing practice including assessment of children's communication skills, how the children were constructed and what types of communication were noticed or overlooked in the busy nursery environment. Recent developments and changes in the early years curriculum that were pertinent to the setting are summarised below:

Table 1: Recent Early Years Curriculum Policy Developments at the Time of Writing

Year	Policy	Main Points
1996 (DfEE)	Desirable Outcomes for Children's Learning on Entering Compulsory Education	Non statutory guidance but it put early learning and development on the national policy agenda for the first time
2000 (QCA)	Curriculum Guidance for the Foundation Stage	Introduced in 2000 and became statutory in 2002 for all children aged 3-5 years attending early years settings. Identified learning goals and sequential, age-related steps
2002 (DfES)	Birth to Three Matters	Non-statutory guidance on best practice with children aged under 3 years on early years settings
2003a (DfES)	The National standards for under 8s day care and childminding	14 national standards each representing a particular quality outcome such as child protection and environment. Sets out the minimum standards and criteria that settings must meet as assessed by Ofsted

Year	Policy	Main Points
2008 (DCSF)	Statutory Framework for the Early Years Foundation Stage	Brought together the Curriculum Guidance, Birth to Three Matters and the National Standards in one document. Thus, the requirements for learning and development were combined with those for welfare in one statutory document applicable to settings with children from birth to the end of their reception year
2012 (DfE)	Statutory Framework for the Early Years Foundation Stage	The EYFS was updated and revised in a statutory framework with a reduction in early learning goals from 69 to 17
2012 (Early Education)	Development Matters in the Early Years Foundation Stage (The Curriculum Guidance)	Non-statutory guidance document that supports practitioners to implement the revised EYFS
2017a (DfE)	Statutory framework for the early years foundation stage	Revision of EYFS (2012). Areas of learning and learning goals unchanged. Minor amendments to reflect policy changes including in relation to safeguarding and welfare and new literacy and numeracy qualification requirements for Level 3 early years staff
2018a (DfE)	Statutory framework for the early years foundation stage PILOT VERSION	Pilot for a proposed revisal of the statutory EYFS. areas of learning and development are proposed to stay the same, however there are potential changes to some of the early learning goals including in the area of communication and language

Research Questions

This study was designed to explore young children's communication and two subsidiary questions emerged from the Literature Review that follows and were:

1. How do young children communicate with their peers?
2. How does communication vary between activities and contexts?
3. What aspects of children's communication are captured (or missed) by current practices of assessment, and with what consequences?

The government focus on the early years and the introduction of funding for children aged 2 years which has contributed to more young children spending time in early years settings. Much research into children's experiences in early years settings but has focused on children aged 3 years or over (Tizard and Hughes, 1984; Flewitt, 2005a; King and Dockrell, 2016; Peterson, 2017) rather than 2-3-year-olds. In addition, while there has been some research into adult:child communication (Wood and Middleton, 1975; De la Ossa and Gauvain, 2001; Vandermaas-Peeler et al, 2003), there has been less concerning peer communication (Katz, 2004; Flewitt 2005a, Hoyte et al, 2014). However, Wells (2009) highlighted, that children's language experiences in early years settings where more children are spending longer and from a younger age, will differ from home because the adult:child ratio means less time for 1:1 interaction with an adult and increased opportunities for peer interaction which makes this study pertinent at this time

Whilst recognising that the level of rapport I had with the children and their families raised ethical issues that needed careful consideration, I believed it would provide a good basis for ethnographic study. Thus, I proposed an ethnographic design to explore how children aged 2-3 years share understanding and make meaning during communicative interactions with their peers in their early years setting. This methodology combined with a multimodal approach to data collection across an academic year, created knowledge that potentially contributes towards sensitive, accurate assessment and celebration of young children's myriad communicative skills.

Study Outline

This introduction has outlined my professional context, the inspiration and aims for this study and why it is timely which will be discussed further on p.72. There now follows a brief overview of the chapters which follow.

Chapter Two: Literature Review

This review considers a range of literature that informed this study including early years policy in England; theories relating to learning and language acquisition; the role of non-verbal communication and the phenomenon of egocentric speech. How children use language to make meaning and the work of Halliday (1975) is discussed before multimodality and literature relating to social interaction,

communication, learning and materialities. This review then considers what skills and attributes are foregrounded in research and practice and concludes with a discussion of the timeliness of this study and the reasons it is pertinent at the time of writing.

Chapter Three: Methodology

Following the Literature Review the Methodology chapter of this study considers why ethnography was the approach chosen and the decision to collect multimodal data. This chapter details how this study was planned and data collected including a detailed description of the setting and overview of the participants. Ethical considerations are discussed including how to ensure that children were able to give their continuing consent to participation. Reflecting the iterative nature of this study, this chapter then considers how plans were altered and adjusted response to the ongoing data collection process is discussed. This chapter then outlines the approach that was taken to data analysis before consideration of how quality and trustworthiness might be ensured in qualitative research.

Chapter Four: Analysis and Findings

The analysis and findings of this study are presented. Once the observations were transcribed there was a lot of data so initially exemplars were identified where children were engaged in communicative peer interaction around each of the main areas of provision found in the setting. What was observed in each exemplar is described to develop a rich picture of children's peer communication. Each exemplar was analysed to explore the types of verbal and non-verbal communication that were used and to convey what messages informed by Halliday (1975), and in relation to the research questions.

Chapter Five: Discussion

This chapter focuses on the findings in relation to the Literature Review. Each of the exemplars described in the Analysis and Findings were then analysed to explore the types of verbal and non-verbal communication that were used and to convey what messages. There is a more detailed analysis of children's communication in terms of Halliday's (1975) categories followed by consideration of how different materialities and space afforded different opportunities for peer communication and learning. This is followed by discussion about how

communication makes thinking visible drawing on the work of Davies (2014). The discussion then focuses on non-verbal communication and how it was observed in this study to convey information independently of or alongside speech which supported research including Flewitt (2005a) and Peterson (2017). In addition, this analysis explored how the children used different communicative modes to build social relationships and peer culture. This chapter then discusses the communication that was observed during this study but which appeared to be overlooked by practitioners and missed in terms of assessment towards the early learning goals in the EYFS (DfE, 2017a) and the Curriculum Guidance (Early Education, 2012).

Chapter Six: Practical Implications of the Findings

This next chapter begins with a summary of how the findings of this study have implications for practice and how children's multimodal communication can be more effectively recognised and supported.

This chapter considers how awareness of children's multimodal communication could be raised including that communication can vary between different peers and activities. The importance of listening openly without making assumptions about how materialities might be interpreted is also highlighted to enable children's thoughts to follow lines of flight of their choosing. How children's learning is documented within busy early years settings is considered with reference to this study which enabled aspects of communication to be captured that might otherwise have been unintentionally overlooked. One of the factors considered is that practitioners need time to engage with training opportunities and to reflect and share knowledge and experience with others to consider different perspectives and possibilities in relation to assessment and documentation of children's learning but this is a challenge in busy nurseries under pressure from the demands of the EYFS.

Chapter Seven: Conclusion

This study concludes with a summary of the outcomes and practical implications for policy and practice. There then follows a reflective discussion on the methodology of this study including how trustworthiness was promoted (Kirk and Miller, 1986); the strengths and limitations of ethnography; and consideration of alternative approaches that could have been used. This chapter summarises how

the ethnographic methodology of this study enabled knowledge to emerge about the ways that children aged 2-3-years-old communicate around different materialities over an extended period. In addition, this study found that the pressures of assessment to meet the standards in the EYFS and following the Curriculum Guidance meant that practitioners focused on particular communication skills, whilst other communicative skills were overlooked that had a negative impact on how some children were perceived.

The findings are important and contribute to research because they focus on the communication of 2-3-year-olds and on how this particular age group use multimodal communication to interact and construct knowledge with their peers. The data offered evidence that this age group have skills and knowledge, revealed through multimodal communication and during interaction with each other and different materials, that can be overlooked in a busy early years setting. In the setting where this study was based the toddler room, described on pp.81-83, initially accommodated 16 and latterly 20 children and was always fully subscribed, as were the other rooms in the nursery. This meant that the legal ratios in terms of practitioners to children were always maintained but that there was no extra capacity. Furthermore, Georgeson et al (2014), discussed on p.31, highlighted that working with 2-year-olds brings particular challenges which they found led to tensions around ratios and the demands these placed on practitioners. This matters in practice, as to enable effective planning and to support learning, we need to understand what children know and can do already, made visible through their communication. If some communication is inadvertently overlooked then some skills and knowledge will be missed which risks children's skills being underestimated. This in turn risks children being offered resources and experiences that do not enable them to extend their current skills or knowledge.

This introduction has given a brief overview of the background and structure of this study which now begins with the Literature Review that informed the research and from which the research questions emerged.

CHAPTER 2: LITERATURE REVIEW

The focus of this study was the peer communication of 2-3-year-olds in their early years setting. This review begins with a discussion about early years policy, the Early Years Foundation Stage curriculum and the documents that informed practice and assessment at the time of writing. The next section critiques the EYFS and related documentation and considers whether thinking and learning might better be conceptualised as rhizomic and unique to the individual rather than following a narrow, universal trajectory. This is followed by consideration of how politics are intertwined with education curricula and the potential impact on the skills that are valued. The impact of policy on 2-3-year-olds is then considered. Theories are discussed next, first in relation to learning and cognition then language development because through communication thought is made visible and accessible to others. This review then considers how children make and share meaning through verbal and non-verbal modes. Discussion about multimodality follows including the work of Halliday (1975) and Kress (2010; 2014) and research that has utilised this approach with young children. How communication and social interaction can support learning from the early years is explored next including which modes might be less visible in busy settings. How the assumptions and methodology that inform research and practice influence what children do and what is noticed is discussed next. This review concludes with a consideration of the timeliness of this study.

Early Years Policy and the Foundation Stage Curriculum

Early years policy is discussed first because it underpins practice and the context of this study including the activities that the children were offered and how their communication skills were understood, supported and assessed. Policy evolves over time and reflects the values and interests of society and to understand the current early years context factors that have influenced policy in this sector will first be outlined.

Situating the EYFS

Early years settings are provided to serve adult interests including to support and enable the supply of labour both now, enabling parents/carers to work, and in the future shaping tomorrow's work force (Dahlberg et al, 1999). In terms of the future workforce there have been numerous reports including Allen (2011) that have

suggested children's early experiences impact on later development. He claimed that whilst neonates' brains are 25% developed, this rises to 80% at 3 years old (Allen, 2011, p.xiii). Hence, he argued that development scores at 22 months accurately predicted educational outcomes at 26 years and that 3-year-old boys assessed as 'at risk' had two and a half times more criminal convictions aged 21 years than those deemed not at risk. In contrast, Tymms et al (2000) and Schagen et al (1999) offered evidence that children's abilities in reception were not indicative of later educational performance or outcomes. Reflecting both arguments, David et al (2003) highlighted that there is disagreement about the significance of the early years and how far early experiences influence an individual's life course. They concluded that empirical evidence suggests that whilst the nervous system is highly plastic in the early years, early experiences cast the "longest shadows" onto an individual's future life (David et al, 2003, p.27). In light of this, research that showed that attending early years settings can positively influence later wellbeing and attainment has informed policy development so will be discussed next.

Evidence that Pre-School Positively Influences Children's Outcomes

In England, there have been large, longitudinal studies, for example The Effective Pre-school Education Project (EPPE) (Sylva et al, 2004); and the Effective Pre-school, Primary and Secondary Education Project (EPPSE) (Taggart et al, 2015) that have influences policy. EPPE investigated the effects of pre-school education on 3,000 children between the ages of 3 and 7 years. The EPPE study then became EPPSE when the influence of early years provision on children's academic and social-behavioural outcomes was extended to follow the cohort through secondary education until they were aged 16 years. These studies found that pre-school enhanced children's all-round development assessed at school entry and that "pre-school had a positive, long-term impact on children's attainment, progress and social-behavioural development" that remained evident throughout Key Stage 1 and beyond (Taggart et al, 2015, p.7). Moreover, both studies found that attending a high quality pre-school and starting before 3 years of age were particularly important, especially if children were from disadvantaged backgrounds. This is potentially important because research has suggested a link between educational attainment and socio-economic factors as discussed on pp.41-43.

Assessment was central to EPPE and EPPSE to evaluate the potential impact of attending an early years setting and to inform policy interventions. In addition, Sylva et al (2004, p.24) argued that it is important to gain an accurate measure of children's strengths and weaknesses at school entry because, in their view, language and pre-reading skills influence later "attainment and progress in school" and assessment can help ensure they receive appropriate support. EPPE (Sylva et al, 2004, p.6) assessments were conducted by a researcher when children were aged 3 years on tasks described as: "verbal comprehension, naming vocabulary, knowledge of similarities seen in pictures (non-verbal comprehension), and block building (spatial awareness)". Children's social and emotional skills were assessed by early years practitioners who completed a profile of each child's social and emotional adjustment. Further assessments were conducted at the end of reception and years 1 and 2. In the EPPSE project (Taggart et al, 2015) assessments were also carried out at ages 6, 7, 10, 11, 14 and 16 years and assessment data was obtained from the National Pupil Database and teachers' reports at the end of each key stage.

Alongside quantitative assessments of children's cognitive and academic skills EPPE (Sylva et al, 2004) and EPPSE (Taggart et al, 2015), Siraj-Blatchford et al (2002) collected in-depth, qualitative data. Their project, Researching Effective Pedagogy in the Early Years (REPEY), explored the characteristics of high quality settings that complemented EPPE/EPPSE. Taken together the evidence gathered from the EPPE, EPPSE and REPEY projects combined quantitative and qualitative data to explore the enduring influence of early years provision and the home learning environment on children's outcomes and the practices that most effectively supported their cognitive development.

The assessments of children's cognitive skills that Sylva et al (2004) used fit with a developmentalist perspective that conceptualises learning as linear. This view has been challenged by research including Hart et al (2004) and Donaldson (1978). Hart et al (2004) argued that research has shown a correlation between social background and measures of educational achievement that disrupts the concept of a universally applicable, linear developmental trajectory. Indeed, Sylva et al (2004, p.24) acknowledged that "differences related to children's gender, English as an additional language and ethnic background are more likely to be identified in measures of language and pre-reading skills than in non-verbal attainment". This

resonates with Labov (1972) and Tizard and Hughes (1984) who found that how children's language skills are valued and understood in school is mediated by their socio-cultural background as discussed on pp.41-42.

Moreover, Donaldson's (1978) studies provided evidence that demonstratable skills are affected by context. Following this argument, children's performance is mediated by context and depends, at least in part, on previous experiences which vary. For example, some children in the EPPE study were new to nursery and in the EPPSE study some 5-year-olds had no pre-school experience where as others had been in an early years setting since long before their third birthdays. Consequently, assessments will have been a less familiar experience for some children and, as Donaldson explained, when tasks do not make sense, this negatively impacts on children's response and it is arguable how far the assessments captured an accurate children's abilities and skills.

Nevertheless, research evidence including that from EPPE and EPPSE, has led to early years interventions and with increased public funding came pressure for visible 'progress', improvements in quality and measurable outcomes. Consequently, in 1996 early learning and development were on the national policy agenda for the first time. The early years have remained a focus for subsequent governments and policy with the introduction of welfare requirements and a national curriculum that have been periodically revised as summarised in Table 1 on pp.10-11. The EYFS (DfE, 2017a) and accompanying Curriculum Guidance (Early Education, 2012) document informed practice and the experiences offered children during this study and are discussed next.

The EYFS in 2019

At the time of writing the requirements for learning and development were combined with those for welfare in one statutory document the EYFS (DfE, 2017a). This comprises three prime areas of learning and development: Personal, Social and Emotional, Communication and Language, and Physical; and four specific areas: Literacy, Mathematics, Understanding of the World, and Expressive Arts and Design. The learning areas are subdivided into seventeen subsections, each with a final learning goal against which children are assessed at the end of their reception year to form the Foundation Stage Profile. Although there is a

revision of the EYFS under consultation, the pilot document (DfE, 2018a) retains the current structure as discussed below pp.22-23.

In addition to the EYFS there is a non-statutory guidance document, Development Matters in the Early Years Foundation Stage (the Curriculum Guidance) (Early Education, 2012) that breaks each learning area into sequential, age-related steps. After the introductory pages, the majority of the Curriculum Guidance document is organised into the areas of learning. Each area is divided into six age-related bands from birth to the end of the foundation stage. Each band lists goals and particular attributes or behaviours, described as developmental statements, that might be observed in individual children of that age learning to the goals in the Foundation Stage Profile. On each page of the Curriculum Guidance (Early Education, 2012) the statement that “Children develop at their own rates, and in their own ways” is included. This is accompanied by “The developmental statements and their order should not be taken as necessary steps for individual children”. And more explicitly that the statements “should not be used as checklists”. However, this is arguably contradicted both implicitly and explicitly throughout the document including during summative assessments discussed on pp.21-22.

Alongside the developmental statements are columns with advice for practitioners on what they can do and provide to promote the identified attributes. In the toddler room where this study was focused children were 2-3 years old and typically activities were planned and facilitated to meet goals within the 16-26 and 22-36 month age bands. Occasionally slightly higher or lower statements were added to reflect the needs and interests of individual children. Whilst this layout potentially provides good advice and ideas, the sequential, age-related layout suggests all children develop and learn in line with this trajectory and invites practitioners to use the developmental statements as a checklist. It was against this Curriculum Guidance document that children in this study were judged in terms of formative and summative assessments discussed below. This is important because this focused on what children could not, rather than could do, often utilising commercially available apps, and consequently it is debateable whether this enabled an accurate measure of all their skills and abilities.

Flewitt and Cowan (2019, p.7) highlighted that there are several increasingly popular apps marketed as tools that “streamlined and simplified” early years assessment. In the setting where this study was based a commercially available computer package, *Target Tracker*, was used to enable assessment. This package involved using the Curriculum Guidance developmental statements as a checklist clicked as children work towards and accomplish particular skills. Practitioners are also able to add photographs and observations to an electronic ‘learning journey’ that can be shared with parents/carers. However, observations must be linked to developmental statements which again puts the emphasis on assessment and the concept of a universal trajectory. Linking observations to statements within the EYFS and Curriculum Guidance also impacts what is seen as practitioners are under pressure to look for evidence to support particular statements potentially overlooking other skills.

In addition, looking for evidence to support particular skills potentially impedes an openness to surprise that Davies (2014) argued is essential to effectively listen to children as discussed on pp.68-69. On a more personal level the need to attach observations to particular statements sometimes meant that some information was not included in children’s learning journeys and, therefore, not seen by families.

As well as children’s learning journeys, parents were also invited to view their child’s ongoing formative assessment and received reports of the summative assessments including the 2-year-check that was pertinent to the children in this study and is discussed next.

The EYFS and Statutory Assessment

The prominence placed on assessment in the Curriculum Guidance (Early Education, 2012, p.4) is exemplified in the introduction stating that in addition to summative assessment, “formative assessment is at the heart of effective early years practice”. This statement is accompanied by a large diagram illustrating how, to support children’s learning and development, necessitates a cycle of: observation, assessment and planning. The word ‘assessment’ suggests a judgement and comparison against an expectation. Perhaps a more appropriate word might be ‘interpretation’ or ‘exploration’ that would explain the need for thoughtful, reflective observation to inform planning without the potential to construct some actions as somehow failing or less worthy than others.

In addition, the EYFS (DfE, 2012) introduced statutory assessments for 2-year-olds which are retained in the subsequent revision (DfE, 2017a). The Curriculum Guidance (Early Education, 2012, p.4) states that summative assessments enable judgements about whether a child “is showing typical development for their age”, reflecting Piaget’s universal view of development discussed on pp.33-34. To fulfil this requirement, in the setting where this study was situated children were assessed between 24- and 30-months using reports generated by *Target Tracker* using the developmental statements as discussed on p.21. However, many 2-year-olds show greater competency in some areas compared to others. Consequently, in areas assessed as not yet secure at the 16-26-month level, the report stated that children were working below the expected levels. This judgement was generated despite the Curriculum Guidance explicitly stating that all children develop in their own ways and encourages judgement, rather than interpretation, of skills to plan activities that build on, extend and celebrate their creativity and individuality. For parents/carers reading these reports the suggestion that their child was below the expected developmental level could be very alarming despite reassurance from practitioners to the contrary. Furthermore, during Flewitt and Cowan’s (2019, p.2) project practitioners expressed the view that whilst they “valued observation and documentation as part of their child-centred pedagogy” this conflicted with the demands of the EYFS. The issue of downward pressure on practitioners and the need to collect data to evidence learning has been acknowledged by the government minister, Nadhim Zahawi, and is one factor in the consultation of the draft revision of the EYFS (2018a) that is discussed next.

Proposed Changes to the EYFS

In 2018 the UK government published a draft Early Years Foundation Stage curriculum document, Setting the standards for learning, development and care for children from birth to five (DfE, 2018a). Announcing the pilot Zahawi (DfE, 2018b, online) said “Teachers have the best understanding of their pupils, so it’s absolutely right that we empower them to use and trust their own professional judgment based on what they see”. In addition, Zahawi recommended that “teachers should draw on their knowledge of the child and their own expert professional judgement” rather than gather “Multiple sources of written or photographic evidence”. (DfE, 2018a, p.9). The intention within the proposed

changes was to reduce practitioner's workload and free up more time to interact with and support children and was welcomed by NAHT Edge, the union for middle leaders (DfE, 2018b, online). Conversely, whilst welcoming the advice that practitioners should not collect excessive amounts of data but rather exercise their professional judgement, The British Association for Early Childhood Education (2018, P.2), argued that the revisions would increase workloads. In addition, enabling practitioners to use 'their professional judgement' requires a well-qualified, experienced workforce that is a challenge in many early years settings discussed on pp.198-199. Moreover, the pilot document retains the areas of learning and a focus on spoken language with no mention of non-verbal communication among the learning goals. Consequently, whilst the aims of the government are laudable, the impact is more debatable.

Policy interventions including the EYFS (DfE, 2017a), proposed revision and related Curriculum Guidance (Early Education, 2012) are evidence-based; however, there are concerns that have emerged which will now be considered.

Potential Issues with Early Years Policy and the EYFS

One issue is around the claims made about early performance as an indicator of subsequent life chances and even criminality (Allen, 2011). Grover and Mason (2013) argued that the Allen report encoded working-class mothers and their parenting skills as problematic whilst failing to understand the lives of these families. This resonates with Tizard and Hughes (1984), discussed on pp.41-42, who concluded that the language of working-class girls was misunderstood at school. Moreover, Siraj-Blatchford (2010) argued that more than social class, the quality of the home learning environment was important for children's outcomes. She also found that the strength of the home learning environment was not contingent on socio-economic status that contradicts the conclusions of Allen discussed on pp.16-17. This led her to contend that to understand differences in experience and the active role that children play requires looking beyond neuroscience to consider the complex, multiple influences that impact on their outcomes. She cited evidence from the qualitative case studies collected as part of the EPPE project which found that what parents did had a bigger impact on children's outcomes than who they were.

Siraj-Blatchford's analysis of factors that influence what parents do suggested gender was significant with boys more likely to experience less favourable home learning and mothers' educational level. Siraj-Blatchford also explored what factors prevent parents providing the home learning environment that they would like. She argued that the main barrier is time, in particular work commitments. This was substantiated by parents who identified time pressures and personal circumstances, such as health, as the barriers that hindered what they did with their children.

Another issue with the EYFS is about the reliability of the tools used to assess children's competence as discussed above, pp.18-19. The EYFS and statutory assessment have formalised early education, arguably enabling provision to be measured and improved while individual assessment potentially reassures or prompts intervention. However, Dahlberg et al (1999) argued that 'quality' is never a neutral word, but a socially constructed concept. Furthermore, they contended the quest for 'quality' has resulted in pre-specified outcomes that conceptualise the child as an empty vessel to be prepared for school and helped on their developmental journey. Statutory assessments have been introduced to assess how far children meet identified outcomes as discussed on pp.21-22 but their efficacy is debatable.

Issues Related to Assessment and the Foundation Stage Profile

The inadequacy of the EYFS summative assessment at the end of the foundation stage was discussed by Bradbury (2013) who argued that it risks constructing some children as failures. Only just over half of English reception-aged children achieved "a good level of development" assessed through the Early Years Foundation Stage Profile during 2008/09 and the subsequent two years (Bradbury, 2013, p.3). The statistics for 2014/15, 2015/16 and 2016/17 showed an increase in the percentage of reception-aged children reaching this level, however almost 30% of children were still constructed as failing as they started their school lives with gender, geographic and socio-economic disparities (DfE, 2017b, p.3).

The impact of being labelled as 'failing' is debatable as discussed above. For some children this might prompt interventions that are potentially beneficial. However financial constraints dictated that it is not feasible to provide extra support to the 30% of children who did not reach a 'good level of development',

besides which it debatable whether all of these children needed extra help or whether there might be inherent issues with a framework that constructed over a third of children as failing.

Nevertheless, practitioners will be aware of which children have not reached the expected level of development from their Foundation Stage Profile that will influence how they are perceived. The importance of practitioner's perceptions was highlighted by Comber (2000, p.47) whose study concluded that educators "need to believe in what children can learn" rather than construct children whose language and literacy practices do not match those in school as "at risk". Similarly, educators need to remain optimistic, or as Davies (2014) phrased it be prepared to be surprised, about what children can do, including those perceived as 'failing' in the Foundation Stage profile which might be a challenge in busy classrooms and is discussed further on pp.29-30.

One of the issues with the EYFS assessments is that they are informed by the concept of developmentalism that conceptualises all children as following a universal trajectory towards adulthood. This is important because it informs how children's individual skills are understood and valued.

Assessment and Developmentalism

Dahlberg et al (1999) argued that one of the issues with early years practice is that it was historically largely informed by theoretical perspectives drawn from the area of developmental psychology that is presented as neutral but decontextualises children and attempts to construct an abstract map of their lives.

The link between the study of child development and education was established by the nineteenth century psychologist Granville Stanley Hall. Young (2016) described how Hall drew on his experience as a teacher and positioned himself as an educational expert. Following the work of Hall, Beauvais (2016, p.304) described how in the first half of the twentieth century, a new trend in Anglophone child psychology "spread like wildfire" identifying, measuring and mapping aspects of development against chronological age.

The supposedly indisputable knowledge that has often been presented by developmental psychology, combined with a discourse of quality focused on rational, objective and universally applicable standards, against which services

can be measured underpins early years policy in England and many other westernised countries. This was highlighted by Millei (2005, p.138) who argued in her ethnographic study set in an Australian pre-primary school, that like many early years settings, “this early childhood classroom draws strongly on the discourse and logic of psychology” and that the “discourse of educational psychology…. served as unquestionable ‘truth’”. Consequently, the EYFS (DfE, 2017a), its predecessors (DfE, 2012; DCSF, 2008; QCA, 2000), the proposed revision (DfE, 2018a) and curricula relating to other areas of the education sector, define the skills that children of a particular age are expected to acquire and against which they are judged to succeed or fail.

However, Woodhead (2000) highlighted that the vast majority of studies that have informed a developmental perspective have been conducted in narrow socioeconomic and cultural contexts, mostly in North America and Europe, and the evidence generalised. This was supported by Haraway et al (2016) who argued developmentalism, like many other concepts, was born out of a particular hegemonically Western worldview. Consequently, statements about what is ‘normal’, ‘natural’ or ‘developmentally appropriate’ have emerged in contexts that bear little or no resemblance to the reality of some children’s lives. This was substantiated by Plum (2017, p.385) whose ethnographic study of dialogic reading in Danish early years classrooms challenged the assumption that “knowledge in an abstracted, universal form can be transferred” to multiple settings. She concluded that evidence-based pedagogy that portrayed a universal image of the child risked children’s development becoming focused upon narrow and predefined skills. This inevitably marginalised those whose abilities fell outside these parameters. Historical evidence that supported Plum was offered by Labov (1972) and more recently by Peterson (2017) discussed below (pp.41 & 63-64).

Deleuze and Guattari (1987/2004) proposed an alternative view arguing that thinking resembles a rhizome ceaselessly establishing, constructing, detaching and modifying connections in multiple ways with no beginning or end. The concept of development as individual and rhizomic is now considered because this study sought to recognise a greater range of children’s thoughts and skills made visible through their communication.

Development as Individual and Rhizomic

Smidt (2013, p.18) discussed how Malaguzzi and his colleagues described learning as like a “tangle of spaghetti” progressing through leaps and bounds, stops and retreats. Similarly, Lyle (2017) likened a linear, developmentalist view, metaphorically, to a carrot and argued that children’s learning more closely resembled ginger, a rhizomic plant, growing along multiple, diverse pathways which resonates with Deleuze and Guattari. This argument was furthered by Dahlberg et al (1999) who argued that, from a post-modern perspective, a discourse of meaning-making situates understanding and learning in particular spatial and temporal contexts, a co-construction that emerges from interaction and dialogue.

To address this issue Woodhead (2000) proposed that rather than developmentalism, a socio-cultural approach might be a more applicable model through which to explore how children are initiated into the skills relevant to their community. This is important because in our increasingly diverse, multicultural society, it is increasingly likely that some children’s home experiences, including language, might differ from those of their educational setting.

Linked to the issues around developmentalism is how children are understood and the aims of early years education which are influenced by political and social ideology. Some of the dominant discourses that have influenced practices in England are discussed next.

Changing Ideas about Childhood and Children

Kellett (2014, p.29) argued that there is “no characteristic single image of what childhood and children are or should be”. This was highlighted by Jenks (1996) who proposed that childhood is a constantly changing and evolving social construction. Likewise, Prout (2005, p.144) argued there are multiple constructions of childhood that are neither ‘natural’ nor ‘cultural’ but a dynamic “nature-culture” synthesis. Discussing the concepts of childhood and children, Alderson (2013) argued that childhoods are ideologies about the actual and desirable nature of children and that adults and children together co-construct how childhood is understood and perceived. Thus, Jenks (2004, p.5) argued that that rather than talking about ‘childhood’ we should be talking about the “proliferation of childhoods”. For example, the philosopher Locke (1632-1704) believed children

are ‘blank slates’ shaped by education, whilst Rousseau (1712-78) argued children are innocent and should grow up in natural surroundings free from adult corruption (Montgomery, 2009).

Romantic notions of childhood, built on Rousseau’s image of the child, MacNaughton et al (2007) argued, traditionally influenced policy and practice. They suggested this construction was coupled with another model positioning the child as a possession of adults. This was as a consequence of the child’s biological immaturity and assumed dependence on adults, that might be illustrated through Morrow and Richard’s (1996) argument with regard to consent discussed on p.101. MacNaughton et al contended that both of these models, and consequently policy and practice, emphasised the belief that young children need socialising and education enabled by adults, reflecting models of childhood that, they argue, dominated the ‘majority world’. More recently there has been greater recognition that young children’s skills, knowledge and meaning-making in the world evidenced through their play is different, but none the less valuable, than that of adults (MacNaughton et al, 2007; Clark, 2001; Corsaro, 2000; Jenks, 1996)

The aims of policy and practice with children, including educational curricula, are underpinned by notions of childhood combined with political ideologies which will now be explored in relation to the EYFS, in particular neo-liberalism, and its potential impact on practice

Politics in Curricula

Pence and Ball (2000) highlighted that composing curricula is a political act. This was graphically illustrated by Bonacci, the Mayor of Reggio Emilia in the 1960s and 1970s. Following the end of fascist rule and in the aftermath of the second world war, the small town of Reggio Emilia designed an early childhood education system, founded on the child’s perspective. When asked what had prompted this innovative pedagogical approach, Bonacci replied that “the fascist experience had taught them that people who conformed and obeyed were dangerous, and that in building a new society it was imperative to safeguard and communicate that lesson, and nurture and maintain a vision of children who can think for themselves. The mission was to teach children not to obey!” (Dahlberg, 2000, p.177). In contrast, the EYFS (DfE, 2017a, p.11) learning goals include to “understand and follow the rules”.

Discussing English early years policy and the EYFS in particular, Bradbury (2013, pp.3 & 7) argued these represented a “neoliberal agenda”. She contended that this view centred on accountability and assessment which promoted a particular view of the “good learner” and shaped which behaviours were valued. The model learner presented in the EYFS and the Curriculum Guidance, Bradbury (2013, p.15) argued, represented the neoliberal discourse of “rational choice, individual responsibility, flexibility and self-regulation” overlaid upon traditional notions of the “good student” that obscured other ways of learning.

Neoliberalism might be seen in the ‘Characteristics of effective learning’ that the Curriculum Guidance (Early Education, 2012) argues underpin learning. These focus on self-regulation and achievement; thinking critically and making rational choices. If the characteristics of learning are about how children learn then the learning goals could be described as identifying what should be learnt.

Arguably, the EYFS (DfE, 2017a) learning goals also encapsulate a neo-liberal agenda. For example, in Personal, social and emotional development one aspect is ‘Self-confidence and self-awareness’ that emphasises the individual. Another subsection, ‘Making relationships’, does emphasise a more socio-cultural, collective aspect of children’s experiences. Nevertheless, the document specifies particular ways of being. For example, the goal for Communication and language: Speaking includes that children “develop their own narratives and explanations” whilst Literacy focuses on phonics to decode and write words (DfE, 2017a, pp.10-11).

By emphasising particular values and skills, do the requirements of the EYFS and Ofsted inspection regime influence what practitioners notice and record? This is important because by focussing on particular behaviours other, less obvious skills, including non-verbal communication, may be inadvertently overlooked and so this issue is discussed next.

How Policy Impacts on what Skills are Noticed

Ofsted are independent and impartial and report directly to parliament. At the time of the study the common inspection framework (Ofsted, 2015) set out the criteria against which early years settings are judged. To achieve an ‘outstanding’ judgement from Ofsted requires evidence that ‘Pupils make substantial and sustained progress’ (Ofsted, 2018, p.62). This issue was highlighted by Bradbury

and Roberts-Holmes (2016, p.1 & 3) who argued that the need to “create an ‘Ofsted story’….. is increasingly a priority for schools” so that even between inspections settings were “increasingly disciplined by the need to produce data for Ofsted”. They argued that as a consequence “children as young as two are subject to the ‘tyranny of numbers’” (p.9).

The influence of policy and demands for accountability are seen in other sectors of the education system. For example, Thomson and Pennacchia’s (2016, p.634) analysed 17 case studies of alternative education. They found that it was “strongly geared and steered to produce visible and tangible representations of the kind required by systems as evidence of things ‘working well’” rather than necessarily meeting the needs of individual pupils (Thomson and Pennacchia, 2016, p.634). Similarly, in his ethnographic study in a secondary school, Finn (2015, p.16) noted that English state schools now focus less on absolute achievement and more on evidencing learning. As a consequence, he argued, teachers “become less a transmitter of information but a data producer and analyst”.

In early years provision, this view was substantiated by Cremin et al (2018, p.15) who concluded that the “downward pressure of accountability, reductive assessment systems and ‘the basics’ limit children’s play opportunities”. In relation to communication, the narrow definition in the EYFS (DfE, 2017a) is problematic because it potentially undervalues the communicative competencies of some children. This resonates with Peterson (2017) discussed on pp.63-64, who found that the communication skills of particular groups were undervalued by practitioners. This study was able to consider different perspectives and recognise other learning captured during the multimodal observations, because it had a wider remit than that of the EYFS.

Much of the research discussed in this review has focused on children aged 3 years and older including Sylva et al (2004), Bradbury (2013) and Bradbury and Roberts-Holmes (2016). In contrast, this study focused on 2-3-year-olds. This review will now discuss early years policy that, at the time of writing, potentially impacted this age group in particular.

2-year-olds in Policy and Practice

Although Moss (2014) argued that governments from 1997 to 2013 missed the opportunity to develop an integrated, coherent public system of early years

provision, the introduction of Sure Start enabled increased access to early years services. Consequently, there were more families and young children accessing early years settings which enabled large-scale research that supported an emerging consensus around the importance of early intervention (Sylva et al, 2004). This ensured early years remained a focus for policy interventions which have included significantly expanding the funding for, and criteria by which, 2-year-olds are eligible for a place in an early years' setting free of charge. The coalition Government anticipated that around 40% of 2-year-olds, up from 20%, would qualify for a funded place (DfE, 2014, p.5). Since the increase in eligibility the uptake of places has grown with the DfE (2017c, p.1) reporting that in January 2016 68% of eligible children received some free early years education which increased to 71% by January 2017.

The increased funding has enabled more families from diverse backgrounds to access early years education however this has not been without issue. Firstly, recognising the uniqueness of 2-year-olds is important because as Manning-Morton and Thorp (2015) argued this age group are not babies nor are they 3- and 4-year-olds, but are 2-year-olds who need to be sensitively understood and listened to. This view was substantiated by Georgeson et al (2014) who found that working with 2-year-olds brought particular challenges and opportunities compared with other age groups. They collected quantitative and qualitative data and concluded that providing and extending funded places for 2-year-olds from disadvantaged families was complex and challenging to settings. Among their findings they identified concerns around how far initial qualifications prepared practitioners to work with this age group; tensions around practice in terms of ratios and pedagogy**;** and issues with who and what was covered by the funding. These tensions mean that downward pressures risk practitioners overlooking children's skills such as less obvious communication. Despite these challenges Georgeson et al concluded that settings and practitioners were working quickly and effectively to adapt their practice and meet the demands that increased 2-year-funding has placed upon them.

These policy initiatives and the need to collect data for the purposes of Ofsted inspection discussed on pp.29-30 inform practice and the experiences offered to children. One factor that policy influenced, and a pertinent debate, was whether childhood is a time of development towards adulthood or a time important in itself.

In relation to 2-3-year-olds, this included whether practice should focus on the child now or as a time of preparation for formal education and primary school.

School Readiness

The EYFS and statutory assessment have formalised early education arguably enabling quality and effectiveness to be evaluated. The measures and assessments, discussed on pp.21-22, focus on development and promoting school readiness but might overlook the value of early childhood itself. Rosen (2015) argued that there is an expectation that early years settings will promote 'school readiness' reflecting a future-orientated view and childhood as a time of becoming. However, Whitebread and Bingham (2011) argued that the introduction of formal curricula in the early years was misguided and would make no long-term difference. Instead, they, along with others, argued that play where children participated in self-chosen, open-ended activity should be the central vehicle for early education enabling a learning disposition rather than highly structured learning towards prescribed goals. Thus, practitioners were required to balance planned experiences that prepared children for the future in line with government policy and the demands of Ofsted with enabling free play opportunities and treasuring early childhood.

This study observed children playing and spontaneously interacting with each other and their material surroundings. This is important because whilst children learn through play, a means does need to be found to record learning and change recognising and celebrating children's abilities without valuing some skills whilst overlooking, or even pathologising, others. It was to explore this issue, particularly in relation to verbal and non-verbal communication that this study was originally conceived. In some early years settings different ways to consider and record children's changing skills have been developed and will be discussed next.

Alternative Approaches to Practice and Assessment

Whilst assessment in terms of the EYFS is common practice in many English early years settings, others have taken a different approach that has arguably enabled a less restricted and fuller picture of the child to emerge.

In Reggio Emilia the approach centres around the child who is conceptualised as a rich, competent communicator actively involved in their own meaning-making, co-

constructing knowledge with others which informs an emergent, reflexive curriculum. Children's learning is documented as a journey through practitioners written observations, photographs, films, artefacts, examples of children's work, and reflections from children and their families. The multimodal data reflects the children's interests and what they have been doing, rather than being tied to a prescribed curriculum, and is displayed for children and their families to see and talk about enabling a greater depth of understanding to develop (Edwards et al, 1998). This approach emerged in a particular historical and political context as discussed on p.28, so is not simply transferable. However, the underlying philosophy could be usefully adapted to other early years settings.

Consequently, many other centres around the world have been inspired by the work in Reggio Emilia and have adapted the approach to their own settings. For example, at Penn Green Children's Centre the curriculum combines the EYFS (DfE, 2017a) statutory guidance with other assessment tools to compile children's learning journeys using a more fluid approach of documentation (Whalley and Dennison, 2007). Thus, although some assessment is an essential part of early years education in the UK, with some creative thought it is possible to build a more open, flexible approach that enables more of children's rich competencies to be captured and celebrated than the rigid systems offered commercially. The emphasis in Reggio Emilia and at Penn Green on multimodal documentation influenced this study and the decision to use field notes, audio and visual recording to effectively document peer communication and address the research questions as discussed on pp.90-91.

Alongside policy, theory is pertinent because it also impacts on practice and how children are understood and their skills interpreted. This was important in thinking about the communication children used and the materials and experiences they were offered. The theories of Piaget and Vygotsky that David et al (2003) highlighted have influenced early years policy in England are discussed before theories of language development.

Theories

Learning Theories

Piaget (1978) proposed that children develop in a series of four, sequential, age-related stages. During each stage he argued children construct mental models or

‘schemas’ of how the world works and learn through a process of assimilation and accommodation. Following Piagetian theory as children experiment and explore their environment, they assimilate and accommodate new knowledge fitting it in with what they already know, adapting their schemas to make sense of the world. Garton (2004, p.18) described Piagetian theory as “inside out” because the child constructs knowledge intramentally and then uses this to act upon the outside world.

Following this theory children learn when they are confronted with new experiences and knowledge that must be assimilated and accommodated to reach a new equilibrium or understanding. Furthermore, Piaget proposed that social interaction could not benefit development until after middle-childhood because, in his view, infants are egocentric and have ‘poor’ social understanding assessed through experimental, abstract tasks. However, once the child is able to consider another’s perspective which Piaget considered to be not until around 7 years of age, peers maybe best placed to promote learning. This is because the new knowledge that they bring is likely to be closer to what the child already knows so more easily assimilated.

David et al (2003) highlighted that Piaget emphasised the importance of the learning environment. For Piaget language is a means to enable young children to communicate and internalise their own action and thoughts adapting and extending their understanding of the world through their own explorations. This contrasts with Vygotskian theory that emphasises the role of social interaction and language to enable learning. According to Vygotsky (1962) language is used as a cultural tool to share understanding and construct knowledge with more experienced others. One exception to this is self or egocentric talk that, although first noted by Piaget, has also been explained in terms of Vygotskian theory and is discussed further below (pp.46-47).

For Vygotsky (1978) cognition develops through interactive communication as children encounter new perspectives and meanings. Knowledge is acquired intermentally through discussion then internalised as the basis for thought. He proposed any function of children’s development appears twice: first on the social plane then on the psychological plane. In addition, he argued that learning leads to development so that they do not happen in parallel or in equal measure but rather

are highly complex and dynamic processes that vary between individuals. Moreover, for Vygotsky, learning requires an individual with knowledge or experience beyond that of the learner, ‘a more experienced other’.

A central concept of Vygotskian theory is the Zone of Proximal Development (ZPD) that describes the distance between the child’s actual and potential developmental level working with a more able other (Vygotsky, 1978; Garton, 2004). Vygotsky argued that what a child can do on their own, their actual developmental level, represents the result of completed, mature developmental cycles, whilst that which the child can accomplish with guidance or in collaboration with more capable or experienced others is greater, and arguably a more accurate indication, of their development. The importance of engagement with another who is different from the child was highlighted by Reddy and Uithol (2016) in their analysis of the development of action understanding. They argued that to engage dialogically from the earliest days requires a different other. Thus, interaction and collaboration with others who are different from oneself becomes a mechanism for learning.

Piaget and Vygotsky agreed that children are active participants in their own learning, constructing knowledge informed by their experiences in the world. This is pertinent to this study which also takes this perspective. However, Piaget emphasised the individual and Vygotsky the social which might, partly at least, have reflected their different backgrounds. Whilst they began to formulate and develop their theories, informed by their own observations of children, at a similar time Piaget was in Switzerland and Vygotsky in Soviet Russia. Piaget was working in a more individualised society in the capitalist West where his work was openly published and debated. In contrast, Vygotsky was working in a culture which, following the communist revolution, emphasised the collective social and his work virtually unknown in the West during his lifetime. It was only later, many years after his untimely death in 1934, that Vygotsky’s work was widely published by Massachusetts Institute of Technology (MIT) in 1962.

In this study the focus is on peer interaction in the early years which places the emphasis on the collective and the social reflecting a Vygotskian perspective. The inclusion of different materialities connects with Piagetian theory that emphasises the importance of the physical environment on the opportunities children have for

different experiences that enable the construction and extension of knowledge. Significantly, children were observed learning and making meaning in familiar, playful contexts reflecting a socio-cultural approach informed by Vygotsky, rather than abstract tasks that enabled them to effectively demonstrate their communicative skills and so play and learning are discussed next.

Play and Learning

Vygotsky (1978) recognised that children's playful was interactions that could facilitate learning. He defined play in terms of the presence of an imaginary situation where children have the opportunity to give actions or objects new meaning. Furthermore, as children participate in shared practices, they become more experienced, play becomes more complex and learning emerges. In this way development is contextualised and individual so abilities are most effectively demonstrated in contexts that make sense to children rather than abstract tasks. This was evidenced by Colliver and Fleer's (2016) quantitative case study explored which observed how children learnt and explored concepts through self-directed play while educators were able, through effective listening, to document what children were learning

The role of play in learning has also been highlighted by neuroscience that has led to claims about which activities and resources might most effectively promote brain development and influenced the playful opportunities that some children are offered. This was illustrated by Nadesan (2002, p.425) who argued that neurological research on infant brain development has been over-simplified and used to inform the notion that development could be optimised given the 'right' stimuli such as particular toys or play opportunities. She suggested this had led to a discourse that promised middle-class parents 'superchildren' whilst problematising working-class parenting that legitimised increased surveillance and intervention. These concerns were highlighted by Rutter (2002, p.1) who argued that whilst research has enabled a greater understanding of the mechanisms involved in development, media coverage has included "much misleading scientific evangelism" and "absurd confrontations and polarizations" which have led to unhelpful misunderstandings.

So how children's cognition is interpreted and understood is influenced by, and impacts, on the experiences and resources they are offered. Language is crucial

because it enables children to articulate and make visible their thoughts. The importance of language was highlighted by Lefebvre (1991) who argued that it is the vehicle of understanding and gives rise to an understanding of itself which is an absolute knowledge. There is a large amount of literature and knowledge about children's language which it would be impossible to include in this review. For this reason, a brief consideration of the positivist and empiricist theories of language acquisition are included because of the way the environment is positioned according to each view. This was pertinent given the focus of this study which was to explore how different contexts, practices and activities might support, shape or limit opportunities children had to demonstrate their communication skills in an early years setting.

Language Theories

Nativist Theories

Nativists, including Chomsky (1965) argue that there is a biological basis for language development that he conceptualised as 'universal grammar'. He argues this underpins children's language acquisition by enabling innate knowledge of syntax language learning because the "linguistic environment is too complex and ambiguous for children to extract rules for themselves" (Plunkett and Wood, 2004, p.197). Similarly, Pinker (1991) argued that when focused on a single rule of grammar, there was evidence for a system that was modular and independent of real world meaning and environmental input. He concluded that the development of language, at least in part, is organised by principles that are not learnt but innate. Further evidence to support the biological basis of language was offered by Van de Lely and Pinker (2014) whose comparative quantitative study examined the language development of children with specific language impairments.

Empiricist Theories

In contrast, others (Halliday, 1975; Tomasello et al, 2005; Iverson and Goldin-Meadow, 2005) argued children learn language and acquire grammar from their linguistic environment informed by a constructionist paradigm, often described as 'empiricist'. Evidence that language can be learnt from the environment has been strengthened by the development of connectionist models that Westermann et al (2009, p.414) described as having "functionality is loosely inspired by neurons in the brain". The computerised network was exposed to a training environment that

mimicked that which an infant experience and the network acquired language exclusively from exposure to the simulated environment. Reflecting on the use and findings of connectionist models prompted Plunkett (1998, p.98) to acknowledge that, in contrast to his earlier research, “it quickly became apparent that some language acquisition researchers had grossly underestimated the structuralist regularities that could be extracted from the input”. Thus, Westermann et al suggested that a connectionist approach cast language acquisition as a dynamic process of change in reaction to environmental stimuli, without the assumption of any domain-specific, innate knowledge such as universal grammar.

Nature and Nurture?

However, Messer et al (2010) suggested that the nature and nurture explanatory concepts were not necessarily incompatible. Evidence for some innate neural structure that, in humans, is primed to learn language was offered by Plunkett (1997) who argued that neonates can discriminate between the speech of different human languages but that this ability declines during the first year of life when phonological processing driven by environmental input takes over. Hence, Karmiloff-Smith et al (1998, p.596) concluded that linguistic development involves contributions from both genes and the environment because “neurobiology provides a consistent message that organisms develop in activity-dependent ways”. Furthermore, as Bruner (1985, p.119) highlighted, whether “humans are lightly or heavily armoured with innate capacities for lexico-grammatical language, they still have to learn how to use language by using it communicatively”. This was because, he argued, in acquiring language what is required is the ability to know “how to get things done with words” (Bruner, 1985, p.18).

One facet of language development that has been the subject of debate are potential differences in terms of gender. There has been a great deal of research exploring gender and language development that lies beyond the parameters of this study. Consequently, the research discussed is drawn from an extensive rich field and was chosen to represent central debates concerning whether there is evidence to support a gender-related difference in children’s early language skills and, if so, whether any difference is the result of biological and/or environmental factors.

Language and Gender

Dunn (2004) highlighted empirical evidence to support the argument that boys lag behind girls in terms of language and communication is mixed and with various explanations offered for any differences that were found. The potential explanations include possible structural differences in the neurology of boys and girls and differences in the linguistic and socio-cultural experiences that boys and girls were exposed to that reflect the broader debate about the origins of language development.

Hutt (1972) contended that girls talk and acquire vocabulary at an earlier age and perform better in all areas of language than boys. This view was substantiated by Burman et al (2008) who argued that girls' language performance was generally better than that of boys by the age of 2-3 years with girls talking earlier, acquiring vocabulary faster and using more spontaneous language. Their scientific study found greater activation in the language areas of the brain among girls and that boys appeared to rely on different areas of the brain for language performance. They concluded that differences in the patterns of brain activation, perhaps reflected different approaches to linguistic processing, that underlie differences in the language performance of girls and boys. If there are differences in the early neural processing between boys and girls then differences in language performance might be expected cross-culturally.

Eriksson et al (2012) explored gender differences in children's emerging language skills across ten non-English language European communities. They argued that meta-analysis and large-scale parental reports consistently suggested girls had an advantage in early language acquisition that could be explained in terms of socio-environmental factors, for example differences in the toys often bought for girls and boys, and that consequently gender differences in early language skills could be expected to vary among different language communities. In terms of comprehension there was variation between language communities but the effect of gender was not statistically significant. However, they found that there were significant differences in toddler word production with girls producing more words than boys across different language communities and that differences increased with age. Eriksson et al (2012, p.338) argued that the variation in talk across language communities was important because "it indicates that the difference

between girls and boys is robust". So, it would appear that boys, whilst having comparable comprehension skills, might lag behind girls in terms of speaking.

Taking a different approach, Zambrana et al (2014) explored whether, and to what extent, different risk factors including gender predicted persistent, recovering or late-onset language delay. They found that the odds for persistent language delay were doubled for boys, although the odds decreased for transient and late-onset language delay. Moreover, familial risk for reading and writing were found to be a particularly strong predictor of late-onset language delay for boys and girls. Overall, from these studies it would appear that boys are more vulnerable than girls to particular language delays. However, the relationship between language skills and gender has been challenged by some (Blaise, 2005).

Blaise (2005) questioned the assumption that there is a direct causal relationship between biological sex and gender role, arguing that neither biological nor socialisation theories explained why gender norms changed over time or varied between and within different cultures and races. Instead, she argued that young children actively construct gender and make choices about what it is to be male and female. Using feminist poststructuralism her ethnographic study in an early years' classroom in North America, explored the ways that children actively engaged with, challenged and rejected or transcended dominant gender discourses and how these intersected with discourse on class and race which, in turn, impacted on language use. The ways that class and race might impact on language use and how these are perceived is discussed further below (pp.41-43). She concluded that all children, regardless of gender, used language as a cultural tool to make meaning and construct an image of themselves that included taking on or rejecting aspects of gender stereotyping.

Alongside, gender another factor that potentially influences children's language experience and use is social class. Current assessment systems often disadvantage children from less privileged backgrounds which has led to much debate about potential explanations for disparities in the educational attainment between children from different socio-economic backgrounds. One explanation that has gained much credence has been that these are attributable to differences in spoken language between lower, working-class and middle-class families (Jones, 2013). Class and poverty were not an explicit focus so not foregrounded

during observations or analysis, however it was a factor to hold in mind because, as discussed on pp.84-85, around a quarter of the children who attended the setting were described as living in poverty. For this reason, research about gender, socioeconomic status, early linguistic experience and educational success in now discussed.

Language and Social Class

Bernstein (1971) argued that middle-class children acquired an ‘elaborated code’ from their home environment which was also the language of the educational system. Bernstein described ‘elaborated code’ as language which was explicit, universalistic and independent of context, linguistic and conveyed generalisations and rationality proper to special kinds of information and knowledge. Furthermore, middle-class children’s educational success, it was argued, was explained by their familiarity with an ‘elaborated code’ that enabled a continuity in terms of language when they entered school. Conversely, working-class children acquired a ‘restricted code’ so experienced linguistic discontinuity upon starting school. However, in the years after he proposed his codes, others presented evidence that challenged the notion of a ‘restricted code’ with the negative connotations this conveyed.

Labov (1972) extensively studied the language spoken among the black American population in Harlem. He concluded that the concept of verbal deprivation had “no basis in reality” (Labov, 1972, p.201-2). He did not dispute the fact that many black American children performed poorly at school and argued that the problem was one of cultural conflict rather than any lack of language skill. Likewise, the Rosens (1973) studied the language of working-class English primary school children and drew similar conclusions. They found that the working-class children possessed language that was ready to accommodate learning and found no evidence of verbal deprivation. They did, however, suggest that many middle-class children succeeded at school partly because their early experiences matched the literacy-based learning which dominated school life and contrasted with the oral tradition that characterised the home cultures of many working-class children.

Extending the work of the Rosens, Tizard and Hughes (1984) analysed the speech of girls aged 3 and 4 years at home with their mothers and as they began school. They found that when the children went to nursery school, the working-class girls

were adversely affected by the school setting and presented as more subdued and immature than at home. Furthermore, they concluded that because the working-class children were perceived as ‘less competent’ than their middle-class peers teachers adjusted their demands and expectations of them so that they appeared to be at an educational disadvantage. More recently, Jones (2013), argued that the notion of a language deficit among working-class children was fundamentally flawed and that the demands of formal education were to the advantage of middle-class children whose families had the background, experience, motivation and means to prepare, support and guide them

Socio-economic differences related to class were factors identified in the disparity between those children assessed as having achieved ‘a good level of development’ at the end of the foundation stage and their peers assessed as under achieving (DfE, 2014). The discussions informed by Tizard and Hughes and others illustrate how assumptions informed practitioner’s behaviour and assessment, all be it unwittingly, and resonated with the findings of the EPPE study (Sylva et al, 2004).

However, not all children from less privileged backgrounds are disadvantaged by current assessment systems. Siraj-Blatchford (2010) found that some children from disadvantaged backgrounds do succeed in education and that their families often have high aspirations for their children and provide significant educational support. She concluded that consideration should be given to how children from different groups experience underachievement to enable the development of more effective policy responses.

Another consideration is how far poverty equates with social class and is meaningful in today’s society. Corsaro (2000) argued that there have been changes in the structural arrangements of categories, including gender and social class, and that the boundaries between social categories are increasingly obscured. For example, Corsaro (2000, p.97) highlighted that 10 million (14%) children in the United States of America who did not have basic health care insurance were living in families where one or both parents were working. Likewise in the UK one in seven people at food banks are in employment, or live with someone who is (Trussell Trust, 6 Nov 2019). This illustrates how poverty is no longer necessarily linked to unemployment but affects many working families who

often possess knowledge and provide a different home learning environment than might be predicted by their financial circumstances. Furthermore, being unemployed does not mean that parents do not possess the knowledge to support their children but might struggle to secure access to resources. This means the links between how disadvantage is categorised, what parents do and children's outcomes are becoming increasingly blurred.

The issue of categorising children, whether in terms of gender, socio-economic circumstance or (dis)ability, was discussed by Hart et al (2004). They argued that ability labelling, such as that implied by the goals in the EYFS and the Curriculum Guidance, has an impact on pupil identity and the attitudes, expectations and practice of practitioners which limits future learning. They emphasised the importance of positively valuing what children can do rather than utilising a deficit model that focuses on what they cannot do. This perspective is central to the philosophy in Reggio Emilia, Italy, discussed on pp.32-33.

Nevertheless, there is evidence that linguistic measures might favour or disadvantage particular children. This study sought to overcome this issue utilising a methodology that enabled many different communication skills to be observed, documented and valued, dependent upon children's communicative preferences, rather than task requirements contingent of ways of being that might be more familiar to some children than others. This enabled communication to be foregrounded that might otherwise have gone unnoticed. Dahlberg and Moss (Rinaldi 2006, p.7) described how, in Reggio Emilia's educational philosophy, the concept of communication includes a multiplicity of modes they described as "the hundred languages of children". Likewise, David et al (2003) contended that young children often use non-verbal means to express themselves including movement, dance, singing, gesture and eye gaze. Furthermore, research found that non-verbal communicative modes including the use of gesture, were used to make and share meaning and, perhaps, to facilitate talk and formulate ideas (Reynolds and Reeve, 2001; Pine et al, 2004; Hostetter and Alibali, 2008, Nyland et al, 2008). This is important because, as John-Steiner and Mahn (1996) highlighted, children communicate in many ways that mediate learning and make thinking visible. Consequently, a more complete picture of children's skills could be built by exploring the understandings communicated in all modes, verbal and non-verbal.

Non-Verbal Communication

The use of gestures to communicate was noted by Vygotsky (1978, p.107) who described them as “writing in the air”, adding that written signs were often simply gestures that have been fixed. In her description Manning (2016) likened gesture to that of a minor key among musical notes. She explored ‘minor gestures’ evidenced through art forms including dance and argued that they enable freedom to engage and interact with materials in new, creative ways discussed further on pp.62-63. Nevertheless, as Taylor (2014) noted, research into children’s classroom communication has traditionally focused on linguistic modes. Exceptions to this included Reynolds and Reeve’s (2001) study. They found that communicative gestures were used in a variety of ways that included to amplify meanings and explanations constructed by talk; assist in achieving and maintaining joint attention; and to convey new meaning and understanding different to that expressed verbally. If, as they suggest, gestures are able to offer potentially greater communicative opportunities, then what might non-verbal communication contribute to children’s sharing and meaning-making that is different from talk?

Considering the role of gesture and speech, Goldin-Meadow (2003) argued that gesture is like a transitory diagram or map that, combined with talk, enabled communication of visual and spoken information and a more complete, unified picture of children’s ideas and understanding. Furthermore, Goldin-Meadow (2003, p.365) argued that gesture conveyed meaning globally through visual imagery; whilst speech conveyed discreet meaning through “codified words and grammatical devices”. To conceptualise how gesture and speech are used in combination she proposed a continuum. She argued that at one end gestures elaborated and reiterated speech described as ‘gesture-speech match’; and at the other end the gestures produced new information, different from what was represented in speech, ‘gesture-speech mismatch’.

Gesture-Speech Mismatch

When there was gesture-speech mismatch, Goldin-Meadow suggested that the different ideas represented occurred because gesture provided a second representational format that had a strong visual component. She argued that the visual gestures enabled incomplete ideas to be externalised and thoughts made

more complete. This supported Reynolds and Reeve's (2001) finding that gestures and speech sometimes communicate different information which indicated cognitive uncertainty and heralded a change in thinking.

The phenomenon of gesture-speech mismatch was also illustrated by Pine et al's (2004) study. They analysed the verbal and non-verbal communication of children during a balance beam task and found that knowledge and emergent understanding was displayed through gesture before verbal expression. Thus, Hostetter and Alibali (2008) proposed that people use their bodies to express knowledge, and that gesture can facilitate talk enabling expression, or perhaps even the formation, of ideas. In addition, there is also evidence that gesture is used across cultures and geographies as illustrated by Eriksson et al (2012) who found gesture featured in young children's communication throughout different language communities.

Another facet of communication that appeared to be missed or overlooked and emerged during data collection and analysis, in response to the third research question, was the prevalence of egocentric speech emerged. Like other communication, egocentric speech makes children's thinking visible and accessible to others. Consequently, this was added to this Literature Review and will be discussed next.

Egocentric Speech

Alongside other features of talk that emerge and change through early childhood including linguistical knowledge and syntax, both Vygotsky (1962) and Piaget (1978) documented the phenomenon of self-talk that included egocentric and ludic talk or speech. Self-talk, that was observed among children from around the age of 2-3 years but then disappeared in middle childhood, has been the subject of debate. Egocentric and ludic speech described when children appeared to talk to themselves as they played either for the fun that language offered or when faced with cognitive challenge. The phenomenon was not considered in the original plan because the focus was on peer communication and egocentric speech is, perhaps, often perceived as a solitary activity, so beyond the remit of this study. However, the children in this study were regularly observed using egocentric speech alone and with their peers. Significantly, this had been overlooked and missed by the adults in the nursery. For these reasons, and because egocentric

speech potentially enables adults to observe children's thoughts, the phenomenon was brought into the findings and analysis.

Egocentric speech was regularly observed during this study and Winsler (2009, p.26) found was noted by 98% of mothers of pre-school children. However, he suggested that whilst children engaged in considerable amounts of egocentric speech in early years classrooms, it was often overlooked by practitioners. In addition, Winsler found that practitioners varied in their beliefs about and responses to egocentric speech perhaps because its functions and origins are contested and will be discussed next.

Theories of Egocentric Speech

Piaget and Vygotsky offered different explanations of egocentric speech that again highlight the individualism and collectivism which characterise their views and is discussed on p.35. For Piaget (1978) egocentric speech has no cognitive function but is a pre-social phenomenon, an expression of egocentrism incomprehensible to others which disappears as the child is increasingly socialised. In contrast, Vygotsky (1986; 1962) argued that egocentric speech originates in the social sphere and that, rather than disappearing, is a transitional phenomenon from social, interactive activity to individualised intractive inner thought. At age 3 years Vygotsky observed that there was little, if any, difference between egocentric speech and social speech. Later, by age 7 years, egocentric speech was structurally and functionally different from social speech because, it was argued, the child increasingly internalised instead of pronounced, his thinking words. The link between language and thought is arguably demonstrated when children's thinking is challenged. Hence, Vygotsky (1978, p.25) argued that egocentric speech during difficult tasks is as important as action and that the child does not simply narrate their action but rather that "speech and action are part of one and the same complex psychological function" focused on resolving a problem. Additionally, he argued that the more complex the challenge, the greater the role that speech played. Following Vygotsky's argument, egocentric speech has a crucial role in cognitive functioning and provides a window into young children's thoughts.

Hewes and Evans (1978) compared theories of egocentric speech in their experimental study. They placed children aged 4-6 years into groups of two or four

and assigned one of three activities. The activities were to converse with no task; to each complete a 12-piece puzzle designed for children aged 4-6 years; or to complete the same puzzle but with two pieces modified so that they no longer fitted. They found that increasing task difficulty correlated with a significant increase in egocentric speech and that there was also more egocentric speech displayed when children had greater opportunity to interact in the groups of four compared with the groups of two. They concluded that their study offered partial support for Piagetian and Vygotskian theory. However, the children in their study were older than those in this study and the experimental conditions might have influenced children's behaviour as highlighted by Donaldson (1978) and discussed on p.19.

Observational Studies of Egocentric Speech

Gillen (2000) collected observational data of spontaneous pretend play in a nursery school. The issue of egocentric speech arose when she reviewed the video data and in particular an episode focused on one particular child, Katie. Gillen (2000, p.180) concluded that her findings supported Vygotsky's account that proposed "the social genesis of speech" and that Katie's egocentric speech was informed by her social relationships and perceptions and given form "through culturally derived interpretations". Similarly, Calderwood's (1999) examination of a song spontaneously created by 44-month-old Emily during bath time led her to conclude that singing is often a pervasive part of young children's environments that might be internalised and used as a means of self-expression and source of pleasure. She argued that through her monologue Emily was able to explore separation issues that were relevant to her at the time which supported a Vygotskian explanation for the phenomenon of egocentric speech.

Both Katie and Emily were older than the children in this study, whereas Nelson (2015) considered the relationship between social and egocentric speech analysing the spontaneous 'crib speech'; of a 2-year-old. Nelson (2015, p.172) described 'crib speech', as the "talk while alone by an infant or young child (1–3 years) who sleeps in a bed, often described as a 'crib' or 'cot', designed for infants and toddlers" and is talk just before they go to sleep. The crib speech that she recorded consisted of a monologue in which the child represented herself and others, recalling events that had occurred within a social context. Consequently,

Nelson (2015, p.179) supported Vygotsky and concluded that the “over-arching function of crib speech, and perhaps other uses of private or self-speech, is as an external representation of thought”, as is social speech. However, in egocentric speech the child can represent and play with complex ideas and different views that Nelson (2015, p.179) described as “online thinking”.

Nelson (2015), Gillen (2000) and Calderwood (1999) explored egocentric speech through an in-depth analysis focused on individual children, that contrasted with Hewes and Evans (1978) whose experimental design included a much larger sample so that arguably the results were more reliable. However, an advantage of Gillen and Calderwood’s studies was that the egocentric speech was spontaneous so may have offered a more authentic representation of the phenomenon. Similarly, the egocentric speech captured for this study was spontaneous and naturalistic but focused on children aged 2-3 years in a group setting.

A theme that runs through the theoretical discussions about language development, gender and language and egocentric speech is how children use communication to understand and share meaning about their world. This was important because in this study children were observed with peers around different materials that influenced the ideas and understandings that were made visible to their peers. How language is used to construct and share knowledge will now be considered.

Language to Make Meaning

The importance of language as a cultural tool that enables children’s thinking and cognition was highlighted by Vygotsky (1962) as discussed on p.34, a view substantiated by David et al (2003), Sfard (2009) and Jones (2013). Furthermore, Bruner (1985) argued that language is a means for interpreting and regulating culture. This was also evidenced by Halliday’s (1975) ethnographic observations that led him to describe the development of language and culture as linked, being different but interdependent with the child constructing cultural reality largely through language and language itself being part of that reality. He described the function of language as “the components of the linguistic system” and the use of language as “the extralinguistic factors determining how the linguistic features” are then used (Halliday, 1975, p.35). Halliday referred to the functions of language in terms of a restricted set of categories described below (p.49). In contrast, the

extralinguistic factors, or uses of language are potentially infinite and highlight the importance of the socio-cultural environment within which meaning is made and expressed. He argued that in young children the function and use of language are synonymous and that this distinction comes later as children gain more experience of communicating and making meaning with others and learn the different social structures of the spaces within which communication is used. Halliday's (1975, p.37) naturalistic observations of everyday language suggested that young children's speech could be categorised in terms of seven functions: instrumental described speech that says "I want"; regulatory 'do as I tell you'; interactional 'me and you'; personal 'Here I cone'; heuristic 'tell me why'; imaginative 'let's pretend'; and informative 'I've got something to tell you'.

Halliday's study focused on verbal communication to make meaning. More recently Hackett (2014, p.21; 2015) illustrated how young children used a range of "communicative practices" to make and share meaning. Furthermore, Hackett (2015, p.77) argued that when the definition of communication was widened beyond talk or literacy to include gesture and bodily movement, "space seems to become increasingly significant". She observed how two 3-year-olds became fascinated by a large stuffed bear, Marco, who provided a focus for their emerging friendship during museum visits. Each time the children visited the museum they verbally asked to see Marco and ran along remembered routes to find him. They would touch the bear and peep around him, mirroring each other and building on their repetitive behavioural game. She argued that the children's behaviour cannot be explained by a Vygotskian framework because the actions were not modelled by an adult, but instigated by the children. Instead, she proposed that the children's behaviour may be understood in terms of a "zone of entanglement" (Ingold, 2008, cited in Hackett, 2015, p.84) and Lefebvre's (1991) social production of space. Ingold drew attention to how growth and movement are fluid, with ideas intertwined and enmeshed rather than unidirectional whilst Lefebvre argued that social practice and space must be experienced before they can be understood and conceptualised.

However, Hackett's (2015) assertion could be challenged because for Vygotsky (1962) children's cognition develops through social interaction with a 'more experienced other' which is discussed further on p.35. Moreover, a 'more experienced other' does not necessarily mean an adult, but another who has a

more fully developed understanding or different perspective that can enable learning regardless of chronological age. Furthermore, if the gap between a child's understanding and that of another is too great then they are unlikely to be working in their zone of proximal development (ZPD) as discussed on p.58 and learning might not be effective.

Hackett also drew on the work of Prout to build an understanding of the child beyond developmentalism; and on multimodality to understand communication as meaning-making through verbal and non-verbal modes. Her cohort were older than participants in this study which aimed to document and understand the communication 2-3-year-olds used to share their interests and make meaning during peer interactions with different resources captured through multimodal observation. Consequently, multimodality will be discussed next.

Multimodality

In recent years one approach that has been used to explore how verbal and non-verbal communication are used to make and share meaning has been multimodality. Jewitt (2014, p.15 and p.32) described multimodality as "approaches that understand communication and representation to be more than about language, and which attend to the full range of communicational forms people use – image, gesture, gaze, posture and so on – and the relationship between these". She highlighted that within multimodality there are three approaches and this study utilised the social semiotic approach that builds on the work of Halliday and associated with Kress (2014).

Halliday (1975, p.123) highlighted the importance of context to understand the use of communication as discussed on p.49 of this review. He argued that people are surrounded by, listen and react to, 'text' which described any behaviour that communicated meaning and choice which necessarily included multimodal communication. He argued that to understand the meaning, the listener or receiver needs to interpret the text in relation to the social environment or context. For him the linguistic system and language learning are located in the social system which informed his theory of 'social semiotics'. Halliday (1975, p.139) described the social semiotic as "the system of meanings that defines or constitutes the culture" and the linguistic system as "one mode of realisation of these meanings". Children gradually construct meanings to represent and interpret their social reality which,

he argued, is a cognitive process situated within communicative social interactions so that learning how to make meaning is an interactive process, a social act set in a cultural context. Following this argument, to understand children's language and meaning making required consideration of the objects, actions and meanings associated with the context in which communicative interactions are situated that are also pertinent to multimodality.

The link between the work of Halliday and multimodality was highlighted by Kress (2014, p.60) who described mode as "a socially and culturally given resource for meaning making" used in representation and communication. Like Jewitt, Kress emphasised that there are many different modes including gesture, action, writing and speech. However, Kress also drew attention to the importance of materials and argued that social action and the affordances of materials together produce semiotic resources. Following Halliday and Kress's argument, the resources of a mode will be similar but differ between cultures because they are socially shaped within a particular context. This emphasises that communication can take many modes however, according to Kress (2014) the relationship between meaning and mode can be expressed in three ways. The first concerns what is to be communicated and to who; second how the person expressing the meaning wishes to convey the message and third are questions of style and the politics of a situation that inform which modes are chosen and how they are arranged.

Halliday's social semiotic approach proposed that all meaning-making is social both between people and as an ongoing internal process as individuals construct, amend and change their meanings and understandings in response to their social experiences. Likewise, Kress (2014) argued that it is only when an individual needs to express their meaning-making to others that it becomes visible and consideration is given to which modes are most appropriate to 'fix' the meaning. How representations are 'fixed', Kress argued, combines with social 'framing' that describes the genre, and expresses the perspective of the meaning-maker to produce meaning. The way that modal communication is framed has meaning potential. For example, in written text type face, colour and punctuation add meaning whilst gestures may be framed and understood differently in different socio-cultural contexts.

To understand what is being represented necessitates attention to the cultural context and materials available. This is because humans engage with each other and the world through culturally specific resources that express their interests and frame how multimodal meanings are expressed and interpreted (Kress, 2014). In this study communication was defined as any behaviour that the children used to make representation and construct meaning with their peers which was explored during interaction with different materials because these potentially informed how meanings were fixed, framed and interpreted.

Multimodality and Research with Children

A multimodal approach was used by Taylor (2014) in her ethnographic study of 9-10-year-old children's naturally occurring peer communication during science lessons. To capture the children's multimodal communication she utilised a transcription grid which was adapted for this study as discussed on pp.111-112. In her analysis she showed how children conveyed and represented knowledge and information from digital text through embodied modes other than spoken language and drew on Halliday's (1975) functional categories to describe how communication was used. She emphasised that modes other than speech were not simply offering additional contextual information but were an integral, enmeshed part of the communication used to make and share meaning.

Taylor concluded that, reflecting a social-constructionist perspective, children learnt through social activity, constructing and sharing knowledge through multiple communicative modes where talk was not always dominant. She noted that the Key Stage 2 curriculum, which informed the educational experiences of her cohort, presented a particular view of language that emphasised skills to enable reading, writing and speech. Hence, Taylor (2014, p.418) hoped "to raise awareness of just how children communicate and learn through all available semiotic resources" that is at odds with the dominant linguistic modes in the curriculum. She contended that to enable children to generate creative ideas requires planning to ensure opportunities and space for them to explore and collaborate using all modalities, and that these are recognised and valued by educational practitioners.

More recently multimodality has been utilised in the 'Look Who's Talking' Project led by Wall (2017; Blaisdell et al, 2019). The project objectives were to "pay special attention to the voices of those under 7 years of age, and to share factors

designed to support those working with the under-sevens in facilitating children's voices" (Blaisdell et al, 2019, p.15). As part of the project, they undertook research with 3-5-year-olds in a Scottish nursery to explore children's views on listening and voice. An arts-based methodology was used to facilitate multimodal expression. They provided a variety of materials including: art resources; a basket with resources associated with 'voice' (microphones, megaphones, walkie talkies, toy ears); and puppetry; over three sessions. Children were invited to engage with these activities which were recorded using video, photography and field notes. They also created a large scrapbook visually documenting the project. The children were enthusiastic and highly engaged in the resources. However, their naturally occurring communication did not fit with the research agenda. Blaisdell et al (2019, p.22) recall how they faced a "dilemma between facilitating free and open artistic methods against structured elicitation of explicit data". Consequently, some of the researchers defaulted to verbal utterance, privileging talk, and directly questioning children.

Whilst Blaisdell et al's decision to ask children directly about their thoughts and opinions was arguably necessary given the time constraints and the need to collect data to fit with the research agenda, defaulting to the verbal risked enabling some children to participate more fully than others. This might mean that the views of some children, especially those whose communication was predominantly non-verbal, were either overlooked or misjudged.

Although multimodality can be challenging as noted, it has enabled research including Taylor (2014) and the 'Look Who's Talking' Project to observe communication, including gestures, that might otherwise have been overlooked and remained unseen. Thus, a multimodal approach was used in this study and is discussed further on pp.90-91.

Another factor in this study was that 2-3-year-olds were observed during peer interactions. This was important because with more children in this age group attending early years settings as discussed on p.31, there are more opportunities for peer interaction that offer different communicative and learning opportunities from adult:child interaction. Effective peer communication necessitates social interaction because, as Bruner (1985) argued, language involves two or more

people negotiating to make and understand meaning, hence this Literature Review will now focus on social interaction, communication and learning.

Social Interaction, Communication and Learning

Kress (2010) highlighted communication requires a prompt and a response which necessitates interaction with another. However, the age at which children are able to actively participate in communicative interactions that potentially support cognitive development has been debated. Piaget (1978) proposed that social interaction could not benefit development until after middle-childhood as discussed on p.34, because infants are egocentric and have 'poor' social understanding assessed through experimental, abstract tasks (Garton, 2004). An alternative view, informed by Vygotsky's (1962, 1986) sociocultural theory and observational data, claimed infants have a 'rich' social understanding and motivation to participate in social interactions which will now be discussed (Zeedyk, 2006; Trevarthen, 1979; Meltzoff and Gopnik, 1993).

Young Children's Social Interactions

David et al (2003) argued that it is through social interactions that children become competent language users and that babies are social beings from birth. Likewise, Bruner (1985, p.27) argued that infants are tuned to enter the world of human interaction and that during their first 18 months much of their activity is "social and communicative". Among those who have powerfully argued that infants have a rich social understanding that enables early communicative interactions is Trevarthen (2001). He argued that during interactions with their caregivers' infants fit their own thoughts to those of others creating shared understanding that enables intersubjectivity (Trevarthen, 1979). Through such interactions, he contended, infants are able to develop and refine their social skills. For Trevarthen (2011, p.124), the infant's goal during intersubjective interactions is to enter into a "communicative and cooperative relationship". The importance of these early interactions for effective communication in childhood and beyond was highlighted by Trevarthen's assertion that "We must respect these intuitive beginnings if we are to comprehend the elaborately representational and rationally regulated minds of speaking humans" (2011, p.130).

This argument was extended by Reddy and Uithol (2016) who in response to neuroscientific evidence on mirroring (Hunnius and Bekkering, 2014), highlighted that infants' engaged in reciprocal, dialogic exchanges from their earliest days and responded to actions outside of their control. They suggested that joint looking and interaction described by Trevarthen as 'proto conversations', produced greater sensorimotor activation than observing strangers which highlighted the importance of emotional involvement and social interaction. In conclusion, Reddy and Uithol (2016, p.109) argued that to account for the development of action, understanding must consider the infant's engagement with others and "predominant state of being that is relational and involved". In addition, David et al (2003) argued that babies and young children not only socially interact with adults, but also each other. Evidence to support this was offered by Selby and Bradley (2003). Their observational research showed 8-12-month-olds were able to maintain cooperative, coordinated social interaction and establish shared meaning with each other. Through interaction with adults, older children and each other, infant's constructed social understandings supported the peer interactions which was the focus of this study. Peer interactions offer children the opportunity to build friendship and peer culture which this will now be discussed.

Young Children's Friendships and Peer Culture

Research has provided evidence that in some circumstances young children are able to establish what could be described as friendships much earlier than some theorists have predicted. Dunn's (2004) ethnographic study found that when young children have the opportunity to spend time together and get to know each other well, for example in an early years setting, then some children develop preferences for particular companions at around 2 years of age. She argued that the characteristics of friendship vary according to developmental age with toddlers and pre-schoolers viewing friendship as understanding and sharing the other person's, interests and ideas. In addition, she argued that friendships matter to young children providing emotional support, pleasure, enjoyment and excitement. She identified three features of young children's peer friendships: stability over time; reciprocity; and that they enabled and reflected increasingly sophisticated social understandings.

Carter and Nutbrown (2016) offered evidence that friendship was important to children aged 5-6 years. Although the children in their study were older than in this study, they concluded that through observation and listening; and providing time and space where friendship can be established and nurtured practitioners can build knowledge about children's peer culture. This is important in early years settings such as in this study because, as Dunn argued, in this context children spend large parts of their day in the company of each other.

Further evidence from ethnographic, observational study (Eckerman and Peterman, 2004; Katz, 2004; Lofdahl and Hagglund, 2007) substantiated the view that young children have greater levels of social cognition than Piagetian theory assumed. Eckerman and Peterman's (2004) analysis proposed a developmental pathway to cooperative coordinated action at around 28-32 months. In addition, they argued that this pathway and the ability to participate in cooperative play and develop social relationships is a process that can be facilitated at an accelerated pace when young children have regular, ongoing contact with their peers such as in an early years setting. Similarly, Katz (2004, p.343), whose study is discussed below, found that children aged 2:7-3:4 years "displayed high levels of interpersonal awareness and cooperation" and Engdahl's (2012) ethnographic study found that children as young as 1 year spontaneously greeted their peers in an early years setting. In particular, Engdahl noted that toddlers aged 12-36 months often used imitation to communicate and build friendships.

Whilst communication can be used to establish friendship, research has also shown that children's communication varies when they are with different friends. Katz (2004) observational research explored the talk displayed by 3 friends in an early years setting during spontaneous, playful activity. She found that whilst joint attention or intersubjectivity was evidenced in all episodes, their partner and the relationship between children was associated with different talk styles. Furthermore, Katz argued her study suggested that full assessment of children's language skills necessitated multiple observations during different interactions and/or activities which was a key factor in this study as discussed on p.96.

Katz's (2004) sample was all female, however following her, Hoyte et al (2014) explored the relationship between the level of friendship and the talk genre used among 5-year-old boys. Like Katz, their study utilised observational methodologies

with dyads invited to play with a set of open-ended resources. The study identified three talk genres: ‘Making together’ that was found among all the dyads and the only genre evident in the low-friendship-status conversation; storytelling’ occurred during both high-friendship-status conversations; and ‘sharing personal information’ which was only evidenced by one high-friendship-status dyad (Hoyte et al, 2014, p.26). Katz and Hoyte et al were small-scale studies yet both supported the notion that children’s talk style was influenced by their partner. However, both of these studies focused on participants of one gender whereas the cohort in this study was larger and included boys and girls aged 2-3 years.

Friendship and communication can also support peer culture and evidence has shown that this can begin in the early years where young children spend time together over a longer period, for example at an early years setting (Corsaro, 1992; Lofadahl and Hagglund, 2007; Markstrom and Hallden, 2009). Corsaro (1992, p.162) studied peer cultures in Italy and North American and over two decades of ethnographic research led him to conclude that when children joined an early years setting they participated in the “creation of an initial peer culture so that other children become as important as adults in the ongoing process of socialisation”. For Corsaro childhood socialisation is a collective process where children create their own shared, familiar routines in an attempt to transform and interpret the confusing, at times ambiguous, adult world. More recently Markstrom and Hallden’s (2009, p.121) analysis of ethnographic data from Swedish preschools led them to conclude that children contributed to the construction of their settings drawing on different strategies to manage and negotiate regulations, autonomy and peer culture acting as if the institution was “the children’s place”. However, although their study included children aged 1-6 years, their illustrative examples focused on children, like those in Corsaro’s study, that were older than participants in this study.

Following evidence that young children are able to interact and create peer culture with others there has been debate about whether their learning is most effectively facilitated by adult practitioners or peers discussed on pp.49-50 & 58. This is pertinent because this study focused on peer communication and was set in an early years setting where supporting children’s learning is central and one of the standards against which settings are judged during Ofsted inspections discussed on p.29.

Learning During Peer Interactions

Learning during peer interactions has generated a large body of knowledge and consequently, given the limits of this Literature Review, the research included has been selected from a much larger rich field of study**.** Much of this research has been with children older than the cohort in this study (Flewitt, 2005a; Nind et al, 2011; Taylor, 2014; Peterson, 2017) whilst the focus with younger children, including 2-3-year-olds, has often been on how language is used to guide their participation and learning during adult:child interactions (Wood and Middleton, 1975; De la Ossa and Gauvain, 2001; Vandermaas-Peeler et al, 2003). Vygotsky (1962, 1978) and Bruner (1985) argued that during social interactions children assimilate other's knowledge so that cognition is built through a process of scaffolding where the more able partner sensitively responds to the learner. The gap between the child's current level of understanding and the level of the other is crucial. If the gap is too large then it will be outside of the learner's ZPD, discussed on pp.49-50, and so beyond their current potential. Moreover, another child at a similar, but different stage in their cognitive development might be as good, if not better, a match in terms of the ZPD than an adult and so be an excellent role model.

Moreover Vygotsky (1978) argued that talk enabled children's thinking and cognition as discussed on pp.34-35**.** This view was echoed by Sfard (2009) who developed the concept of 'commognition' which described the process of interpersonal communication and thinking that she argued were inextricable. Consequently, the ways children use talk to construct and share knowledge collaboratively has provided a research focus (Azmitia, 1988; Teasley, 1995; Chappell et al, 2008) and a selection of this will be considered by this Literature Review.

Talk to Support Learning

Teasley (1995), compared 10-year-olds working alone or in dyads instructed either to talk or not. She found that talk was a more important variable than collaboration in how effectively children were able to complete the task. Her study was critiqued in terms of whether children can collaborate without talk (Faulkner and Burkitt, 2010). However, she countered this arguing that videotapes showed that non-talk dyads were highly engaged and displayed similar behaviours to talk dyads apart

from talk. Azmitia's (1988) pre-test post-test study supported the notion that talk influenced learning and suggested that the quality of talk mediated increases in competence. Similarly, Chappell et al's (2008) empirical study identified children's questioning and adults probing as key features of possibility thinking.

However, whilst research suggested dialogue could promote learning, empirical evidence showed that most classroom talk followed a closed, monologic pattern (Smith et al, 2004). Consequently, Alexander (2013) argued a more effective approach was 'dialogic teaching' that enabled pupils' verbal participation. This informed the development of dialogic educational approaches designed to facilitate particular speech styles among children drawing on Vygotskian theory discussed on pp.34-35, and influenced by Bruner (1985) and Bakhtin (1981). Bruner argued that culture, not biology, shapes human life and the human mind with children actively participating in their learning. Furthermore, Bakhtin proposed language is a social practice with which learners actively engage constructing understandings through dialogic interaction. Thus, Alexander (2013) argued dialogic teaching harnessed the power of talk to stimulate and extend pupils thinking.

One dialogic approach, 'Thinking Together', promoted exploratory talk that made reasoning explicit and accessible to others (Mercer et al, 2019). Key to this were ground rules that created an educationally supportive environment where talk was valued. Mercer et al (2009) found that following a Thinking Together approach children in Key Stage 2 and 3 showed greater improvements in lone thinking compared with other approaches (Sheehy and Littleton, 2010). Littleton et al (2005) adapted Thinking Together for younger children. They found that after the project children's talk included increased use of exploratory reasoning whilst teacher interviews suggested heightened awareness of the nature and function of talk.

However, there are drawbacks to dialogic approaches and the underlying assumptions. These studies often measured success in terms of specified goals that Nind et al (2011) argued informed a 'becoming' discourse focused on childhood as a time of preparation. Another criticism was that talk ground rules were unnatural and value-laden so constructed one discourse as more powerful and disempowered others; this might have impacted negatively on the self-esteem

and identity of some pupils (Lambirth, 2006). As a consequence, some pupils may be disaffected in similar ways to those found by Tizard and Hughes (1984) who argued that formal educational environments pathologised the language of children from particular backgrounds as discussed on pp.41-42. Hence, Lambirth argued that promoting ground rules was discriminatory. In response Mercer argued evidence showed Thinking Together can accommodate different discourses and was effective cross-culturally (The Open University, 2009).

Another approach that has arguably enabled children to talk, think and learn together are Communities of Philosophical Inquiry (CoIP) (Cassidy and Christie, 2013). In CoPI a facilitator presents a stimulus, for example a text, children ask questions and the facilitator chooses one for closer exploration. The focus is on the quality of dialogue promoting questioning and reasoning. Cassidy and Christie argued that like Thinking Together, CoPI enables children to develop the ability to use dialogue to engage with and evaluate the world. However, they argued that the structure of CoPI is inclusive and that the context, rather than ground rules or the teaching of talk styles, promotes collaborative learning.

Whilst CoIP might overcome issues around ground rules, arguably it still promotes a particular talk style that might inadvertently discriminate against some children with different language experiences. In contrast, this study explored how children make meaning together through naturally arising communication in their early years setting. Consequently, how children's communication is perceived at nursery and what modes are noticed is important. This will now be explored first in terms of the EYFS (DfE, 2017a) curriculum followed by discussion about how children's language skills may be interpreted in early years settings.

Children Making Meaning and the EYFS

Despite evidence that children's communicative behaviours are multimodal as discussed on pp.44 & 63-64, the EYFS (DfE, 2017a) and Curriculum Guidance (Early Education, 2012) focus almost entirely on speech in terms of expressive language which arguably obscures the role of non-verbal communication in children's learning (Rosen, 2015).

At the time of writing, in the learning area which related most closely to the focus of this study, 'Communication and Language', there were three subsections: 'Listening and attention', 'understanding' and 'speaking' in the Curriculum

Guidance (Early Education, 2012, p.15 & 19-20). The very title, 'speaking', prioritises the verbal over other forms of communication. Furthermore, the related early learning goal in the EYFS (DfE, 2017a) against which children are assessed for their foundation stage profile focused on verbal language lacking any acknowledgement of children's multimodal communication.

The continued emphasis on verbal communication potentially disadvantages some children. What if some children learn in ways that might not, for example, include a focus on phonics or narrative, are they failing? Or are they using other non-verbal language(s) that are constructed as less important and could be better interpreted, documented and celebrated? Furthermore, do the developmental goals influence the skills that practitioners notice in busy early years classrooms and mean that less obvious communication is inadvertently missed or overlooked?

This last point is important because to effectively understand and support children's communication, it must first be recognised and valued. For this reason, research relating to how children make and share meaning and what is most likely to be recognised by practitioners will now be discussed.

Is Non-Verbal Communication Overlooked in Early Years Settings?

The importance of children's non-verbal communication was noted by Flewitt (2005a) whose study is discussed on p.65. She argued that whilst children used action to effectively communicate, it was often overlooked by practitioners who "prioritised children's talk" (Flewitt, 2005a, p.221). This issue also emerged unexpectedly from data collected by Nyland et al (2008). They observed children aged 3 years during music groups looking for evidence of musical knowledge. As they analysed their observations, they noted that the children used gestures, seemingly intentionally and sub-consciously, to express themselves. Consequently, they conducted a closer examination of some of their data to consider the meaning of the gestures they observed. Nyland et al (2008, p.79) concluded that initially they had focused on verbal communication, missing "much rich and spontaneous language" that had only been recognised on closer examination. This led to their recommendation that teacher education could benefit from a "more open and reciprocal regard" for and an "increased awareness and exploration" of the many "languages" children use (Nyland et al, 2008, p.79).

More recently, evidence to support Flewitt and Nyland et al has emerged from research including Cremin et al (2018), Flewitt and Cowan (2019) and Degotardi and Gill (2019). Cremin et al explored naturalistic data, including video and field notes, to evaluate an eight-week storytelling and story-acting training programme for practitioners working with young children. In contrast with this study, they focused on one activity, how practitioners and children co-constructed narratives during interactions with literacy materials. They concluded that practitioners and children constructed their narratives in multiple verbal and non-verbal ways that included gaze and action. This led Cremin et al (2018, p.15) to draw attention to the need to raise practitioner's awareness of the "subtleties and complexities of their own and children's multimodal interactions".

Like Cremin et al, Flewitt and Cowan's (2019) project highlighted how some children's skills were potentially inadvertently overlooked in busy classrooms. Flewitt and Cowan worked in multicultural classrooms to identify practitioners' perspectives on how they assess and document the learning of children aged 3-5 years. In addition, the project worked with practitioners to "develop an early childhood education pedagogy of observation, documentation and formative assessment using handheld digital devices" in which the voices of practitioners and children were included (Flewitt and Cowan, 2019, p.8). The project found that the settings had diverse approaches to observing and documenting children's learning. However, they concluded that some skills went unnoticed especially among children who were not confident communicating in English, who chose to spend long periods outside engaged in physical activity, or who interacted less with practitioners.

Degotardi and Gill (2019) came to a similar conclusion as Flewitt and Cowan, that some children's learning risked going unnoticed, in their study which found practitioners focus on a narrow range of language skills and activities. They claimed their findings strengthened calls to increase pre-service training and professional learning opportunities to enhance knowledge about how young children and practitioners actively contribute to language development across activities during communicative interactions. These studies offered evidence that supported Manning's (2016) assertion that the minor continual variations in gestures are often overlooked and hidden because larger or more obvious actions, for example speech, are foregrounded. Furthermore, Manning argued that minor

gestures are everywhere, but require a different way of thinking and an openness to new processes and forms of knowledge that might be challenging to evaluate in terms of many disciplinary models. She challenged the notion, commonly held in the West, that reason and thinking are linked to stillness, and concentration with quiet. Moreover, she argued that fidgeting and doodling are mistakenly linked to distraction. Consequently, she asked what would happen if we invested in movement-thinking? So instead of stillness, we thought about other, more active, postures for learning and listening? Because, as she highlighted, communication does not have to be verbal but, as Manning (2003) evidenced, may be expressed through multiple modes which include the spaces created by bodies and bodily movement. Thus, alongside talk, other important elements of children's communicative interactions that were captured in this study were action and minor gestures. Research that has explored how children use multimodal communication in early years settings is now discussed.

Multimodal Communication in Early Years Settings

King and Dockrell (2016) explored how children aged 3-4 years participated in conversation during small group times. They found that children who had been assessed as having a higher level of language skills tended to speak more and made and received more responses. However, whilst for some children small groups did not afford many opportunities for verbal interaction, they did offer opportunities to hear language modelled which supported language development. This was potentially important supporting children to learn new ways of doing language as they made the transition from home to nursery. They also noted that a few children were shy or reluctant to talk which potentially impacted negatively on their performance during language tests whilst others (Tizard and Hughes, 1984; Flewitt, 2005a; Wells, 2009) have noted differences in children's communicative skills between home and school. This suggested that a different approach to the assessment of communication may be necessary to enable a more accurate, holistic picture which might be facilitated by raising practitioners' awareness of the communication styles children bring from home and how to support these through naturalistic observational study.

Evidence that a different approach to assessment might enable more of children's communication to be seen was offered by Peterson (2017). Her action research

project involved children aged 4-6 years in northern Canada and aimed to develop a culturally appropriate approach to support and assess language. Children were videoed during freely chosen construction and dramatic play episodes. Her analysis revealed that all the children used language for a range of purposes. Moreover, the project enabled teachers to notice what children could, rather than could not, do and any difficulties in understanding dialect were greatly reduced by contextual information. From the analysis an assessment tool was created that enabled greater recognition of children's non-verbal communication. The impact of Peterson's initiative is illustrated by the change in practitioners' views. At the beginning practitioners said that indigenous children often "have no language" (Peterson, 2017, p.42). However, after the project practitioners' comments included: "I've been amazed, and now I have the proof from behind the camera, of the growth that children make from one part of the year to the next." (Peterson 2017, p.42).

Peterson's project highlighted the importance of observing peer play to accurately assess and support communication. Central to observation is listening, attention to the different ways children communicate and an openness to being surprised that was illustrated through the practitioner's comment above. The need to listen and give children the space to develop a narrative was also highlighted by Puroila et al (2012). Their ethnographic study, set in two Finnish early years settings, recorded observations of 4-5-year-old children's everyday narratives across a range of activities. Their study illustrated how children's communication is multimodal and highlighted the importance of action and body language. They concluded that young children's narratives during free-play offer an opportunity to learn about children's worlds and their experiences and a place where knowledge is co-constructed. In addition, they noted that to utilise these opportunities would necessitate raising practitioners' awareness of children's narratives with a focus on the process which is often fragmented and disorganised. Puroila et al (2012), King and Dockrell (2016), and Peterson (2017) all drew attention to the importance of observing children during free-play and the prevalence of non-verbal communication. However, the children involved in all these studies were older than participants in this study that focused on children aged 2-3 years.

Katz (2004), Puroila et al (2012) and Peterson (2017) highlighted that children's communication varied during interactions with different activities and materials.

This is important because if observations focus on particular activities then some skills risk being missed and consequently assessments will not represent what children can do and planning will not support their next steps. For this reason, materialities and the different communicative opportunities they offer will be discussed next.

Materialities and Communication

Flewitt's (2005a) longitudinal ethnographic case studies explored 3-year-olds' communication at home and playgroup. She found that different playgroup activities offered different communicative opportunities with free choice activities offering a greater range than whole-group activities. Likewise, Banerjee et al (2016) argued that different activities supported different areas of children's communicative understanding and development. They proposed that whilst literacy materials supported children's understanding of reading and writing, dramatic and block or construction play enhanced social communication and interaction.

Within the setting, Flewitt noted that extended verbal exchanges were most evident when children worked in adult-led small groups when the adult used a style of open questioning. In addition, she found that the spatial context of activities influenced children's communication. Flewitt used the term 'open spaces' to describe those areas such as the home corner, small-world mat and sand tray that were less clearly defined than table-top activities with chairs around for individual children; and monitored less closely by adults. She proposed that in more open spaces children had to negotiate access which resulted in "many areas being dominated by older boys" who "staked territorial claims" which led to gendered patterns of usage" (Flewitt, 2005a, p.219). She argued that in these more open spaces children used more peer communication and this often took the form of non-verbal communicative action.

Reflecting on the opportunities that different activities and spaces offer Mol and Law (1994, 2004) suggested that play spaces are situated in the social sphere. However, they argued this is not a single space, but a space with boundaries that ebb and flow, allow leakage or disappear altogether. Whilst there is evidence that children use resources in fluid and novel ways as highlighted by Davies (2014)

and discussed on pp.68-69, within early years setting materials are often presented to primarily support particular activities and areas of the curriculum.

Moreover, because communication varied between activities, children's activity choices influenced their communicative behaviour and staff constructions of their language skills (Flewitt, 2005a). This was also noted by Flewitt and Cowan (2019) who particularly highlighted how communication was potentially overlooked in the outside environment as discussed on p.62. This is important because as Stephenson (2002) argued, the outside space in early years settings is often a less controlled environment where some behaviours that are not acceptable inside are accepted and encouraged facilitating different communicative opportunities. This was true of the setting where this study was conducted where children were discouraged from using 'loud voices' or running inside but these behaviours were encouraged outside. Consequently, to understand how children use communication requires observations across various activities and materialities because these offer different opportunities to construct and share meaning through communication.

Materialities and What They Afford

One way to consider the influence of different materials on what children do is through consideration of what Gibson (2015) described as 'affordances'. He argued that when we look at an object what is perceived is what you can do or not do with the object so that different objects afford different behaviours Furthermore, he suggested that what is noticed are the features that distinguish one object from others. Affordances can be physical or reflect the values and meanings attached by a community. Vygotsky (1962) in his sociocultural theory also drew attention to the historically-situated nature of knowledge and the role of physical artefacts, that he described as 'cultural tools'. Drawing on Vygotskian theory, Rodriguez (2009, p.301) explored young children's gestures with adults and when alone and concluded that objects play an important role in their communication which cannot be "ignored or trivialised". In addition, materials also offer affordances or meanings that are less easily perceived or novel and might be temporary and specific to a particular interaction, for example when a child uses an object to represent something else. The concept of affordances was useful to consider how objects and materials might support differences in children's communication and the

importance of remaining open to meanings that emerged through children's thoughts during their play as discussed on pp.68-69.

Children's interaction with literacy materials have provided a research focus perhaps because of the focus on literacy throughout children's school years beginning with the EYFS. Likewise, in the setting where this study was based literacy materials were part of the continuous provision always available for children to explore and there was a planned, group story time during every session. Because of the prominence given to literacy within education and many early years settings research about how children might use communication during interaction with books is now discussed.

Literacy Materials and Communication

Fischer (2017) and Cremin et al (2018) argued that literacy materials prompted children to engage in peer interaction and use verbal and non-verbal communication to make and share meaning. Fischer's observations of Elijah (3 years) and Hannah (18 months) suggested that they engaged and responsively interacted with the text in their home. She collected multimodal data that included gaze, physical action and mark-making which she transcribed using a multimodal table format similar to that used by Taylor (2014) and in this study as discussed on pp.111-112. Elijah's talk gave insight into what his marks represented and he also laughed during his play. As Elijah interacted with his reading book, he drew on his previous experiences with this book, other literacy materials and other media such as television. Elijah named the characters as he drew on their faces which, Fischer argued, demonstrated an awareness that pictures are a form of representation.

Hannah, who was younger than Elijah, and the children in this study, and not yet speaking in the conventional sense also appeared to draw on her previous experience when engaged with her book. Hannah, like Elijah, communicated through actions that included gaze, touch and mark making to show her interest in the character that her mother had referred to when previously sharing the book together (Fischer, 2017).

Fischer's (2017, p.148) observations enabled her to demonstrate that the children derived pleasure from drawing in their books rather than on blank paper that, she argued, was shown when Elijah declared he was "reading" as he drew. From this

comment, she argued that Elijah's drawing was integral to his engagement with the literature, an argument that was reinforced when his crayon broke and he tried to fix then picked up another crayon before continuing to read. Through her multimodal evidence Fischer concluded that the scribbles children make in books are evidence of their responsive interactions with the text. This conclusion, she suggested, presents a challenge to how we as adults react to children scribbling in books.

Like Fischer, Cremin et al (2018) discussed on p.62, also found that children actively engaged with literacy materials evidenced through their multimodal communication. In their study, based in the preschool and reception classes at two primary schools, the action was used to creatively re-enact texts to include aspects of the children's own socio-cultural life experiences. Drawing on previous experiences to construct knowledge in this way positions the child as actively engaged in their learning, making it new and pertinent to themselves supporting a constructionist perspective. However, Fischer's observations were recorded in the home environment and the children in Cremin et al's study were aged 3-5 years so older than the children in this study which included observations of 2-3-year-olds spontaneously interacting with literacy materials in their early years setting.

To reflect the situatedness of sociocultural theory on the way children made and produced knowledge evidenced through their communicative behaviours this study considered differences in communication across different activities in the indoor and outdoor environment. Moreover, Davies (2014) argued that when listening to children we always need to be receptive to new thoughts different from what we had expected. This is because, she contended, children's thoughts may cross boundaries fluidly, rhizomically, following new and unexpected paths.

Listening to Children's Thoughts and 'Lines of Flight'

Discussing how adults should listen to children, Davies (2014, p.21) suggested that the notion of "emergent listening" is useful. She described emergent listening as requiring the "suspension of judgements and prejudices" and "opening up to the possibility of seeing life in new and surprising ways". She conceptualised Children's trains of thought in terms of 'lines of flight'. Drawing on Bergson, she described how adults often listen in order to fit what we hear into what we know which constrains children's potential thoughts which she aligned to lines of

descent. In contrast, when emergent listening is employed, children are free to express themselves with adults who are open to being affected by what is communicated, then their thoughts can be flights of ascent that enable new meanings and knowledge to be created.

Consequently, Davies (2014, p.15) articulated the aim of her book as “drawing attention to micro-moments of being – working against the grain of taken-for-granted ways of seeing (or not seeing) what it is that children can do. Through listening I want to make visible, within the everyday, the extraordinary capacities children have, and the emergent, the creative, the intra-active encounters they engage in as they do the ongoing work of bringing themselves and their community into being”. For this reason, in this study it was important to listen and document children’s multimodal forms communication through a combination of data collection tools during ethnographic, naturally arising, observations as discussed in the next chapter of this study. In particular, digital media, that was utilised in this study, has enabled new ways of listening to and recording children’s communication enabling observations to be recorded, replayed and revisited and the opportunities and challenges this brings will be explored next.

Digital Media and Children

Effectively listening to multimodal communication can be enhanced utilising digital media including photography and audio-visual recordings that enable visual modes to be captured and replayed as necessary. A potential issue with these methods is that children might behave differently when being filmed which is discussed further in the Methodology chapter (p.106). However, young children can be keen to explore these media for themselves. This was illustrated by Flewitt et al (2015) who found that when iPads were introduced to 3-13-year-olds in their educational settings, all the children were keen to use them. Furthermore, evidence that children are adept at using digital media by the age of 3-4 years was offered by Wolfe and Flewitt (2010). Similarly, the children in this study were younger, yet indicated through their play that they too were familiar with these resources.

Another challenge with digital media is that as White (2016, pp.479-80) highlighted, whilst photography can be a useful tool to evidence learning, there are “selective tendencies” in the “contemporary treatment of ‘seeing’ in early years

practice". She argued that photographic evidence has been granted a legitimacy that overlooked how some "practices or behaviours are valued and, thus, deemed to be beautiful by some apparently universal standard which, in light of ontological and metaphysical approaches is narrow and somewhat flawed" (White, 2016, p.480). So, photography can capture evidence of children's skills and knowledge but it is important to consider what assumptions inform the image and which skills have been missed or overlooked by that picture rather than an alternative view. White's (2016, p,485) argument that Heidegger was right to suggest that "the enframement of truths (such as developmental certainties or learning dispositions) mask the ability to 'see' these possibilities or to claim uncertainties of knowing" is useful when considering how best to capture a fuller picture of children's abilities. Because, as Malaguzzi (1920-1994) powerfully explained, children communicate in "a hundred different languages", which to capture and value might necessitate that "the horizon be suspended" to allow the consideration of skills and abilities that lie outside of the remit of formal curricula and developmentalism (White, 2016, p.480). How the EYFS (DfE, 2017a) and related Curriculum Guidance (Early, Education, 2012) influence what skills are noted or potentially overlooked is discussed on pp.29-30. In addition, White highlighted that how children are constructed and understood, depending on underlying assumptions, can allow different skills to flourish or be obscured in both research and practice. This is important because it influences how and which skills are assessed and supported that might mean some skills are inadvertently missed.

What is Seen in Research and Practice

This was noted by Nind et al (2011) whose ethnographic study explored how young children with learning difficulties were understood at home, and in an inclusive and a specialised early years setting. They concluded that crucially the different contexts constructed different understandings of the children which potentially enabled different qualities and competences to become visible. In light of the above, during this study the naturally occurring communication between children was observed in a variety of contexts, underpinned by the assumption that children were competent, skilful communicators, which enabled participants to effectively demonstrate their skills.

Following Nind et al's (2011) evidence that children were constructed differently across settings that potentially enabled individuals to be and be seen differently, maybe children's communication was also understood differently between contexts. As such, how children were constructed might have influenced the communication they used and what was noticed by the adults around them. Flewitt's (2005a) discussed on p.65, found staff perceptions of children's communication skills was influenced by season of birth, friendships and projected school starting age that impacted on differentiation in practice. Autumn-born Michael, described as 'quiet' with potential 'speech delay', was simply encouraged to engage with a range of activities. In contrast, summer-born Tallulah, also described as 'quiet', raised greater concern partly because staff had less time to prepare her for school so employed strategies to encourage talk which included one-to-one and peer support. In addition, she found that staff considered all the children less able and confident communicators than did their mothers. She concluded that children spoke less at playgroup than at home. This finding resonated with Tizard and Hughes (1984) discussed on pp.41-42. Likewise, Wells' (2009) longitudinal study explored children's talk in the home and as they progressed through primary school. He concluded that at home all the children were effectively able to communicate and make meaning. However later assessment found that speech and writing skills were mediated by early home literacy experiences. Similarly, Comber's (2000) observational study, discussed on p.25, found that early literacy development was contingent upon ways of being some children did not have. Consequently, there has also been much discussion about the role of language in school success and why particular groups of children have consistently appeared to perform less well than others as is discussed on pp.41-42. However, if children can communicate at home, perhaps rather than a lack of language, the issue is more about which skills are recognised, encouraged and supported by the education system.

Advances in digital media have enabled data about children's everyday communication to be collected and analysed (Flewitt, 2005a; Peterson, 2017). Garfinkel (1967/1984) argued that ethnography enables attention to be paid to the most commonplace activities in daily life to learn more about them as phenomena in their own right and to reflect upon children's lived experiences that vary across socio-cultural contexts. Utilising these technologies to understand the disparity in

how children's different language skills are interpreted is important at this time because policy initiatives have led to an expansion of the early years sector and an increased focus on assessment as a means of measuring quality and effectiveness.

Timeliness

Consequently, in the early twenty-first century Corsaro (2000) argued that societal changes have meant more mothers now work outside of the home and more young children attending early years settings than in the past. Wells (2009) echoed Corsaro's view arguing that since his Bristol study many more young children are spending less time with family members and much more in early years settings. Likewise, Engdahl (2012, p.84) highlighted that there are rising numbers of children enrolled in Swedish preschools that give young children access to "multiple peers outside of their families". Moreover, as Wells highlighted, the language experiences of children in early years settings are likely different from those of home because the adult:child ratio is different leaving less time for 1:1 interaction but more opportunities for peer interaction. In addition, with increased opportunities for peer interaction, Corsaro argued that early years settings enable children to develop their first understanding of peer culture as discussed on p.57. For these reasons, and with this trend likely to continue following government initiatives to fund more places for 2-year-olds, it was pertinent to consider how young children communicate with their peers in their early years setting.

Summary

The extent of research into the early years has been drawn out in this Literature Review but there is far less among 2-3-year-olds who have been the focus of this study. This is important because policy developments have enabled more children of this age to access early years settings where they have increased opportunities for peer communication making this study timely. Communication is important because it makes thinking visible and accessible to others. The literature and research about language and communication has often emphasised the verbal. Likewise, the learning goals of the Early Years Foundation Stage (DfE, 2017a) and the Curriculum Guidance (Early Education, 2012) focus on verbal language. This is to the detriment of more subtle, yet important, modes that enable young children

to make and share meaning. In contrast this study observed the multimodal peer communication of this age group to create knowledge about how this age group make and share meaning together during different playful activities. Previous research in early years settings has often focused on communication during particular activities, however Flewitt's (2005a) study suggested that different activities and spaces offered different communicative opportunities to children aged 3-4 years. This study aimed to extend Flewitt's findings through observations of younger children across a range of activities to create knowledge about the communicative affordances offered by different materialities. Another issue that emerged from the literature was that how research is conducted and the methods that are used influences the data that is gathered and knowledge generated. The next chapter will consider how ethnography can reveal a far greater range of young children's communication compared to other approaches. This is followed by discussion of the methodology, design and practicalities that shaped this study.

CHAPTER 3: METHODOLOGY

In this chapter the design of this study, including details of how it was undertaken to address the research aim and questions, will be discussed. The research was designed to explore the communication of toddlers in an early years setting and how the affordances that different materialities offer impacted upon children's communicative peer interactions over an academic year. The questions that this study was designed to address were:

1. How do young children communicate with their peers?
2. How does communication vary between activities and contexts?
3. What aspects of children's communication are captured (or missed) by current practices of assessment, and with what consequences?

This study took a socio-cultural approach, informed by Vygotskian theory, similar to that taken by Flewitt (2005a) in her ethnographic study discussed in the Literature Review (p.65). A central tenant of social constructionism, Vygotsky (1962, 1978) argued, was that children learn through participation in activities with a more able other(s). Like Piaget (1978), Vygotsky recognised the importance of the environment and children's actions with materials. This chapter justifies the qualitative, ethnographic methodology selected for the research. The decision to collect multimodal data, that included field notes, audio and visual recordings, was crucial and informed by the work of Kress' (2010, 2014) multimodal approach discussed on pp.51-52.

This chapter then details how this study was planned, the setting, and, reflecting its iterative nature, how plans were altered in response to the ongoing data collection process. Among the ongoing decisions during the data collection period were ethical considerations. Some of these ethical issues including discussion of 'insider' and 'outsider' research (Hellawell, 2006; Corbin Dwyer and Buckle, 2009) and how children's ongoing consent was, as far as possible, ensured are explored. The approach that was taken to data analysis is then discussed before concluding with a consideration of quality and trustworthiness in relation to qualitative research including ethnography such as in this study.

Why Ethnography?

The overall approach was qualitative and emergent underpinned by a social-constructionist perspective that conceptualised children as competent

communicators who created and shared their thoughts and understanding about objects and concepts in their world and what they meant to the individual now.

Silverman (2017) suggested that quantitative research seeks to correlate variables usually to answer 'why' questions, to find out the cause of a phenomenon. In quantitative studies variables are frequently linked to a hypothesis which is tested through methods that attempt to control one or more variable. In contrast, qualitative research seeks to describe what is happening without predefined variables and often the hypothesis emerges, or is generated, by the study. Thus, Silverman argued that 'how' questions are often most appropriately explored through qualitative research. The questions in this study were about 'how' children communicate and the modes used to make and share meaning which only became apparent as the study progressed.

Alderson (2013) argued that studies with children, who, like adults, are themselves active social agents should be informed by a different approach and methodology than that used in the physical sciences. Furthermore, Silverman argued that qualitative methods are most appropriate to explore social phenomena that arise during social interactions. So, a qualitative methodology and an ethnographic paradigm were used to enable study with the children in their particular social setting where the communication was situated. Linguistic data was collected of children's spontaneous naturally occurring peer communication as discussed below (p.95) that enabled hypothesis to emerge over the course of this research.

Describing Ethnography

Mannay and Morgan (2015) described ethnographic research as being focused on the first-hand experiences of people in their everyday, rather than experimental contexts. In ethnography, participants everyday lives are documented in fine detail to produce what Geertz (1993) described as 'thick description'. Geertz (1993, p.10) described the process of doing ethnography as like "trying to read a manuscript in transient examples of shaped behaviour". In this study the aim was to explore children's everyday communication in their peer interactions and to capture the minor, as well as the more obvious, communicative behaviours. This was because, as highlighted by Manning (2016), major actions often overshadow the minor, continually varying, gestures.

Ethnography in Early Years Research

Qualitative research methods include ethnographic observation, but Willis (2007) suggested that, for many years, qualitative research was less valued than quantitative research. However, in a policy brief for the U.S. Department of Education, Adair (2010) argued that understanding the educational experiences of young children might be most effectively achieved through ethnographic studies that generate findings which could effectively inform policy and practice developments. Moreover, Eder and Corsaro (1999) argued that three features of ethnography mean that it is the most relevant methodology when studying children and young people. Their reasons were that ethnography is sustained and engaged; microscopic and holistic; and flexible and self-corrective.

This view was substantiated by Buchbinder et al (2006) who argued that descriptive ethnographic data potentially enabled greater understanding of the developmental, social and cultural processes within early years settings compared to other quantitative methodologies. Furthermore, they suggested that one reason ethnographic methods were particularly useful in the early years was that the researcher/participant relationship fostered an intimate rapport that enabled the researcher(s) to more fully access the world of childhood. This rapport was a strength of this study as discussed on p.77 & 106.

Accessing the everyday experiences of young children is challenging, not least because they often lack the language to adequately explain their thoughts, feelings and ideas. However, Garfinkel (1967/1984, p.1) argued that ethnography involves paying attention to the “most commonplace activities of daily life” according them “the attention usually paid to extraordinary events”. In this study through an ethnographic methodology the everyday activities of young children doing what they do were accorded importance and scrutiny that enabled previously overlooked communication to be noted.

Ethnography and Rapport

Geertz (1993, p.416) argued that essential to ethnography is establishing rapport with participants because “rapport is crucial to access meanings and interpretations of a particular culture”. For Geertz as an outsider, it was crucial to become accepted by the locals, to become an ‘insider’, to effectively collect his data and understand the society in which his study was based. The advantages

and challenges of ‘insider’ and ‘outsider’ research are discussed further below, pp.104-106 & 206-208. For me, as an early years practitioner and key person, ensuring and maintaining rapport and an ongoing, positive relationship with the children was crucial and an essential part of my role. Perhaps, equally important, was establishing relationships with parents/carers. I would have an initial meeting with them before their child joined the room and was then available to parents/carers at drop-off and pick-up times to discuss their child’s welfare including any concerns that might arise, and share their learning journals.

Careful consideration was given to the possibility of including interviews as a data collection tool. The children were aged 2-3 years and interviews were likely to be an unfamiliar and potentially confusing or even intimidating context so enabling their meaningful consent and participation would have been difficult. An alternative option would have been to interview the children’s parents and/or practitioners and this was considered. However, because there was evidence that some children’s communication is overlooked in early years settings as discussed on pp.61-63, and given that the focus of this study was on peer, rather than adult-child communication, interviews with practitioners were arguably unlikely to capture the fullest possible range of communication skills children used. There is evidence that parents report that their children’s communication skills are higher than evidenced by practitioners (Flewitt, 2005a) and that children might communicate more effectively at home than in their setting (Wells, 2009; Tizard and Hughes, 1984). For this reason, the possibility of including interviews with the children’s parents was discussed at length with my supervisors and with managers at the setting. However, at home children are less likely to engage with children of their own age and are more likely to engage in adult-child interactions because in most homes there are fewer children of the same age and a higher adult:child ratio than is typically the case in early years settings. This meant that there was less opportunity for parents to observe children engaged in peer communication in their home environment. In addition, policy in the setting was that practitioners should not visit children in their family home due to concerns around safeguarding and managers advised that whilst they supported this study in the setting, they would not support gathering data in children’s homes.

Another consideration was that, because children are active participants in their own lives and society now as discussed on p.28, it was important to enable

children to participate in the research. Naturalistic observation offered the opportunity to capture children's communication and enable their voice rather than the views of others such as their parents or practitioners. After careful consideration of these issues, interviews were not included in the data, however parents were interested and would talk to me about this study. During these ad hoc conversations parents confirmed that some of the communication captured during observations but previously overlooked in the settings was in line with how they perceived their children at home.

An ethnographic design was used over an academic year where the researcher was embedded in the context, and as an insider was well known to the children, and attempted to be with them on their terms during observations. In this way this study explored the ways children share understanding and make meaning during communicative interactions with their peers and considered how communication varied during different free play activities. Table 2 below summarises the observations that were gathered. In each term a range of activities were observed both inside and outdoors as described on p.96. All of the data was transcribed and analysed to enable a picture of the children's communication over time and to identify recurring themes. However, only a small selection of episodes could be included in the Analysis and Findings chapter that were chosen to illustrate each of the main groups of resources on offer in the setting as discussed on p.119.

Table 2: Data Collected for this Study

Term	**Number of observations**	**Hours of recording**	**Number of children in the room**	**Participants observed with peers**
Term 1	4	2hr 50 mins	16	10
Term 2	4	2hr 34 mins	16	13
Term 3	4	2 hr 33 mins	20	12
Term 4	4	2 hr 7 mins	20	16
Term 5	2	1 hr 23 mins	20	13
Term 6	6	4 hr 21 mins	20	19
TOTAL	24	15 hr 48 mins	16-20 in any session, 29 over the year	27 over the year

Planning this Study

The setting was central to this study because this is where the observations were collected focusing on how children used communication in interaction with each other and different materialities. A detailed description of the toddler room and the materials available to the children follows. Photographs have been included to enhance the description although care has been taken to avoid features that would compromise participant's anonymity. There is then a short consideration of local demographic factors that potentially impact on the families using the setting because research has suggested a link between children's educational attainment and socio-economic factors as discussed in the Literature Review (p.41).

The Setting Where this Study was Based

The context for this study was an early years setting where the researcher was working at the time of the research and had been a practitioner for eight years. The setting, a local authority maintained day nursery as defined on p.9, located in the south east of England, offers places for children in receipt of government funding to access free early years services and places that families could fund privately either to top up their funded hours or, in the case of children aged under 3 years, because they did not meet the criteria to receive government funding.

The Ethos of the Setting

The ethos of any early years setting will be informed by how childhood is constructed and understood as discussed on pp.27-28. In the setting where this study was based children were conceptualised as active participants engaged in exploring their environment. This built on the original open-air nursery, established in the 1930s, which emphasised the importance of the whole environment based on the philosophy of Margaret MacMillan. In this spirit each area has access to an outside space that has been designed to allow free flow between the inside and outside during free play. In addition, all the children have regular access to other larger outside areas. Families are told when they visit the setting for the first time that all the children, across the age range, will have access to the outside environment so will need adequate outdoor clothing. Nevertheless, to ensure the children can access the outdoor environment in all weathers the nursery does keep spare wellington boots and items of outdoor clothing including all in one waterproof outfits for use by the babies (under 24 months).

The Setting Expanded in Response to Changes in Funding

The original nursery, that accommodated pre-school children aged 3-5 years, has been developed over the years. One facet of the Sure Start programme discussed on p.31 was the creation of multi-agency children's centres. Many were designed to incorporate early years settings on site. However, on occasions, local established maintained settings were used and partnerships created between these and the local children's centres. Consequently, the nursery is partnered with the local children's centre and the setting was expanded to accommodate children under 3 years of age in 2005.

Subsequent increased funding has led to a significant increase in applications for places for 2-year-olds in many settings including where this study was focused. This necessitated expansion initially with two toddler rooms and then, in August 2016, locating all the toddlers together in a newly expanded room. Indeed, during the course of this study, the numbers of children attending during observations increased from 16 to 20. The increased funding has enabled many more families from diverse backgrounds to access early years education for their 2-year-olds and another consequence has been the need to increase the capacity of the baby room. Demand for places in the baby room has increased, partly at least, to accommodate the younger siblings of children in the toddler room and support more families, potentially enabling more parents and carers to participate in paid work, another governmental aim discussed on p.16. Consequently, with this age group now representing a greater proportion of the early years population, both within the focus setting and across the sector more widely, this study is pertinent at this time.

Alongside expansion to accommodate increasing numbers of children in the under 3's, in September 2017 the Government introduced funding for 30 hours of free childcare for some 3-year-olds, a substantial increase from the 15 hours that all 3-year-olds are entitled to. Again, this necessitated an increase in the space needed to accommodate more children and respond to governmental initiatives. Consequently, over the summer of 2017 as observations for this study were concluded building work began again to redesign the building and increase classroom space for children aged 3- and 4-years-old.

The Setting as a Place for Children

Early years settings are often thought of as spaces for children, and whilst this is undoubtedly true, as Markstrom and Hallden (2009, p.114) highlighted they are nevertheless institutions "based in the idea that children as members of a collective are supposed to take part in different organised activities". Markstrom and Hallden (2009, p.120) described early years settings as "an institution that has the child's best interests in focus and where routines and curriculum are guided by ideas of what this time of childhood is supposed to be like". Throughout the changes in the physical space in the setting the original ethos of an 'outdoor nursery' has been retained and the outdoor spaces an important resource that have been maintained. This is a real asset in an urban, city centre setting where many families have little or no access to outside space at home. Reflecting this, the nursery prospectus emphasises the importance of children playing and learning outdoors. Parents and carers often cited this as a reason for choosing the nursery that may reflect romantic notions of childhood as discussed on p.28 and the urban location.

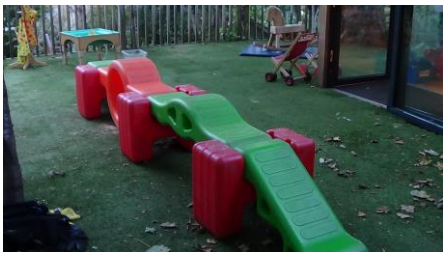

Figure 1
Decked area outside the toddler room

The Toddler Room

The toddler room accommodated the children aged 2-3 years and this was where the observations for this study were collected. Outside the room there was a decked area covered in artificial grass and surrounded by a wooden fence through which the children could see the path to the large grassed area beyond, affectionately known as 'the meadow'. In the other direction there was a gate up to the main nursery building through which the children entered and left with their parents and carers. In the middle of the decked area outside the toddler room was a large tree around which the decking had been constructed. The presence of the tree in the middle of the decking signified one of the setting's salient messages that the outside environment and contact with

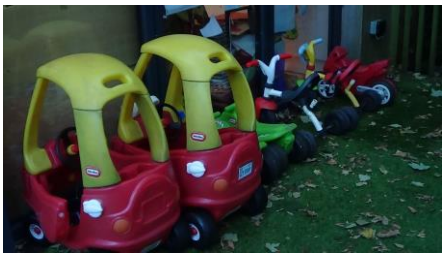

Figure 2
Ride on cars on the decking

natural materials that the children had opportunities to explore are an important aspect of children's early years experiences.

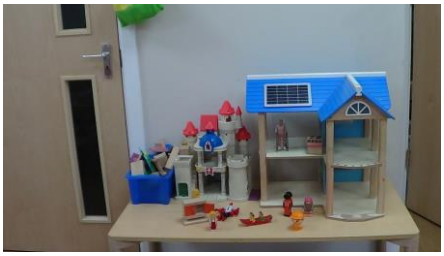

Figure 3
Dolls house, castle and Small-world people

Immediately inside the entrance to the toddler room was shelving for children's belongings. All the furniture was designed for 2-3-year-olds and features small chairs, low tables and equipment that the children could access independently. Inside the door were coat pegs at the children's height. Each child had a photograph of themselves next to their peg so that they were able to identify where to hang and find their belongings. In addition, opposite the coat pegs were units of baskets. Each child had their photograph on a basket in which was kept their spare clothes, art work to go home and any personal items such as small toys, nappies, wipes or sun cream. The room comprised four main areas: book, home, small-world/construction/sensory and art. There was a small adult kitchen area, children's bathroom and nappy change area.

Figure 4
Children's table and chairs

Figure 5
The home corner

The observations were collected during the afternoon each week. The nursery routine and needs of the children meant that during this time approximately half the space was used as an area for children sleeping. The layout of the room with a small doorway connecting two large areas enabled half the space to be sectioned off easily with the awake children able to play in the remaining half in which the main activity areas were arranged.

Resources and Materials in the Toddler Room

Resources in the different areas changed approximately every three weeks reflecting the planning cycle. However, as part of the continuous provision children always had access to the home corner with oven, cupboard and sink; pretend food

and utensils; a box of dressing-up clothes; and basket of soft toys and dolls. The book corner had a rug with cushions for the children to sit on, a bookstand and bookcase with a variety of books. In the book corner there was also a large display board that was positioned so that the children could access the pictures. On this board were photographs attached with Velcro, of the children, their families, homes, pets and people that were significant to them. The Velcro enabled the children to take the photographs on and off the board as they wished so that they could hold or share the pictures of their special people.

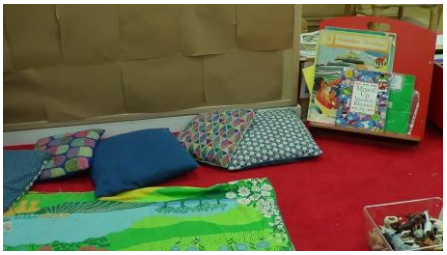

Figure 6
The book area

Children also had access to a variety of small-world, construction, and sensory resources including different sorts of plastic and wooden blocks; small plastic and wooden people and animals; train track, trains and cars; musical instruments; old ITC resources; a feely basket with different textiles; inset puzzles and threading resources. The mark-making area consisted of a sink at adult height and cupboards; children's table and chairs; art materials that children could self-access; a rack for children's work; and an easel with paper and mark-making resources.

Figure 7
ITC, music and sensory resources

On the walls were a visual timetable; displays of children's art and photographs; an information board for families; and children's posters displaying the 'golden rules'. On the decking there were ride-on cars and bikes and other resources that changed reflecting weather conditions, planned activities and the children's current interests, including water play; sand play; books; balls; art and small-world resources.

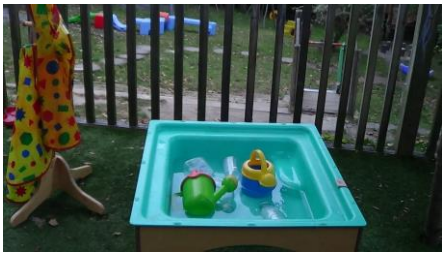

Figure 8
Water play

Practical Arrangements in the Setting

The setting is open 50 weeks of the year, 8am-6pm, and comprises three areas. The youngest children join the baby room from 3 months of age; the toddler room the term after their second birthday and the over 3's the term after their third birthday. Alongside children moving through the rooms as they grow, other children also join the toddler room and over 3's unit, either from other settings or as their first experience of an early years setting. Sessions are 8am-1pm and 1pm-6pm. Within each area there are some children who attend full-time, however most attend for part of the day and/or week. Many factors impact on the hours which individual children attend including what funding they receive, availability of places, and the needs of the family for example parental working hours. The setting is quite large with over a hundred children on site at any time during term time.

The Surrounding Area

The setting is situated in an inner-city urban area characterised by high rise tower blocks providing mostly social housing with little green space and relatively high levels of unemployment, bordering an area with predominantly privately owned town houses and a large city park space. The immediate surrounding area is economically, culturally and ethnically diverse in comparison with the wider locality, hence, there were children from a variety of different socio-cultural and language backgrounds. For example in terms of income, the income deprivation affecting children index (IDACI) measures the proportion of children under the age of 16 years in a local area that live in low income households with the index calculated in local areas described as super output areas (Ministry of Housing, Communities and Local Government, 2019, p2). The IDACI showed that the area where the setting is located is an area of high deprivation. The setting's 2016 summary for Ofsted highlighted that 83% of 2-year-olds living in the catchment area were eligible for funded places under the government scheme discussed on p.31. The socio-economic and cultural diversity of the participants is described in more detail below (pp.86-89).

Families Using the Setting

In the setting there had been an increase in families living in poverty so that as the data was collected for this study 27% of families fell into this category. Poverty was defined in terms of those receiving benefit allowances (child tax credit, income

support or job seekers allowance). In addition, 23% of children aged 3-4 years were in receipt of Pupil Premium which is additional funding available to publicly funded schools and early years settings maintained by local authorities in England that gives schools extra resources to help them meet challenges, including those arising from poverty and deprivation. The Pupil Premium grant is designed to improve the academic outcomes of disadvantaged pupils of all abilities and close the attainment gap between them and their peers. This is pertinent given the link between social class and educational attainment discussed on pp.41-43. In the toddler room some 46% of the children aged 2-3 years were in receipt of funded places. In October 2016, as data collection begun, there were 162 children on role of whom 80 were boys and 82 girls. More than 15 different languages were spoken among the children and 20 children were bilingual for whom English was their second language whilst 28 nationalities and six religions were represented among the families at that time.

Additionally, at that time 28 children had been assessed as having Special Educational Needs (SEN). The Children and Families Act (2014, Section 20:1) defines a child as having SEN if they have a learning difficulty or disability which calls for special educational provision to be made for them that is different or additional to that generally provided. Under the Children and Families Act (2014, Section 20:2) a child in an early years setting is regarded as having SEN if he or she is likely to either have “significantly greater difficulty in learning than the majority of others of the same age” or “has a disability which prevents or hinders him or her from making use of facilities of a kind generally provided for others of the same age in mainstream schools” by the time that they reach compulsory school age at 5 years, or would do so if special educational provision were not made for them in the early years. Thus, at the time of this study there were 28 children in the setting who required some level of differentiated support.

Demography of the Cohort

Among the cohort of this study there were 16 boys and 11 girls. Initially gender was not a factor that featured in the research questions. However, it did emerge as a theme during data collection and analysis as discussed on p.157.12 participants were in receipt of 2-year funding. The cohort also included two children who were learning English as an additional language and seven other children were living in bi – or tri- lingual language environments although English was their first language.

Among the home languages that the children were immersed in were Arabic, Bulgarian, French, Japanese, Italian, Mandarin and Finnish.

Participants

This study was designed to explore young children's peer communication in the toddler room where my role as an early years practitioner was primarily situated as discussed on p.8. Throughout this study pseudonyms are used to maintain anonymity. Consent was sought from the families of all the children who were present during observations. However, because the focus was on how children responded to the materialities, the participants included in each observation was dependent on the children's own choice of activities. The parents of two children opted for their children not to participate in the observations, as discussed in the ethics section below.

Table 3 includes the details of all the children who were present in the room during the observations and who were potential participants. Not all of the participants are included in the observations selected for this study. However, their details are included because they participated in other observations for this study which have been omitted due to the constraints of word count. In addition, all the children formed an important part of the context of the study and the setting within which children were interacting and making meaning. Details in the table include children's ethnicity, family and language background and details of any additional needs that had been identified by other professionals. These details were included because research has suggested the home environment potentially influences how language is used and perceived in educational settings as discussed on pp.41-42 and because if children have been identified as requiring particular support, they potentially face extra challenges communicating with others including their peers. The details in the table were gathered from demographic information that parents/carers were asked to provide when their children joined the setting. These details were checked and amended as necessary to reflect any changes throughout the children's time in the setting. When they joined the setting parents/carers were asked if they were happy for their children to be included in observations undertaken by staff as part of their professional development and training or by students on placement. Nevertheless, specific permission was sought from parents/carers and the children themselves before they participated in this study in line with ethical guidelines as discussed below (pp.98-99 & 101-102).

Table 3: Participants

Participant*	**Ethnicity Categories****	**Additional Information** which includes SEN and bi- trilingual
Karl	Mixed European	Lives with both parents who are both in paid work and has a younger brother. Bilingual.
Rose	White British	Lives with both parents who are both in paid work
Alessandro	Mixed European	Lives with mother, sees father regularly. Mother full time parent, father in paid work Has a younger sister who is close in age Concerns about speech and language and lack of social interaction. Bilingual
Jack	Asian/White British	Lives with both parents who are both in paid work. Has an older brother. Bilingual
Lucien	Asian/White British	Lives with both parents who are both in paid work. Bilingual
Lenny	White British	Lives with both parents who are both in paid work. Has an older brother
Caitlin	White British	Lives with both parents who are both in paid work
Leo	White British	Lives with both parents who are both in paid work. Has a younger sister
Emma	White British	Lives part time with both parents who are separated and both in paid work
Monty	Latino	Lives with mother who is full time parent. No contact with father
Alfie	White British	Lives with both parents. Mother is full time parent, father in paid work. Has an older sister and a disabled twin brother. Initially diagnosed with delayed speech, resolved during the year
Kylie	White British	Lives with mother who is full time parent. No contact with father. Has two older brothers and two older sisters
Elizabeth	White British	Lives with both parents who are both in paid work
Jayesh	Black African/ White British	Lives with mother who is full time parent. Has contact with father not currently in paid work. Has an older brother and sister not living with Jayesh but has regular contact. Initial concerns around speech and language, resolved during the year
Evelyn	White British	Lives with both parents. Mother full time parent and is disabled, father in paid work. Has an older brother

Participant*	Ethnicity Categories**	Additional Information which includes SEN and bi- trilingual
Saul	French/ Black African	Lives with both parents. Mother full time parent, father in paid work. Has an older brother on the autistic spectrum. Saul also diagnosed on autistic spectrum during the year, has 1:1 support and regular visits from speech therapists and Local SEN service. Trilingual
Edna	White British	Lives with both parents who are in paid work
Luigi	Mixed European	Lives with both parents who are both in paid work. Has a younger sister. Bilingual
Mustapha	Arabic	Lives with both parents. Mother full time parent, father in paid work. Has two older sisters. English as an additional language
Arthur	White British	Lives with both parents who are both in paid work. Has an older brother
Eleanor	White British	Lives with both parents who are both in paid work
Noah	White British	Lives with both parents who are both in paid work. Has a younger brother
Alice	White British	Lives mother who is full time parent. No contact with father. Has a younger brother
Harvey	White British/ American	Lives with mother who is in paid work, father died when Harvey was a baby
Tabitha	White British	Lives with both parents who are both in paid work. Has a younger brother
Yasir	Arabic/Black African	Lives with both parents. Mother full time parent, father in paid work. Has a younger brother. Concerns about little verbal communication in home languages or English. English as an additional language
Erica	Mixed European	Lives with both parents who are both in paid work. Bilingual

*All names have been changed to retain anonymity

** Parents self-reported ethnicity. Examples: White British, White Eastern European, Pakistani, White and Black Caribbean

Staffing in the Toddler Room

In the toddler room the legal ratio for children aged 2-3 years was one adult to every four children. Consequently, during the time that observations took place initially there were two practitioners and two assistants in the room which increased to three assistants in January. All regular staff team members were qualified to NVQ Level 2 or above. Additionally, there was initially one and latterly

two children who had been assessed by the local specialist services as having special educational needs that necessitated support from a 1:1 assistant. At times, due to staff absence, supply staff were required to work in the room. These came from a local agency that specialised in providing staff on a casual basis to local educational settings. Agency staff had a wide variety of qualifications and/or experience ranging from no early years qualifications or experience to individuals with early years teaching qualifications and many years' working in the sector.

Like many settings recruiting and retaining a well-qualified staff team was an ongoing challenge and this issue is explored further on pp.198-199. During the year in which this study was conducted there was an unusually high turnover of staff in the toddler room which sometimes necessitated the use of a high level of supply staff. This in turn meant that as a regular staff member, familiar to the children and families, although I was not in ratio during the time I observed, at times I was called on by staff, parents/carers or the children themselves which was sometimes a challenge that had to be sensitively managed on an individual basis. All staff including supply staff held current DBS checks which are carried out by the Disclosure and Barring Service. DBS checks enable employers to check the criminal records of current and potential employees to ensure they are suitable to work with vulnerable adults and children. The EYFS (DfE, 2017a, p.18) states that it is a legal requirement that all settings registered with Ofsted obtain enhanced criminal reference checks for all staff. An enhanced check searches the applicants' criminal history for any cautions, warnings, reprimands and convictions (both spent and unspent) and searches the barred lists to check whether the applicant is barred from working with children or vulnerable adults.

Decisions About How to Document the Observations

Having decided where and who to observe the next decision was what data would be needed and how to collect it. An important aim was that the data should capture children's communication that as Clark (2005, p.491) argued included the "many different verbal and non-verbal" modes according to the individual's choices. Flewitt (2006, p.27) argued that spoken language had been prioritised in studies because nonverbal communication had been regarded as "problematic for data collection and analysis and ancillary to learning". Furthermore, Flewitt

suggested that combining different modes of data, written, audio and visual, presented the researcher with practical, ethical and methodological challenges.

Options for Collecting Observational Data

One possibility was to make only written notes on the children's communication during observations. Some years ago this would have been the only practical option, however with technological advances it has become possible to make audio and visual recordings far more easily and with minimal disruption to participants. Field notes alone risked missing some communicative behaviours, not being able to write fast enough or focused on one aspect for example a child's facial gestures and overlooking the detail of what they or another child said or did. This was important because as Manning (2003) highlighted encounters are best described in terms of multiplicity rather than one dimension. Another option was to supplement the field notes with an audio recording but this would only capture children's vocalisations, similarly photographs or video would capture visual non-verbal communication but not vocalisations. Another possibility was to use an audio-video recorder and not field notes however, whilst this would have captured children's communicative behaviours, it would not have been possible to consider wider contextual factors that impacted on children's choices on where and with what to interact during their communicative peer interactions.

The Decision to Collect Multimodal Data

These dilemmas led to consideration of a multimodal approach to data collection as discussed in the Literature Review (pp.50-52). Dicks et al (2011) argued that there are tensions in combining the relatively new approach of multimodality with more established research traditions such as ethnography. Nevertheless, they concluded that multimodality and ethnography can be of benefit to each other and that the two approaches can be "fruitfully brought together".

Taylor (2014) used multimodal data including observational notes and video data to explore the modes other than language that children used to communicate, and to construct and present knowledge and understanding. The participants in Taylor's study were older than this current cohort, nevertheless the research effectively explored similar issues and questions using a broadly ethnographic multimodal approach in an educational setting as discussed on p.52. Thus, to

enable as full a picture as possible of the ways children interacted and communicated with each other, and the many potential socio-material and contextual influences, it was decided to collect multimodal data combining field notes, audio and visual recordings.

Discussing the usefulness of a multimodal approach with young children, Schooner (2012, p.461) argued that in early years settings “a lack of speech competencies is rather the normal case for most children”. Moreover, whilst many of the children observed did have considerable spoken language skills, they often chose to use other modes to communicate with their peers. Schooner used an ethnographic multimodal approach that enabled him to ‘listen’ to the different ‘voices’ of children that included crying and screaming sounds; shouting and calling sounds; and cheering and claiming sounds. Another factor in collecting multimodal data was that this approach was particularly pertinent in relation to the possibility of enabling all the children to participate in this study. Because children leave and join early years settings throughout the year it was impossible to predict in advance what the different abilities of the children throughout the academic year might be and I was conscious that I did not want vocal ability or skill to be a prerequisite for inclusion.

Promoting Inclusion

Furthermore, Bath (2013, pp.362-363) argued that when considering research with children, a complication is listening to “young and disabled children who may be non-verbal”. This view was substantiated by Bucknall (2014) who highlighted that hearing the voices of those with language impairments and the very young is not always easy. Bath (2013, pp.362-363) suggested that an “inclusive approach to listening embraces diverse expressions of collective ideas and opens the field to multimodal approaches to listening”. Indeed, Pink’s multisensory research (2009) led her to argue that any social encounter, regardless of any potential (dis)ability or differences in learning, is a ‘multisensorial’ experience including all the senses, because human perception is multimodal. Thus, multimodal data could incorporate many elements, some of which were captured more effectively by field notes and others on the audio and/or visual recordings.

Capturing Contextualised Communication

According to Kress (2010) whatever mode is used there are some principles used by all cultures as they make and share representational signs. He argued that signs are motivated conjunctions of form and meaning based on the interest of the sign maker and the culturally available resources. So, at the start of each observation the general layout of the room was noted and the location of the children; their mood, for example settled, excited, mostly inside or outside; the weather conditions including the warmth; and the adults working in the room that day. The general layout communicated messages on different levels. In a broad sense the small furniture and child height pegs suggested this was a space used by small children. On the displays were examples of children's artwork and photographs of events and everyday life at the nursery which carried messages about the ethos and values of this particular place for children.

Sensual Data

The weather and temperature had a direct impact on what the children had access to as well as their activity choices which would have been missed on the audio-visual recordings and was added to the notes as discussed above. For example, on 9th March it was noted that the weather was warm and sunny which meant that the door between the inside and outdoor environment was able to be open throughout the observation without the room becoming cold. Consequently, the children had free-flow access between indoors and outdoors and did not need to find their outdoor clothes or require assistance to dress to go out, thus, could move easily and freely between the two spaces. This might have had an impact on the children's choice to play outside and enjoy the spring warmth.

Others have noted the importance of smell as evocative (Robynlong 2208, 2017). Whilst I agree that smell can instantly bring back a memory of long ago, I found it hard to describe the smell of the toddler room yet it was often a feature noted by others. Frequently others coming into the space would comment variously on how in the mornings that it smelled "welcoming" and "lovely" as the toast was made (and occasionally burnt!) for the children's breakfast. This lack of awareness of the smells in the room may have illustrated one of the disadvantages of 'insider research' and an advantage of being an outsider discussed on p.104. Being so accustomed to the smells in the room, I no longer noticed them yet to others who

were less accustomed, perhaps more ‘outsider’, the scent was often a cause for comment.

Data Collection Tools

The decision to utilise a multimodal approach as discussed on pp.90-91 was key to capture a greater range of children’s non-verbal communication. This necessitated a combination of data collection tools.

Flewitt (2005a) and Cremin et al (2018) used a combination of data collection methods including audio-visual recordings and field notes to explore the ways children used communication in their early years setting and at home. Furthermore, whilst Engdahl’s (2012) study focused on young children’s friendships rather than communication itself, she too combined participatory observation with video recordings, photographs and field notes. Similarly, this study used field notes, audio and visual recording as a means of capturing both a description of the wider socio-cultural classroom environment and a greater level of detail of some interactions than one method alone might have potentially afforded. Flewitt (2005a, p.29 & 30) argued that such a multimodal approach could enable a mosaic of data and permit a “multilevel analysis” that could facilitate a focus both on how individual children communicated in different modes with different people and in different activities at a particular moment and “pan out” for a wider perspective observing children over time and across the setting.

Likewise in this study field notes were used to record contextual information with still photographs added to enhance the written descriptions, illustrated in the section describing the exemplars (pp.122-153). Given that materialities were central to this study it was important that these were accurately represented. Because, at times, it was difficult to describe particular artefacts, photographs were also used to enhance illustrative descriptions and some of these are included in the findings and analysis chapter. Then there was the communication that was the focus of this study which comprised both speech and visuals in terms of gesture, action and eye gaze.

Capturing multimodal communication was difficult using only field notes as sometimes whilst writing about what one child was doing something else would be missed, for example, another child’s shift in gaze. This was addressed by using a small hand-held camera that also recorded sound mounted onto a tripod was

placed, using the nursery furniture, so that it was focused on the observation area. During the first set of observations a hand-held sound recorder was also used, however this was dropped in subsequent observations because the quality of sound on the video camera was such that it captured the children's verbal communication. The audio and visual data generated was invaluable enabling episodes of play to be revisited many times and, at times, analysed second by second to build a fuller, more accurate picture of the children's peer interactions.

What the Camera 'Sees'

Although the camera was a useful tool in data collection, as White (2016, p.475) reminded us, whilst the use of the camera as a tool has magnified the opportunities to capture data, it has simultaneously magnified the "tensions for research and practice in 'seeing'" within early childhood education. The use of photography in early years research has certainly increased over time as technological advances have made equipment more accessible and less intrusive and was an integral part of data collection as discussed above.

However, there are important ethical considerations about the use of photography and other media and how to balance the requirement to evidence learning with children's rights and needs. Lindgren (2012) highlighted that in using digital technology the needs of the adults might be prioritised over the needs of the child. She made the point that adults in early years settings often take photographs of children without asking them for consent. This might make children feel uncomfortable and accentuates asymmetrical power relationships between adults, including researchers, and young children. To address this issue, during this study, the children were asked for their consent to be observed and monitored throughout for any sign that they might be uncomfortable about participating as discussed in the ethics section (pp.101-102).

Another issue raised by Lindgren was that visual technology is often used uncritically and potentially presents a barrier. This was illustrated by another blogger in Lindgren's (2012, p.337) study who commented that the (over)use of the camera often meant that she felt that she "missed something when I have the camera between myself and the children".

Whilst photography and visual data need to be thought about carefully and reflectively, they are potentially useful. Furthermore, children themselves are now

also sometimes involved in capturing images as data using, for example Clark's (2005) Mosaic approach, that arguably enables young children to have a voice, or as Smidt (2013, p.50) described it, as "visible listening". Nevertheless, White (2016, p.478) argued that photographic data is often treated as objective, revealing 'truth' whilst inevitably what is selected, how it is framed, and as with any other research data, how it is analysed "depends on the researchers' orientation". Her contention that the photograph is far from neutral because it can be seen, and interpreted, in many different ways, resonated with Haraway's (1991) argument that all 'truths' are a social construction. Arguably, combining multimodal data potentially added other perspectives, for example field notes contextualised the narrower focus of audio and visual data. However, it still remained that, as for any data or supposed evidence, there were multiple possible interpretations.

Planning When to Observe

It was planned to collect data through observations in the toddler room at the same time each week for 45 minutes during free play on 24 occasions over the academic year 2016/17. Observing on the same day and time each week maximised the opportunities to observe the same children and, thus enable a rich picture and analysis of their communicative behaviours to emerge and develop over time.

Another advantage to observing at the same time each week was to minimise the risk of any points arising in the analysis being attributable to variations in timing or when the routine was significantly different. By observing during free play after the children were mostly settled, avoided times of transition such as drop-off or pick-up or when activities were being set up or put away, so that children were predominantly relaxed and had the most opportunity to play and interact in activities and with others of their choosing. Nevertheless because of the flexible nature of early years education and care, sometimes children did arrive or leave during observations either with their parent/carer or when moving around the setting with staff.

Considering Material Resources

When thinking about what to observe, I reflected upon how during earlier observations the children's communication style appeared to be influenced by the materials available to them. From a socio-material perspective Fenwick et al

(2011) argued that materials, including tools, actions, objects and discourses, are entangled in how meaning and communication are constructed and not separate from it. Thus, rather than focusing on a particular child(ren) the communication style and practices of all the children who chose to engage with particular materials and activities was observed and the communication across different playful contexts compared.

Another advantage of this approach was that it enabled all the children to participate rather than focusing on a select few and minimised the impact of children moving to another room or different nursery and their places being taken by different children. Initially it was planned to use naturalistic observation with a group of eight children aged 2-3 years. However, the newly expanded toddler room accommodated 16, and then from the January 20, children in each session. This larger class size significantly increased the cohort, but aside from a significant increase in the consent process, was a fairly straight forward adjustment, and afforded many more potential opportunities for peer interaction that contributed to the richness of the data captured.

Planning What to Observe

Following a broadly socio-cultural approach and thinking about how children interacted with different objects, as well as each other, there were a variety of different activities and materials provided in the toddler room. In the room at any time there were areas described on pp.82-83 focusing on literacy; understanding of the world; pretend play; mark-making and expressive development; mathematics; and outside play that could potentially be set up with any activity from inside as well as offering the space for children to practice physical large motor skills. Each activity had a learning goal related to the EYFS and Curriculum Guidance. However, within any activity the children could potentially engage in many types of learning across the curriculum and were encouraged to add resources or change what had been set up according to their needs and interests on that day. Initially it was planned to observe in a different area each week for the full observation time. The aim was to ensure that the data covered the main areas of activity available in the room and to include outside observations. However, in practice this plan was changed and a more iterative approach taken as discussed below, pp.108-109.

Ethics

Ethical considerations were an integral part of the design and, in line with British Education Research Association's (BERA) (2011) guidelines, ethical issues were a consideration throughout the planning, data collection and reporting process. The overall intention of this study was to have no harmful impact on participants. However, an aim of all doctoral research is inevitably adult gain. Nevertheless, Fraser et al (2014, p.42) argued that research with children "helps us to understand their lives". So, the results of this study potentially form the basis for discussion with other practitioners and academics about what this research might show, and how it might contribute, to rethinking early years practice to support the learning and development of young children. Thus, there was a potential ethical benefit in terms of knowledge production.

This study focused on the communication skills of children aged 2-3 years old. Because of their age participants were a vulnerable group potentially limited the extent to which they could be expected to understand or agree to participate in this study (BERA, 2011). This meant that approval was needed from the University of Brighton College Research Ethics Committee at Tier Two. Gabb (2010) suggested that one of the potential advantages of ethics panels and ethical guidelines is that they can alert researchers to previously overlooked potential issues and challenges and that, for her, this included refocussing attention on the sensitivity of her subject to which she felt she had become somewhat desensitised through over-familiarity.

Initially an extensive form was completed which proved thought provoking, especially when thinking around how to manage relationships with colleagues and the families with whom I worked when undertaking a researcher role. However, whilst the process of obtaining ethical approval was useful, as Morrow and Richards (1996, p.95) highlighted researchers need to be continually aware that "ethical considerations are ongoing, and that ethical dilemmas may arise at any stage of the research". Reflecting this argument and BERAs guidelines, the ethical approach was iterative and responsive to the unfolding research process and sensitive to the ongoing and differing needs of the participants, their families and my colleagues.

Access and Consent

Consent was needed from Managers as the gatekeepers in the setting and was secured before potential participants and their families were approached. The setting's child protection and health and safety policies and procedures which were in line with the requirements set out in the EYFS (DfE, 2017a), were adopted and adhered to throughout this study.

In terms of safeguarding, as a practitioner I had a current enhanced DBS clearance as discussed on p.89. In addition, as part of the application for ethical approval, consideration was given as to the limits of confidentiality in terms of safeguarding participants and with consideration to BERA. Thus, it was agreed with the setting and the university that, in the event that a child, parent or carer had revealed something of concern during this study, the setting's child protection policy would be followed and the designated person contacted following the same process as for any disclosure of a safeguarding nature made within the setting. Similarly, because there was always the possibility of observing bad practice, it was agreed and clearly stated in the consent form for practitioners, that in the unlikely event of an incident of serious possible or actual harm of any kind being suspected or witnessed during observations then, "this would be reported and access to the data given to the designated authorities. Procedures would follow standard child protection and/or whistle blowing policy" (Practitioner Consent Form, Appendix 1, pp.235-236).

Parental Consent

The question of who would participate in this study was challenging because children were being observed in their naturalistic setting, doing what they do so everyone in the room during data collection would potentially, but not necessarily, be invited to participate depending on their activity choices. After consideration, the parents/carers of all the children who might be present during observations were given an information sheet and asked for consent. This enabled me to observe the communication of all children whose parents had consented and who themselves consented to participate.

Parents' reactions to the study varied. Many said "That's fine. Where do I sign?" However, I always insisted that parents/carers take away the information and had at least a day to consider their decision before they signed the consent form. Other

parents/carers expressed surprise that a practitioner would be undertaking a PhD with one parent asking if it was like an NVQ Level 1. It was explained that it was similar in that it was focused on the children and improving my skills and knowledge as a practitioner. There was one unexpectedly challenging issue that arose in that a parent did not believe a practitioner could be doing a PhD and questioned why someone would work in such a role and undertake that level of study. In reply it was explained that the field was of interest and this study could potentially contribute to knowledge about the many ways young children communicate with their peers so that practitioners, including the researcher, might better appreciate and celebrate the children's skilful communicative behaviours. The parent concerned replied that he did not believe this and thought it was a lie because "no one doing your job would do a PhD". It was explained that it was the truth and he was welcome to contact the supervisor or the University of Brighton if he wanted further clarification and that, of course, it was entirely his decision whether or not he allowed his son to participate. The next time the child was in the parent asked another member of staff for a consent form which he filled in and returned without further comment.

Less dramatically but echoing similar beliefs, much later in the summer I was giving feedback to another parent about their child's day at nursery. The parent looked and said "aren't you the one doing a PhD?" and when I said "yes", he replied "then why are you still doing this job working with the children?". I explained that I enjoyed my work with the children and he shook his head, smiling, and left.

These comments about the perceived incongruity of an early years practitioner, based in a nursery environment, undertaking doctoral study revealed something about the way that nursery workers are constructed and the underlying assumptions as discussed on p.198. It was, perhaps misguided, assumptions such as these about the nature and homogeneity of early year practitioners, that led some parents to question my roles as both a PhD research student and an early years practitioner.

Where parents/carers did not wish their child to participate these children were not observed. Likewise, they were not included in any notes or transcribed data from

audio and/or visual recordings in line with BERAs guidelines. In total 29 families were given information about the project of whom 27 eventually participated.

Children as Participants

Participants were children aged 2-3 years who were actively involved in their communities, including the setting where this study was based, as social actors. Children had with their own experiences and understandings which were shared and constructed with others. Christensen and Prout (2002) highlighted that conceptualising children as social actors means ethical considerations are likely to be more complex with greater scope for ethical dilemmas and new responsibilities for researchers. To address this, they suggested that ethical considerations be informed by what they termed ‘ethical symmetry’. They used this term to mean that the researcher starts with the view that the ethical relationship between themself and the participant is the same whether participants are adults or children. This is not to deny that in any context there will not be power inequalities. For example, Christensen and Prout highlighted that for many young children surveillance is part of their everyday social reality that has arguably intensified in recent years.

In terms of ethical considerations Flewitt and Ang (2020, pp.32-33) suggested that a framework incorporating four elements: individual moral values, ethics codes of practice, professional guidelines and disciplinary norms; legal regulations; and ethical assumptions which include how participants are conceptualised. Two of the factors in their framework focus on rules and regulations that must be met. However, Christensen and Prout argued that rules are inflexible and unresponsive to new or unforeseen situations and can easily become simply a routine that is followed at any cost. Nevertheless, there are guidelines or rules that must be met but as Flewitt and Ang’s framework suggested these are only one component that inform the resolution of ethical dilemmas that requires ongoing reflexivity.

Arguably, an ethnographic methodology can support a reflexive approach to ethical considerations. Eder and Corsaro (1999) argued that the sustained engagement in children’s lives that characterises ethnography enables the researcher to more effectively address ethical dilemmas as they arise. However, Christensen and Prout (2002, p.489) suggested that whilst reflexivity is important it can risk an “idiosyncratic approach”. They argued that the most effective way to approach ethical issues is through combining an approach that follows regulations

and codes of practice with sensitive reflexivity which was reflected in Flewitt and Ang's framework described above.

In terms of rules and guidance relating to children as research participants the UNCRC (1989) was useful alongside BERA (2011). The latter guidance advised that consent for children to participate in this study should be sought from those responsible for their welfare, their parents and/or carers, which was a requirement also highlighted by Flewitt and Ang. Reflecting on this issue Morrow and Richards (1996, p.94) argued that in the UK consent is usually taken to mean consent from parents or those with parental authority thus seeming, in this respect, to conceptualise children as "their parents' property, devoid of the right to say no to research". However, whilst parental consent is crucial, Morrow and Richards (1996, p.100) continued the notion that children somehow belong to their parents should be reconceptualised, so they argued that children should be understood as "subjects comparable with adults" just "possessing different competencies and abilities".

Likewise, the UNCRC provides that children are treated as fellow human beings whose views and autonomous status should be recognised and considered. Christensen and Prout (2002, p.493) highlighted that this means "It is no longer sufficient or legitimate, therefore, to say that children are 'too little or too young' to understand and to have a say in decisions concerning themselves". This argument is reflected by Flewitt and Ang who argued that researchers should seek young children's personal consent in addition to that of their parents/carers.

Sometimes children's consent is described as 'assent' because unlike parental consent it is not legally binding. However, Flewitt and Ang (2020, p.46) argued that this distinction can be seen as belittling children's right to make informed decisions about their own lives. Following this argument, children's consent was also sought because they had a right to express their opinions and to "be consulted and taken account of" so that they could "challenge decisions made on their behalf" (Morrow and Richards, 1996, p.91; UNCRC, 1989; MacNaughton et al, 2007; BERA, 2011).

Negotiating Children's Ongoing Consent

Flewitt and Ang highlighted that gaining informed consent from young children can be particularly challenging as, like many adults, they may not have a clear

understanding of what research is. All participants interpret the information they are given about a study and construct knowledge to make decisions based on their interpretations. This means it is important to give children information that they are able to access, interpret and understand. Flewitt and Ang suggested that to help young children understand what the term ‘research’ might mean it is useful to introduce the children to any recording equipment and give them time to explore it. In this study before each observation the children were asked if it was okay for me to watch them play, sometimes using Makaton to accompany the words, as was appropriate to the individuals involved. They were also shown the camera and the audio recorder and were able to experiment turning the equipment on and off, looking at the images of themselves and their friends on the screen and listening to the audio recordings and this was an activity that continued throughout the year.

Flewitt and Ang also highlighted that it is important not to assume ongoing consent but rather to attend closely to children’s willingness and be responsive to any sign that children may not wish to take part. The researcher can then either renegotiate consent or reassure the child that it is fine to withdraw. To address this issue, in her study Lyttleton-Smith (2015) sought ongoing, ‘provisional consent’ from the children and monitored their reactions and behaviour for signs of unease or discomfort, reflexively responding to the children’s contextual needs and wishes. Similarly in this study, although children were used to being filmed as part of ongoing, regular assessments, they were monitored throughout observations for any sign they wished to withdraw their consent or were in any way uncomfortable or bothered by recording, in which case observations and/or recordings would have ceased. In addition, one advantage of being an ‘insider’ as discussed below, was that, as a practitioner, I knew the children very well, thus was in a good position to monitor for any signs that they were in any way uncomfortable or unhappy with the observations.

Often the children would notice that I had a pad of paper and a pen on my lap and would ask what I was doing. When this happened, I would explain that I was interested in them and ask if it would be okay if I watched them and took some pictures of them playing. Sometimes the children wanted to know why I wanted to watch them in which case we would talk and I would respond openly to their questions at a level they could understand. At other times the children smiled or

continued to play as before, simply glancing at me when I spoke, which I took as an indication that they did not mind.

Occasionally one of the children would be intrigued and want to make marks on my paper or would ask if they could have a piece of paper from my pad. At these times I always agreed to the children's requests because I felt that as they were allowing me the privilege of observing their world, then it was right that I allowed the children to explore and share my resources if they wished.

Practitioners as Participants

Given the ethnographic nature of this study, as well as the children it was possible that practitioners interacting with the children might also be observed as part of this study and, thus, were also potential participants. Consequently, in early September 2016 all practitioners who were regularly working in the toddler room were given an information sheet about this project and it was discussed at a staff meeting where it was stressed that the decision to participate was entirely voluntary and that practitioners and/or children could withdraw at any time. Everyone was encouraged to ask questions and talk to me, the head teacher or the contacts on the information sheet if they had any concerns. As the year went by some staff left and as new members joined the team the project was explained to them, information given and their consent sought. Throughout the year all the staff were happy to participate.

Careful consideration was given to how potential participants can be reassured that non-participation was acceptable and that consent could be withdrawn at any time. This was particularly important because the researcher was a practitioner in the setting and consequently participants, families and practitioners, might feel obliged or under pressure to participate. These issues were addressed in the process of ethical approval, emphasised in the design of the information sheets and consent forms, and during this study through ongoing and open dialogue.

Nevertheless, had anyone wanted to withdraw consent during the course of this study then no more data would have been collected involving their child and, if the parents/carers wished, all data pertaining to their child would have been removed from transcripts and written notes. Similarly, had any practitioners wanted to withdraw consent then no further notes would have been made of their interactions with children and, if they wished, all data pertaining to them would have been

removed from transcripts and written notes. However, whilst the wishes of participants and their families were respected at all times, the information sheet (Appendix 2, pp.237-238) made clear that the research would continue. Whilst I tried to avoid videoing children who were not participants, it was possible that they would wander into shot or be on previously recorded audio-visual data given the naturalistic nature of the research in which case the individual concerned was omitted from transcriptions so not included in this study.

The process of gaining ethical approval raised some interesting issues that were addressed, both through the process, and then iteratively as the research unfolded in practice. One of the ongoing issues was that of the researcher being a practitioner and the advantages, tensions and risks that the dual role and 'insider' research perhaps inevitably raised and these will now be discussed.

'Insider' Research

Merton (1972) defined a research insider as someone who possesses intimate knowledge of the community in question and its members. Following this description, I definitely was an insider having worked in the setting where this study was based for some years. Hellawell (2006) drew on the work of Merton and suggested that, traditionally, outsider research has been extolled as a means to gain objective knowledge. However, Hellawell (2006, p.487) contended that ideally the researcher "should be both inside and outside the perceptions of the 'researched'", whilst Hammersley (1993) argued that researchers need both empathy and alienation. Furthermore, Corbin Dwyer and Buckle (2009) suggested that being an insider did not unduly negatively influence the research process nor did one necessarily need to be a member of the group studied to appreciate and accurately represent participant's experience. Instead. they argued that rather than insider or outsider status what was crucial was the ability to be "open, authentic, honest, deeply interested in the experience of one's participants, and committed to accurately and adequately representing their experience" (Corbin Dwyer and Buckle, 2009, p.59). So maybe both insider and outsider research have advantages, and both Hellawell and Corbin Dwyer and Buckle then argued that the differentiation is not as clear cut as might be assumed.

‘Insider’ and ‘Outsider’

O’Reilly (2012) argued that ‘Insider’ ethnography is undertaken in familiar settings and that, to some extent, all ethnographers are both outsiders and insiders. Hence, Corbin Dwyer and Buckle highlighted that membership of a group did not mean sameness, nor did non-membership mean complete difference. So, as a practitioner, some common experiences were shared with colleagues and, to a lesser extent, with the children in the setting, but equally, each individual will have different experiences and bring new perspectives.

The Concept of ‘Insider’ and ‘Outsider’ on a ‘Researcher Continuum’

Reflecting discussion on how far researchers can ever be defined as completely ‘inside’ or ‘outside’ the process, Corbin Dwyer and Buckle (2009, p.61) argued that, as researchers, we can only ever “occupy the space between.. with the costs and benefits this status affords”. Further reflection on the notion that researchers occupy a space that is between the extremes of ‘inside’ or ‘outsider’ has led some (Le Gallais, 2003, 2008; Hellawell, 2006) to propose a ‘researcher continuum’ as a way to reflect upon and value the strengths and challenges of, often subtly varying degrees, of insider/outsider research status. Thus, Hellawell suggested that in any study there are elements of insiderness and outsiderness. In relation to this study as a practitioner I was an insider, but simultaneously as a PhD student and the only one of my colleagues actively involved in university study at that time, in other ways very much an outsider.

Advantages of ‘Insider’ Research

Discussing the advantages of insider research Hellawell (2006) argued that the familiarity with the setting offered the possibility of enhanced rapport and communication and the ability to gauge the honesty and accuracy of responses. Similarly, Corbin Dwyer and Buckle (2009, p.58) argued that the position of insider often allowed researchers more “rapid and complete acceptance by their participants”.

Observer, Participant or Both?

The aim was to observe as unobtrusively as possible to capture children’s peer communication and whenever possible I observed quietly sitting on the floor at the children’s level. However, at times I took more of a ‘participant observer’ role when

asked by the children to join their activities. Likewise, in terms of responding to the children's requests, I always tried to ensure their needs and wishes were met by other staff on duty. However, if a child particularly wanted my attention, I would give it to maintain our ongoing, open, trusting relationships.

Managing Relationships with Participants

The issue of building and managing relationships with young participants was highlighted by Lyttleton-Smith (2015) when she was preparing for her ethnographic study with children in a nursery class. Before formally beginning her research Lyttleton-Smith needed to spend time in the school establishing relationships. One of the important advantages of being an 'insider' in this study was that relationships with the children who would potentially participate were already established. This was pertinent because frequently, when outsiders came to observe in the nursery, children would behave differently. For example, speech therapists would come to observe a child who often made lots of vocalisations, and then when observed the child was silent, or a physiotherapist who came to observe but the child only walked when the observer left. 2-3-year-olds are often highly sensitive to change and as an insider, I hoped that my familiar presence would have limited impact on their behaviour and this was born out in the data which often seemed to seamlessly fit into the ongoing activity in the room.

The Reality of Observing

The Advantages of Combing Data Collection Tools

Arguably the use of different data collection tools that captured various modes of communication enabled a greater inclusion as discussed on p.91. This was an advantage of visual methodologies highlighted by Wall (2017) and Blaisdell et al (2019) who argued that the visual element of their research provided a medium through which some children were enabled to have a 'voice' which might otherwise have been missed or unheard. They contended, visual methodologies promoted the voices of a wider sample and enabled greater participation and representation particularly among the youngest children who were aged 4 years. Blaisdell et al acknowledged that visual methodologies bring ethical challenges, for example in terms of the role of adults and how far they influence the process and data that is produced. Nevertheless, they concluded that the visual did help the youngest children to think and communicate their perspectives and was a strength of their

project discussed on pp.52-53. Similarly, the use of the visual enabled children's communication that might have otherwise been missed to be foregrounded in this study.

In practice, the decision to collect field notes, audio and visual data proved useful, particularly in terms of gaze and noticing how some children watched others before beginning to copy and then join in with play. This was illustrated when the children were playing outside in March as discussed on p.128, In the field notes it was noted that Alessandro was watching some seventeen times and whilst he appeared to feature, the main actors appeared to be Lenny and Leo. In the narrative form of the observation there were notes about the children's verbal communication and the main actions that the children made as they engaged with the cars and ramps. However, the audio-visual data enabled the gathering of much finer detail and could be replayed multiple times to look at different children second by second. This revealed that Alessandro was very much more engaged from the beginning, initially using gaze and facial gestures, than was evident through the field notes alone. Likewise, in the transcriptions of other observations the columns for gaze and action were always more populated than that for verbal talk and this is reflected in the Analysis and Findings and Discussion chapters of this study.

Data Collection Tools were Adjusted

As the study progressed, tools were altered in response to the reality of data collection which reflected the experiences of Flewitt (2005b). Sometimes it was difficult to adequately describe particular resources and so photographs of these materials were added to the data collected. Additionally, it was noted when the children had been showing particular interests in the preceding week which were then sometimes reflected in their spontaneous peer play. For example, during term three the children had been showing an interest in going on journeys and often chose to collect bags and then pretend to go on a car, train or plane journey. This was then reflected at the end of my observation of 19th January when Lenny and Jack line up chairs to be "an aeroplane" (Lenny, 19/1/17). These descriptions provided a useful back drop to the more detailed focus of the audio and visual recordings.

Ensuring Sound Recordings were Adequate

Initially a hand-held audio recorder was used alongside the camera to ensure verbal communication was captured accurately. However, after downloading the first set of observations there was nothing from the additional sound recording which had been missed on the audio-visual data from the camera. Additionally, some children had been very interested in turning the sound recorder on and off throughput observations. After initially supporting the children to explore the equipment, this was gently discouraged, yet to make it a big issue would have been upsetting for them and have detracted from the data. Consequently, as the audio recording was duplicated on the camera, the sound recorder was not used in subsequent observations.

As data collection tools were amended to ensure the most appropriate data was gathered as this study unfolded, so the planned timetable of observations also needed consideration once the field work began.

Observation Plans were Adjusted

Initially the plan was that each observation would focus on one of four or five different activity areas or areas of provision commonly found in early years settings discussed above (pp.82-83). Over each half term it was proposed that it would be possible to collect multimodal data from each area that included observations from both the inside and outdoors environment.

In reality once observations began plans were adjusted because, as Blaisdell et al (2019) highlight, the data collected needs to address the research aims. Blaisdell et al struggled to balance their research agenda with their ethical stance around participation and enabling children to be heard through a variety of media as discussed on p.53. In contrast, in this study to collect the data the adult researcher altered their behaviour to more closely match the children's agenda.

It quickly became clear that rather than deciding in advance where to observe following a neat, pre-determined schedule; observations needed to be far more responsive to children's activity choices. This meant decisions had to be made moment to moment during observations about what to watch and record. These decisions drew attention to the role of the researcher in data collection and, as Nordstrom (2015) highlighted, challenged the assumption that recording devices

are neutral objects. As Nordstrom pointed out, the devices themselves are part of the researcher/participant/context entanglement and capture particular data that contributes to the generation of knowledge. If the camera had been left recording in an area where the children were not playing then the knowledge generated might have been different. For example, there may have been no useful data collected due to the absence of subjects, the data might have showed that children were not interested in playing in this area or that the children did not play or communicate with each other.

As the focus of this study was communicative peer interaction, it was necessary to collect examples of peers interacting together. There was simply no point in observing in the book corner for instance on a beautiful sunny afternoon when all the children were playing with water outside or observing in the home corner whilst the children played in the book corner. Consequently, I would sit as unobtrusively as possible near to where I could see children playing together in freely chosen child led activities that maximised the opportunity to capture peer communication. Then if, later during the observation time, children chose to play elsewhere leaving me alone in my chosen spot then I would slowly move to another suitable area. Thus, the initial neat plan to observe for the whole time in one area each week was abandoned because it was impractical. It did not fit with the somewhat messy reality of life in the toddler room because whilst I could decide a plan in advance, the naturalistic nature of this study meant that observations were reliant on what the children in the session chose to do and, who and with what, they wanted to interact.

These amendments to the original plan reflected the iterative nature of this study, and ethnography more generally, enabling flexibility and a responsive, more participant-centred approach. This aspect of ethnographic research was highlighted by Mannay and Morgan (2015) who argued that it is important for the researcher to think on their feet in the field and see diversions or alterations from the plan as not wrong, but rather different.

Reflecting on White's (2016) argument about what is 'seen' by the camera discussed above (pp.69-70), had I persisted with my original plan to observe in a specified area of provision each week, far less communicative behaviours would have been captured. However, by changing the plan, over the year many

examples of children communicating and making meaning whilst engaged inside and outdoors, in all the activity areas, were captured just following a far more flexible agenda that was responsive to the children's choices and actions. In many ways maybe this was a reflection of one of the central arguments of this study that children are capable, rich and skilful, but do not necessarily all 'fit' into pre-conceived adult ideals.

Data Storage

Field notes, observations and other personal data were treated as confidential and securely stored in line with BERA (2011, 2018), the Data Protection Act (1998) and, more recently, the General Data Protection Regulation (2018). Audio and visual recordings were transferred onto memory sticks and, because of the volume of data, latterly on to an external hard drive. Memory sticks, the hard drive, field notes and observations were stored in a locked drawer to maximise confidentiality and minimise the risk of the data being stolen. Similarly, consent forms were stored in a locked drawer but separately from data. The locked drawer is in my personal desk in my room at home and only I have access.

Pseudonyms

When recordings and observations were transcribed and written up all names were changed and potentially identifying information, for example dates of birth or particular conditions or needs, removed. Initially it was planned to use gender-neutral pseudonyms. However, because gender and culture emerged as factors that potentially influenced children's communication, pseudonyms which reflected these aspects of children's characters were used. An example of the anonymised field notes is included in Appendix 3 (pp.239-240).

Transcription

The anonymised data was stored electronically and password protected on my computer. There might be some potential re-use of the data as the basis for discussion with other practitioners and academics about what this research might show and how it might contribute to rethinking early years practice. If so, images from this study would not be included unless in an unidentifiable form, for example using simple line drawings or puppets to illustrate the relative position of individuals and context of communication but with no resemblance to individual

children, or pixilated so that children are not identifiable. In the photographs that have been added to illustrate and enrich this and the Analysis and Findings chapter, children's faces have been pixilated to maintain anonymity whilst the environmental features provide a context but are general and could be from many nurseries rather than a particular setting. If audio recordings were to be used, efforts would be made to ensure voices are not identifiable, for example using voice overs.

Once the data was downloaded, one consideration highlighted by Clark (2014) was how to bring together the verbal and visual elements. Initially the data was transcribed and, as Flewitt (2006) suggested, a 'log' made of the audio-visual recordings. Then, drawing on Taylor (2014), a grid was used on which to record the data. She described her approach as based on 'linguistic ethnography' that she used to capture spontaneous child-to-child interactions in a year five (9-10-year-olds) classroom as discussed in the Literature Review (p.52). The theoretical perspective taken by Taylor (2014, p.406) reflected the view of Kress that "communicative practices are constituted of multiple modes". In an attempt to capture the flow of both conversation and other communication Taylor (2014, p.406) designed a "Multimodal transcript grid" in which she had columns for: Number of turn; Vocalisation/speech; Action; Gaze; Gesture, facial expression; and Posture, proxemics/haptics. She explained that this approach enabled her to view modes other than speech as constituents of the communicative process, rather than simply as contextual information. Moreover, the use of multimodal transcription in table form allowed Taylor (2014, p.406) to both explore the multiple modes used during communicative processes "whilst acknowledging the dominance and prominence at times of speech and writing" because, as Norris (2004, p.65) highlighted, "we are not taking away the importance of spoken language, but are accentuating other communicative modes that are as essential in interaction".

Like Taylor, I wanted to reflect Kress's views on the multimodal nature of communication, and so adapted her table. In the first column was recorded the time on the video in minutes and seconds. Initially the columns were then kept as Taylor had described them. However, maybe because the children in this study were much younger or because the resources and activities in an early years setting are arguably more varied and less obvious than in a junior school

classroom, I found that recording ‘posture, proxemics and haptics’ within ‘action’ made sense and instead had another column entitled ‘socio-material’. In this column was recorded information about the resources the children were engaged with, which were particularly pertinent given one of the aims of this study was to explore the potential impact of different materialities on children’s communication. An example of the table headings is included below and an extract from the completed tables is included in Appendix 4 (pp.241-242).

Time	**Speech/ vocalisation**	**Actions**	**Gaze**	**Gesture, facial expression**	**Socio-material**

Cremin et al (2018) used a similar table to log their multimodal data as part of their study discussed on p.62. However, they combined ‘gaze’ and ‘action’ into a single column. In addition, they did not include a column for socio-material notes, perhaps because their data was focused on storytelling and literacy related whereas this current study explored multimodal communication around different activities and materials.

Analysis

Exemplars of Interactions with Different Materials

Once the data was transcribed it was ready to be analysed but there was a large amount of information. To address the aims of this study, and in light of Flewitt’s (2005a) finding that children used different communication when engaged in different material activities, it was decided in discussion with my supervisors that exemplars would be selected from each station or activity and these would be the focus for the analysis. Each exemplar was chosen because it included different materials where two or more children had chosen to engage interactively and use communication to make and share meaning as discussed on pp.119-120. Exemplars also included activities from the indoor and outdoor environment and at different times of the year.

Different Perspectives

The issue was then to analyse the data such that it would effectively address the research questions. White (2016) highlighted that how data is analysed for any

research depends upon the researcher's orientation. The data collected for this study could have been interpreted from different perspectives within a broadly socio-cultural ontology (Dahlberg et al 1999) and one of the difficult decisions during the analysis was to decide how to most usefully explore the data from a socio-cultural, constructionist view. For example, Hultman and Taguchi (2010, p.527) used photographs of children interacting with everyday materials and objects ordinarily found in many early years settings, to challenge the "habitual, anthropocentric ways of seeing most often taken for granted in the analysis of educational data". They showed how from a relational material perspective where things and matter are granted agency, there was a strong relationship between young children, things, artefacts and space, for example at preschool, that was often overlooked, they suggested, in favour of social and/or interpersonal factors. However, whilst this approach could have usefully explored the photographic evidence from this present study, it would not have addressed the aims that were focused on peer interaction and communication that necessarily demanded a more anthropocentric approach.

Utilising Deductive and Inductive Approaches

This study combined both inductive and deductive approaches to data analysis but the emphasis was at times more deductive and at others inductive to address the different research questions. The use of both inductive and deductive approaches highlights Armat et al's (2018, p.219) argument that "both approaches are employed with different dominancy during the process of any qualitative analysis". To ensure an iterative approach Moser and Korstjens (2018, p.15) argued that "an emerging design should be at the heart of qualitative research". For this reason, field notes were written up and data was transcribed as soon as possible after the observations were gathered throughout the year and analysis was ongoing from the first observations. What emerged from the early analysis then shaped future observations in an ongoing process moving between data collection and data analysis.

Elo and Kyngas (2008) argued that deductive analysis is generally based on earlier work including to test existing data in a new context. In this study children's gestures, actions, gaze and utterances during peer play were analysed with a particular focus on five episodes which extended the use of Halliday's (1985)

functional categories, described in the Literature Review (p.49), to multimodal communication among 2-3-year-old peers. This enabled children's communication to be explored in terms of how it was used and how different materials might impact on its use to make meaning to address the first two research questions.

Once all of the observations were completed and transcribed it was also necessary to get a sense of the whole. Elo and Kyngas (2008) highlighted that during the analytical process the researcher strives to make sense of and understand the data. Moser and Korstjens (2008) argued that with ethnographic data this necessitates immersing oneself reading and rereading the data looking at themes and the unexpected, taking into account the overall picture. This aspect of the analysis took an inductive approach describing what was observed; looking for patterns and themes that emerged during the course of data collection and as the data was reviewed and analysed in closer detail. This was underpinned by a socio-constructionist framework that assumed that children were capable and actively involved in making and sharing meanings with their peers.

Likewise, the third research question necessitated a more inductive approach. This was because as Armat et al (2018) argued an inductive approach is useful when there is lack of, or limited, previous knowledge which asked what was being missed or inadvertently overlooked. For example, in this study, gesture, eye gaze and action appeared to enable children to share and make meaning during peer interactions, yet these subtle behaviours are often overlooked as discussed on pp.61-63. Having identified themes from the overall data, the smaller exemplars were analysed more closely to locate and describe shared themes and concepts and to consider these deductively in terms of previous research findings.

Issues of Quality and Trustworthiness

Quality in Qualitative Research

This study was qualitative and ethnographic in nature and as such was underpinned by a different set of goals and methods to those found within the field of natural science. A central aim of natural science studies is often objectivity, however Lincoln and Guba (1985) argued that in qualitive research the issue should be confirmability rather than objectivity. They argued that the concept of confirmability, rather than objectivity, shifted the focus from the characteristics of the researcher onto the characteristics of the data. However, as Kirk and Miller

(1986) argued whilst the goals of the natural and social sciences differ, they both aim to collect knowledge that is reliable, valid and trustworthy. Savin-Baden and Major (2013) argued in measuring the quality of qualitative research there is no one approach but rather that different terms are more compatible with some world views than others. Thus, Savin-Baden and Major highlighted that reliability and validity are the 'gold standard' for measuring quality in quantitative research and Kirk and Miller focused on how these terms might be usefully interpreted and applied to measure the quality of qualitative research.

Reliability and Trustworthiness

Reliability might be described as the extent to which a measurement or method produces the same answer whenever and wherever it is conducted, whilst validity describes the extent to which the measure yields a correct result (Kirk and Miller, 1986). Lincoln and Guba identified four elements to assess their concept of confirmability or trustworthiness: credibility, transferability, dependability and confirmability and Savin-Baden and Major regarded these as the 'gold standard' by which the quality of qualitative research should be measured. Lincoln and Guba, Kirk and Miller, and Savin-Baden and Major all agreed that a vital component of reliability and trustworthiness is prolonged engagement and the establishing of a good rapport or trust with participants. These were attributes of this study which were strengthened through my work as a practitioner discussed on p.8.

Other important strategies that ensure quality, highlighted by Savin-Baden and Major, are that there should be a coherent methodology and a clear audit trail during the research process. The Literature Review and Methodology sections of this study have established the rationale for the goals, methods and data analysis that were used and have described the research process as it happened, including where there were challenges or unexpected themes that emerged. In terms of ethnography in particular, Savin-Baden and Major suggested that triangulation and member checking are useful strategies to ensure quality. Triangulation or cross examination of the data may involve different elements. For example, triangulation of data, investigators, theory or method (Savin-Baden and Major, 2013). In this present study triangulation was not a strategy formally applied, however field notes, audio and visual data were all used and there was congruence between

these discussed on p.208. Similarly, member checking was not employed because the children were aged 2-3 years and so unlikely to be able to provide reliable checks. However, the observations documented were similar in nature to the children's behaviour observed at other times as discussed on p.208.

The Value of Small-Scale Studies

This study was based on a single, small cohort in a particular place at a particular time so very different from the "factor analysis comparisons set up in quasi-experimental studies" and, thus, may not be generalisable or applicable in other settings (Yates, 2003, p.226). However, whilst large quasi-experimental studies have advantages, as Law (2006, p.12) highlighted "realities are not flat. They are not consistent, coherent and definite and in some way all our research methods necessarily fail".

In addition, O'Reilly (2012) argued that ethnographic research is valid, plausible and credible because it invites direct and sustained contact with human agents, and is collaborative, flexible and iterative, responding to the context in which it is set, in this study to the children and ever-changing early years environment. This view was substantiated with reference to childhood studies in particular by James and Prout (1997). They proposed that ethnography is a particularly useful methodology for the study of childhood because it allows even young children to have a direct voice and greater participation than is typically possible through experimental or survey styles of research. Furthermore, Yates (2003) highlighted that what was meaningful in small-scale studies is that they are able to build up comparisons over time, based on detailed, prolonged engagement with a particular context that enables an integrity which was something different, but none the less valuable, from surveys and snapshots.

Representation

Similarly, O'Reilly (2012) argued that whilst qualitative research might not be representative of a wider population and so findings cannot be generalised, that it is representative in that the findings and knowledge created will have meaning and relevance for other situations and that theoretical understandings might have a wider application. So, it might be that this study has relevance and meaning to others working in early years or seeking a more nuanced understanding of the communication of toddlers and the possible impact of different materialities.

Additionally, the findings of this study supported those of other studies including Flewitt (2005a), Wells (2009), Taylor (2014) and Cremin et al (2018), thus contributed to the knowledge about how children communicate and make meaning with each other. Hence, Adair et al (2010) argued that ethnographic research that engages with people and settings in early childhood education is a valuable source of evidence that can potentially inform more effective early childhood policy and practice. This is because, despite its typically small-scale, the focus of ethnography is on understanding children in particular contexts that are meaningful to them and generates evidence that Adair et al argued should be utilised as much as statistical and developmental data.

Summary

This chapter has described how data for this study was collected over an academic year. A crucial decision was to collect multimodal ethnographic data through naturalistic observations of 2-3-year-olds engaged in spontaneous peer interactions with different materials in their early years setting. Ethical and practical issues were approached iteratively and plans altered in response to the children's interests and challenges that arose to enable them to participate as fully as possible. In this way children were enabled to participate and effectively communicate and make meaning with each other rather than relying on others' perceptions of how the children communicated which risked overlooking some of the children's abilities. This resulted in a large amount of multimodal data that was transcribed and analysed using a combination of deductive and inductive approaches to address the research questions. In the next chapter the analysis and findings of this study are presented. Reflecting the iterative nature of this study, the overarching themes that emerged are then brought together and summarised.

CHAPTER FOUR: ANALYSIS AND FINDINGS

The aim of this study was to explore children's peer communication in their early years setting to address the following questions:

1. How do young children communicate with their peers?
2. How does communication vary between activities and contexts?
3. What aspects of children's communication are captured (or missed) by current practices of assessment, and with what consequences?

A rich picture of children's spontaneous communicative interactions was developed using an ethnographic methodology as discussed on pp.74-76, to enable the research questions to be addressed. In this chapter the findings are presented with reference to the overall data and to exemplars of children engaged with different materials. This approach was taken because, reflecting Maybin's (2009) argument that young children actively use language all the time as a cultural resource, the focus of this study was on peer communication in relation to materialities. A total of 15 hours and 48 minutes of observational data was recorded involving 27 children across the academic year. The constraints of space meant that it was necessary to select exemplars of data as examples from the whole as discussed below on p.119. The exemplars were chosen to illustrate how children communicated during different activities reflecting Flewitt's (2005a) finding that children's activity choice influenced how they communicated with their peers as discussed on p.65. There were also some overarching themes that included non-verbal communication; gendered patterns of communication; and egocentric speech; that emerged from the data in answer to the question about what aspects of communication were captured (or missed) in the assessment of children's abilities. Photographs have been added to enrich the data and, where these have been used, care has been taken to ensure that children's anonymity is retained as discussed on p.110.

In this chapter the findings that emerged will be discussed informed by a socio-cultural perspective. As discussed in the Literature Review (pp.54-55) an essential element of social interaction is communication. It is through communication that children are able to make meaning and construct understandings together. What communicative modes were chosen and how the children were observed to use them to share and build meaning are the focus of this analysis. This study, used

an ethnographic methodology which resulted in a large amount of rich data that had to be cut down for the process of writing up. This was approached through the use of exemplars which were selected to illustrate how communication was used around different materials.

Selection of Exemplars

The exemplars chosen were focused on the following materials:

- Small-World Play with small metal and plastic vehicles and ramps made from drainpipes and wooden planks outdoors
- Construction with plastic bricks and small-world Lego Duplo people outdoors
- Early Literacy with a large story book and other smaller books inside on the carpeted area with cushions
- Socio-Dramatic Play with rucksacks, bags, plastic food and small toys that fitted in the bags inside moving between the home corner and other areas of the room
- Painting with pots of different coloured paint, brushes, large cardboard boxes and paper indoors around a central table

Episodes of peer communication were selected to include examples of the various genre of play but are by no means the only observations of each category of activity. Exemplars were chosen that included different children in the inside and outside space and across the span of the academic year so that any findings could not be attributed to a particular child(ren) or time. An additional issue in deciding which examples to use was that very often the children's interactions with a particular material, when transcribed, covered more than one play genre thus, were difficult to categorise. For example, in the episode 'construction', whilst the children were primarily interacting with plastic construction blocks, there were elements of small-world and socio-dramatic play contained within the interaction. This illustrated that, while practitioners in an early years setting, might set activities and plan under particular headings, these headings were somewhat idealistic and arguably arbitrary, and the children themselves were unaware of such plans and regularly intermingled many different types of play and learning.

Each of the exemplars involved children intra-acting with different materials but always displaying social and communicative behaviours including: talk for others,

vocalisations, mimicry, gesture, eye gaze and demonstrations that enabled the participants to make and share meaning. The small-world exemplar was chosen because it was the longest observation during which a group of children were focused on a particular activity and the socio-dramatic exemplar because going on journeys was a recurring theme in the children's play during that period. The construction exemplar was selected because it was one where the children added to and discussed the model. This contrasted with most observations of construction activities where children were engaged either in solitary or parallel play with little peer communication or collaboration. In addition, the construction exemplar was interesting because it included elements of socio-dramatic play during which the participants used communication to share and construct meaning; and because of the social skill Caitlin showed when engaging with Lucien. Like construction, the painting exemplar was chosen because it was the only observation where children were engaged in a craft activity, which were a prominent part of provision in the setting, during which the children were also interacting with their peers rather than alone. The literacy exemplar was difficult to select as peer interactions around literacy materials were included in many of the observations. This particular episode was chosen because of the way the children sustained their engagement and re-enacted parts of the story. In addition, this observation focused predominantly on the activity of two girls which contrasted with the other exemplars which focused on interaction between boys or boys and girls.

Again, due to the limits of space it was impossible to include the full transcripts of each exemplar. For this reason, each exemplar is described together with the context and children involved with a summary of what happened and excerpts of the transcripts of children's communication are incorporated that illustrate particular points. Including observations that took place outside was pertinent. This was because often adult-led activities and assessment of children were focused indoors while the outdoor environment potentially offered different communication opportunities.

Outside Play

Stephenson (2002) argued that the outside space in the early years offers different communicative opportunities than the inside environment is a freer and less

controlled environment as discussed in the Literature Review p.66. However, Flewitt and Cowan (2019) noted that observing and documenting learning outside was more challenging and a factor in why some children's skills went unnoticed. For these reasons, and because the opportunities offered by the outdoor space were a feature of the setting's ethos, including outside observations was pertinent. Thus, two of the exemplars that were selected took place outdoors. The first exemplar, small-world play with cars and ramps, was an activity set up outside because of the space needed. In contrast, the second, construction play, would often have been set up indoors. However, on that particular day the weather was very warm and sunny so many of the resources often set up inside were taken outside to encourage the children to interact with familiar materialities in a different environment.

To help answer the first and second research questions the exemplars were analysed considering each episode of communication before another child responded or there was a pause of more than 5 seconds to identify the function in terms of the categories identified by Halliday (1975). His study, that explored the development of language as children learn how to make and express meaning, enabled him to develop categories in relation to vocalisations as described in the Literature Review (pp.48-49). Findings from the different exemplars were then compared to address the second research question and explore whether particular functions of speech feature more prominently in some activities or during interactions with particular resources than others. This study widens the definition of language from that of Halliday's original categories to include non-verbal, communicative behaviours such as gesture, eye gaze, facial expression and action. This was pertinent to address all of the research questions and in particular the third question to consider how far these more subtle communicative modes were noticed, or missed, in the busyness of an early years setting.

Using Multimodal Grids

The data was transcribed onto multimodal grids adapted from those used by Taylor (2014) as discussed on pp.111-112. This enabled children's communication to be analysed in each exemplar to identify particular themes or trends using a constructionist paradigm where children were conceptualised as active contributors in their own lives and their community now as discussed on p.28.

Furthermore, this study drew on the philosophy of Reggio Emilia (Edwards et al, 1998) discussed on pp.32-33, perceiving children as strong, capable communicators who bring their own, individual experiences to each interaction during which meaning is constructed, challenged and changed in response to interaction with objects, both human and material.

The exemplars and a summary of the findings in relation to each activity are presented next beginning with an episode of small-world play.

Exemplars Exploring Communication with Different Materialities

Small-World Play

The materials in this exemplar were small metal and plastic vehicles with a tunnel and ramps that were set up outside. Some children came and went whilst others showed a more sustained interest in the activity exploring mathematical and scientific concepts of size, speed and velocity. The play was spontaneous as all the exemplars were, but in this observation the resources had been set up after the children had been trying to make their own ramps spontaneously the day before. This meant that this particular observation was exceptional in that the resources were added at the children's instigation.

Setting the Scene

This exemplar was from an observation of the children made on the 9th March. The planning in the room that week was based around nursery rhymes with that week's focus rhymes 'Incy Wincy' and 'Five Little Ducks'. It was a lovely sunny, mild spring day, one of the first since the winter, and so the door to the decking was open and on the decking were four ride on cars. In addition, the children and an adult had made two ramps and a tunnel for the small-world cars. The ramps were made from pieces of wood propped up at one end on large wooden bricks and the tunnel from a drain pipe, again held up at one end on a stack of large wooden bricks, so that when placed at the higher end small toy vehicles would run to the bottom of the ramps and/or tunnel.

When the observation began the room was calm and happy with most of the children outside where three were involved in the small-world ramps and cars activity. Today was the first proper spring like day and the first time that year that the children did not need coats and other outdoor clothing to go outside. The

children seemed to revel and enjoy the freedom of being able to play in both the indoor and outdoor environment, without the need to add or remove extra layers of clothing, and so transferred between the two spaces regularly.

The children involved in the cars and ramps activity were aged between 34 and 38 months and had all been in the room for at least six months and so were familiar with the environment, routines, staff and each other. Leo and Lenny had both been assessed as having above average skills in terms of their communication and language development using *Target Tracker* as described on p.21. In contrast, there were concerns about Alessandro's speech and language and social development because he had been assessed as not reaching the learning steps identified for his chronological age in the Curriculum Guidance. Consequently, he was being monitored by the local speech and language therapists.

Alessandro rarely used verbal communication and often chose not to interact with adults, preferring solitary activities instead. However, in the preceding weeks during observations of the children during free play for this study, it had been noted that Alessandro often played alongside Lenny and that the two seemed to have begun to develop what could be described as a friendship. They both showed pleasure in the other's presence exchanging gaze and smiles and, if they saw each other in the room, would often choose to join together and engage in a joint activity. Within this context Alessandro still rarely used spoken language to communicate, but watched carefully and often copied or engaged in shared activity showing an interest and engagement in both the resources and actions of others.

Kylie appeared to be less involved than the others often riding around the decking independently or choosing to briefly explore other resources both indoors and outdoors. However, she did participate in the activity at times and was the only girl who chose to participate in this extended observation. Kylie fell between Leo, Lenny and Alessandro being assessed as having age-appropriate language and social development in terms of the Curriculum Guidance learning steps.

What Happened

When this exemplar begins the children have been playing with the cars and ramps for more than ten minutes.

10:39 Lenny holds a car ready at top of the tunnel: “Ready steady”

Alessandro is holding a larger car which is too big to fit down the tunnel and watches Lenny

10:40 Lenny looks at Alessandro and the car he is holding. Lenny: “That not fit”. Alessandro looks at the car in his hand then back at Lenny

Figure 9
Alessandro watches Lenny try to fit the vehicle into the tunnel

Lenny continues to try different vehicles in the tunnel and talking quietly, intently watched by Alessandro. As he tries different vehicles, he holds them up for Alessandro to see before demonstrating whether or not they fit into the tunnel. He then concludes which vehicle will fit and communicates this to his friend:

11:17 Lenny holds the smaller car towards Alessandro and then turns towards the tunnel entrance. Lenny says: “This one fit”. Alessandro looks at the car Lenny shows him and then watches as Lenny turns back to the tunnel entrance.

Lenny then demonstrates what he has discovered.

11:20 Lenny posts the car then turns to Alessandro. Lenny says: “See”. Alessandro watches Lenny.

Figure 10
Lenny posts a car down the tunnel watched by Alessandro, Kylie and Leo

Alessandro then gives another car to Lenny but when Lenny tries to post the car it is too big so he drops the vehicle and picks up a smaller car that he has successfully posted earlier.

11:37 Lenny holds up the smaller car towards Alessandro. Alessandro looks at the car Lenny is holding.

11:39 Lenny says: “This one best”. Kylie takes her car to the tunnel entrance and posts her car. Alessandro continues to look at Lenny and then at Kylie.

11:46 Lenny posts the car. Lenny looks down the tunnel and watches the car slide down. Alessandro watches Lenny.

As Lenny and Alessandro continue to play, Lenny narrates their activity for example saying “Boing” as a car drops over the edge of the ramp (12:27) and showing Alessandro the vehicles that he is trying out (13:15). Both Leo and Kylie join Lenny and Alessandro at times, watching carefully, but neither sustain concentration in the activity. Lenny and Alessandro also briefly walk away separately then Lenny returns to join Leo and Alessandro quickly re-joins Lenny. Lenny again narrates the activity:

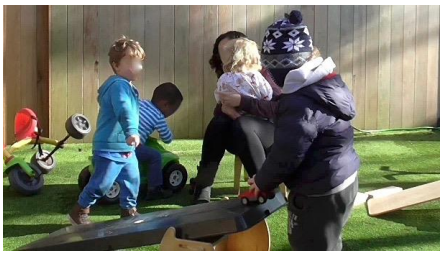

Figure 11
Lenny turns to watch Alessandro

13:27 Lenny posts an engine down the tunnel saying: “One”. Alessandro returns to stand near Lenny with a red car.

13:29 Leo posts a car into the tunnel watched by Lenny and Alessandro. Lenny says: “And two”

Alessandro tries to post his car but it is too big so, leaving Lenny and Leo at the tunnel, he turns to the ramp and begins to run his car up and down the ramp.

Lenny then turns to watch Alessandro as he runs his car repeatedly down the ramp. Lenny then joins Alessandro and they are watched by Leo. Leo joins Alessandro and Lenny at the ramp. Lenny lifts the ramp initiating communication looking at Alessandro:

14:32 Lenny picks up the ramp so that it is upright saying: “Reach this” and Alessandro watches.

Alessandro turns away from the ramp that Lenny has lifted out of his reach, Lenny attempts to regain his attention lowering the ramp and calling “Alessandro”.

Leo, Lenny and Alessandro continue to explore the cars and ramps occasionally watched by Kylie, for another 12 minutes so that, in total, the observation is almost 27 minutes in duration. The episode ends when Lenny and Leo attempt to climb the ramp themselves and an adult intervenes to stop them explaining that the ramps are for toy cars and might break if the children climb on them.

What the Exemplar Showed

Communication

In this exemplar Lenny used talk that might be described as ‘interactional’ to invite and encourage others to join in his play. For example, Lenny pointed to another ramp, directing Alessandro’s gaze, and said “let’s go there” inviting Alessandro to join him in this new playful exploration (12:06). In response Alessandro used gaze and posture, turning towards Lenny to indicate his interest and participation in an ‘interactional’ way. Later, when Leo was watching Lenny, but seemed reluctant to join him. Lenny looked at Leo and said “Come on” (13:38) where upon Leo joined Lenny and Alessandro back at the tunnel. In a less direct way, Lenny encouraged Alessandro’s interest in his activity and invited him to share his playful experience through action. This was illustrated when Lenny showed Alessandro a vehicle that he then posted before turning to Alessandro saying “see” (11:20). Thus, Lenny appeared to scaffold Alessandro’s shared participation again using ‘interactional’ communication in the play through his talk.

Figure 12
Lenny holds the pipe high watched by Leo

Lenny used spoken language to communicate in a variety of ways. Firstly, to narrate and/or describe his activity. For example, as Lenny posted an engine followed by a car he said “one” and then “two” and when he placed a car on the ramp and it fell to the floor he said “boing”, imitating the noise of something falling and hitting the floor. This narration or descriptive communication seemed to reflect Halliday’s (1975) ‘informative’ category as Lenny tried to tell his peers of his thoughts and ideas. Additionally, Lenny used talk to accentuate a point for example at 00:14 Lenny said “high” as he lifted the tunnel entrance in his hands. Furthermore, when Lenny moved the tunnel away from Leo, this prompted Leo to make a sad face that was overlooked by Lenny, so Leo said “I want it back” (00:49), to which Lenny responded “ok” and returned the pipe to its original position. Again, Lenny’s comment “high” and lifting action communicated something that he had to tell and might, therefore, be described as ‘informative’. However, Leo’s sad face and comment are best described as ‘regulatory’.

Halliday's 'heuristic' category that describes communication asking why was less commonly seen in verbal questions. However, during this exemplar Lenny showed his vehicles to Alessandro as he worked out which ones fitted into the pipe and which did not. It seemed that he was using these actions to demonstrate his thinking. Lenny was familiar with the words to describe size such as 'big'. 'small', 'large' and 'little' and yet he did not use these descriptors. Instead, he chose to hold up different vehicles as a physical, visual demonstration of size. Lenny's actions showed Alessandro something of his thinking and meaning making. Although he did not use verbal language, Lenny's communicative behaviours can be seen as 'heuristic' in terms of Halliday's categories because Lenny was exploring his environment and asking the question 'why?' in relation to which vehicles would fit down the pipes and which would not.

Action to Communicate

Lenny, who had been assessed by nursery staff as having good verbal communication, was the child who used the most talk during this observation, he combined this with other means of non-verbal communication as discussed above. It was striking that Lenny and Leo used non-verbal and verbal communication. However, Alessandro never used talk or vocalisations during this observation, but rather, through his gestures and actions, was able to actively participate in the playful interaction. Alessandro used gesture and gaze to share his interest, exchanging gaze with Lenny frequently and intently watching as Lenny experimented with which vehicles would fit into the pipe. When Alessandro began to experiment with his vehicles and the ramp rather than the tunnel (13:52), after a short while Lenny noticed and stopped to watch Alessandro (14:24). Lenny then moved from the tunnel and joined Alessandro at the ramp (14:26). Following this Leo also turned to watch Alessandro and Lenny before he also joined them at the ramp. Moreover, now it was Alessandro who had initiated the play and was followed by Lenny and Leo.

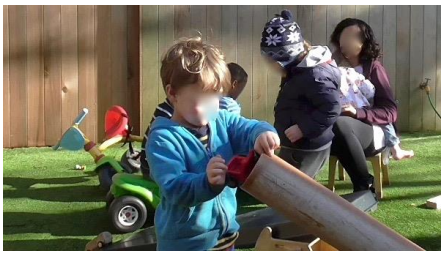

Figure 13
Lenny uses action that makes his thinking visible

This exemplar showed that children use multimodal communication to fulfil a range of functions that enable them to interact and share meaning with their peers which

was a feature of all the observations. In this case the resources offered children the opportunity to explore mathematical concepts and sometimes it appeared that when children were thinking they used gesture rather than words to express themselves. This was illustrated when Lenny held the cars up for Alessandro to see which ones fitted into the drain pipe and which did not. Gesture and eye gaze were also used in this exemplar to engage with the materials, show an interest and eventually participate in the activity. The use of non-verbal communication was noted in all the exemplars alongside verbal communication. One child, Alessandro, relied solely on non-verbal communication which it was initially easy to overlook given the more obvious communication of other children. However, closer analysis that was enabled through the audio-visual data revealed that Alessandro had been engaged with the materials, showed his interest through body posture and eye gaze. Lenny was able to notice and respond showing Alessandro what he was doing and thinking until Alessandro himself began to experiment with the cars and ramps.

Enabling Inclusion

The methodology of this study foregrounded communication including gaze, gesture and action, which, in turn, enabled inclusion by a range of children who might otherwise have been overlooked. This was illustrated by Alessandro was able to participate and add ideas to the activity with his peers using gaze, gestures and actions described above (pp.127-128) which was pertinent in terms of the third research question.

In addition, alongside the arguably more obvious communication that Lenny used in terms of talk, he also used gaze and gesture to communicate with Alessandro and Leo, which was easily overlooked yet revealed through fine grained analysis enabled through the audio-visual data. Throughout the activity all the children seemed to understand the turn-taking nature of the play and used gaze, observation and action to negotiate. This suggested they understood and were familiar with a sharing, turn-taking format reminiscent of a dance, centred around a particular activity in interaction with material resources that, although familiar, were presented in novel ways for the children to explore.

The above observation involved children exploring what might be described as scientific and mathematical concepts or facts whilst intra-acting with small-world

resources in the outdoor environment. The next observation began with one child exploring construction blocks joining them together, which is another activity that offers children the opportunity to explore similar mathematical concepts around size and shape. This episode started out as a solitary activity then became a peer interaction. This happened after an unexpected level of perseverance and social skill was demonstrated by the child who joined the play and then the flexibility both children demonstrated in their play and thinking as the activity took on an imaginative element that the children developed and explored together through their talk and actions.

Construction on the Decking

The materials in this exemplar were plastic Lego Duplo bricks and model people that could be connected to the bricks that were set up outside. Initially one child, Lucien, played alone and, despite Lucien's initial reluctance, was joined by another child, Caitlin, which enabled the children to interact with the materials together.

Setting the Scene

This observation was made towards the end of the spring term almost two thirds of the way through the academic year during which data was collected for this study. It was a beautiful warm, sunny day and most of the children who were awake were outside on the decking where there were ride on cars; a box of Lego Duplo plastic bricks and some plastic Lego Duplo small-world people; the water tray with bubbly water and ducks.

This observation was interesting because Caitlin showed persistence and considerable skill in negotiating her involvement in Lucien's play despite his initial rejection of her. Then later in the episode, during which Caitlin and Lucien were exploring construction resources that included some small model people, they slipped into a fantasy, make believe game. They then collaborated to continue their narrative with a mutual understanding in terms of the pretend nature of their play that required no negotiation or explanation but, once introduced by Lucien, was immediately taken up by Caitlin. This demonstrated the children's cognitive flexibility, made visible through their communication, and illustrated the issues of categorising play in terms of genre or the EYFS (DfE, 2017a), as this episode

began around construction but became more focused on the socio-dramatic elements that the children themselves introduced.

At the time Lucien was almost 38 months and Caitlin was 37 months. Both Lucien and Caitlin had been assessed as having good communication and language skills in terms of the relevant early learning steps identified in the Curriculum Guidance for children of their chronological age.

What Happened

This episode begins after Lucien has been sitting alone, intently exploring the construction resources for more than eighteen minutes. He has been picking up bricks, turning them in his hands, looking at them and occasionally joining them together to build his model. At 19:06 Caitlin, who has previously been playing in the water tray and running with some of the other children on the decking joins him. She sits next to the bricks opposite Lucien and begins to explore the bricks independently. Both Lucien and Caitlin sit quietly and separately building their own models and, as she builds, Caitlin talks quietly to herself. Then at 20:02 Caitlin looks up from her own activity and gazes at Lucien:

20:03 Caitlin is looking at Lucien and she says “Can I watch you how to build you own house?”. Lucien does not respond but continues looking at and exploring the bricks.

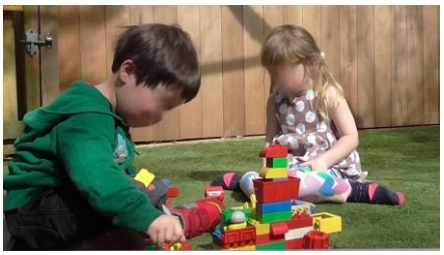

Figure 14
Caitlin watches Lucien play

Caitlin continues to watch Lucien and repeatedly moves shuffling to sit closer to him. Lucien continues with his brick play and periodically reiterates his objection to Caitlin’s attempts to engage with him even when she verbalises her overtures. Caitlin then builds her own model and when she knocks it down with her foot it falls towards Lucien

20:34 Lucien looks at the bricks that have fallen from Caitlin’s model and says “No back”.

Caitlin looks at Lucien and slowly moves bricks one by one towards Lucien who accepts the bricks and picks them up to add to his model. Caitlin tells Lucien that she has “got more bricks for you look” and when Lucien does not respond she adds “I got some more for you”. As well as the bricks Lucien adds some small-

world people to his model. Caitlin moves to a kneeling position and looks at Lucien's model from another angle.

Caitlin then attempts to engage Lucien in conversation about his model and he responds positively and together they communicate about the meaning of his model and the people he has added. The video stops and has to be restarted hence the times in this observation return to 00:00. Lucien initially responds to Caitlin's questions, for example, "what's that?" to which Lucien responds "a car". Caitlin uses gestures, including pointing and eye gaze, alongside talk to direct Lucien's attention. Lucien then takes over, directing Caitlin's attention to particular features of his model using talk and gestures including pointing and showing Caitlin to what he is referring. Lucien then moves a small model person around the model fast with his hand and exclaims "Eeeeeeeee" as Caitlin watches. Lucien and Caitlin then discuss the relationships between the people on the model, pointing and showing the models they are referring to, before discussing other features including "cars" and "chairs". Both children seem happy and their interaction is punctuated by episodes of smiling and laughter. Their play then moves on to become more imaginative when Lucien places two small people on a brick and flies them through the air before imagining where they might land. As he lands the brick airplane, Lucien explains to Caitlin making his thinking visible, and together they construct a meaningful narrative:

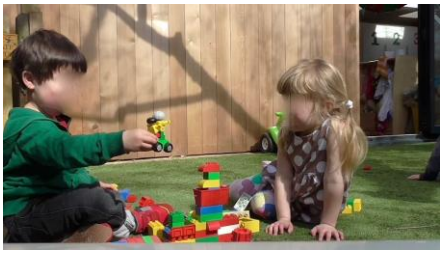

Figure 15
Lucien shows Caitlin the car that he has made

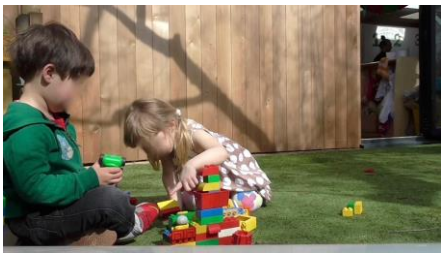

Figure 16
Caitlin points to features of Lucien's model

1:05 Lucien lands the brick and people on the decking and Caitlin watches. Lucien says "Mud"

1:08 Lucien says "Oh mud"

1:12 Lucien points to the decking and says "Here's mud". Caitlin looks where Lucien points

The mud is pretend. Caitlin quickly follows Lucien's lead and participates in the pretence:

1:19 Caitlin picks up a brick and hands it to Lucien saying "More mud look". Lucien takes the brick and places it on the floor

1:21 Caitlin picks up two more bricks and holds them towards Lucien

1:22 Caitlin pulls the bricks apart and holds one in each hand saying "More mud look". Lucien looks at the bricks Caitlin is holding

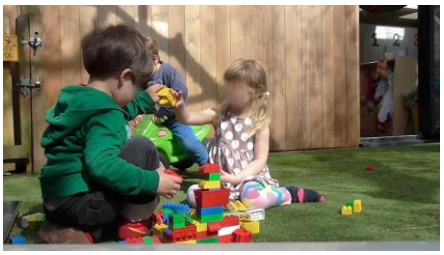

Figure 17
Caitlin passes Lucien a brick 'mud'

1:24 Lucien takes one of the bricks offered by Caitlin and places it on his model.

1:26 Caitlin puts the other brick down and picks up another that has eyes and a mouth pictured on the side

1:27 Caitlin passes Lucien the brick saying "And a bit more mud look"

1:30 Lucien takes the brick from Caitlin and looks at it. He notices the eyes and mouth which are painted onto the brick

1:31 Lucien laughs and says "No that's a face"

1:32 Caitlin passes Lucien another brick saying "Here's a mud" and Lucien takes the brick

Jack and Lenny then ride towards Lucien and Caitlin and try to knock over their models with their sit-on cars and Caitlin repeatedly asks them to stop and whilst they stop attempting to knock over the bricks, they continue to ride around Lucien and Caitlin despite further requests, from both Caitlin and Lucien, to stop until an adult staff member stops Jack and Lenny at 3:58. Jack and Lenny then take their cars to ride on another part of the decking leaving Caitlin and Lucien to resume their activity at 4:22 and they independently explore the bricks, although shortly after Lenny returns and repeatedly tries to disrupt Caitlin and Lucien's play. Then at 5:26 Caitlin picks up a brick and holds it to her ear like a telephone talking quietly. Caitlin then turns to me and talks about her ideas about family before walking away to another activity at 5:59. Lucien continues building until at 8:41 his

model is knocked over by Monty. In response Lucien makes a sad face and then walks away ending the activity.

What the Exemplar Showed

Communication

‘Interactional’ communication was used by Caitlin during this exemplar as she attempted to greet and initiate interaction with Lucien. When Lucien rejected Caitlin’s overtures his verbal and nonverbal communication, which included gestures such as turning away from Caitlin and avoiding eye contact with her, might best be described as ‘personal’ as he expressed his own feelings and opinions on Caitlin’s actions. When Lucien did not respond to Caitlin, she then begun to push bricks towards him that he could incorporate into his model. These actions and comments of Caitlin’s were harder to locate within Halliday’s categories as in some ways they might be described as ‘interactional’. However, whilst Caitlin might have used these communicative behaviours as a means to begin an interaction, in themselves they may have been more accurately described as ‘informative’, letting Lucien know that there were more bricks for him to incorporate into his model.

Whilst engaged with the construction resources as Lucien and Caitlin then continued to adjust and discuss his model, Lucien took two of his people placed them on a brick and flew them around above his and Caitlin’s heads. As he did so, Lucien used talk to bring attention to his actions, to which Caitlin replied by describing what was happening. Lucien then brought his people on their brick aeroplane to land on the decking in what he declared to be “mud”. Although this idea came entirely from Lucien expressed by his talk, Caitlin immediately participated in this pretend play. Although both the children readily cooperated in the pretence, talk was essential for Lucien to communicate his thoughts as Caitlin could not otherwise have known what Lucien was imaging the ground to be. Nevertheless, gesture and action remained important elements of their communicative behaviour. Thus, Lucien pointed where he believed the mud to be and, in response, Caitlin offered a brick that, she explained, represented more mud. These communicative behaviours were ‘imaginative’ enabling the children to communicate how they were constructing the materials in their thoughts.

‘Heuristic’ language was noted during this exemplar. As Caitlin tried to increase her involvement with Lucien, she looked at his model from different angles and invited him to tell her about his model asking “What’s that”. Caitlin’s “what” question allowed her to ask questions about the environment so might be described as ‘heuristic’ whilst Lucien’s response, “a car”, was ‘informative’ in nature (Halliday, 1975).

Accessing Construction Play

This exemplar was interesting for a number of reasons. Firstly, in thinking about the design of this study around different activities and the second research question, construction resources were out every day for the children to access so an important area of provision. However, in previous observations and less formally in the course of daily life in the nursery, it was noted that the children often accessed construction activities alone or in parallel play, but rarely in the context of peer interaction. Interestingly, during previous sessions, it had been noted that construction was an activity during which children often displayed high levels of concentration and egocentric speech as they worked out how to use the resources and built more complex models. Likewise, at the beginning of this activity Caitlin engaged in egocentric speech (p.130). The phenomenon of egocentric speech is often explained in terms of young children verbally expressing their internal thoughts when confronted with cognitive challenge, and the level of concentration displayed seemed to support this view (Vygotsky, 1978) as discussed on p.46. This episode of construction play began as a solitary activity with just Lucien. Caitlin then joined him and they explored the resources in parallel before it became a peer interaction with much communication after Caitlin showed a considerable amount of patience and social skill to access Lucien’s activity.

Caitlin’s Attempts to Interact were Rejected

Caitlin skilfully negotiated her way into the construction activity and initiated the interaction despite Lucien’s initial rejection of her overtures. Then, later, the construction activity changed into an episode of fantasy play at Lucien’s instigation. At 19:06 Caitlin came and sat opposite Lucien who was already involved in his own activity with the construction bricks. She then looked over at him at 20:02 and at 20:03 and asked Lucien if she could watch him. Lucien did not respond although it is unclear if he was ignoring Caitlin or so engrossed in his own

activity that he had, as yet, to notice her presence or hear her, which is common behaviour among children of their age, when they are deeply involved in what they are doing. Caitlin then shuffled on her bottom closer to Lucien and he did notice her and said “No I not”, before returning his attention to his activity and one second later reiterated his rejection of Caitlin saying “No no no look at it”. Then when Caitlin still did not move away and continued to watch him, Lucien said four seconds later “No no no no” to which Caitlin responded by briefly looking away.

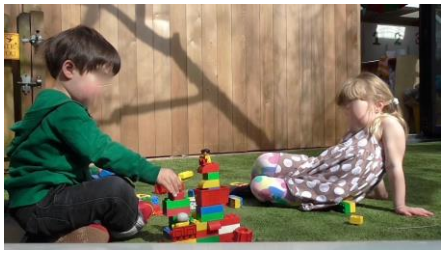

Figure 18
Caitlin watches Lucien as he builds

However, Caitlin only looked away for a couple of seconds before returning her attention to Lucien and at 20:17 she exclaimed “I only watching you”. To which at 20:22 Lucien responded “But I don’t want you to watch”. Moreover, Caitlin did not give up, but instead continued to watch Lucien and said “I want to”. Lucien then began to get a little cross and responded “No”, before turning to me and succinctly explaining the situation saying “JoJo Caitlin wants to watch and I say No”.

Caitlin Persevered

Caitlin then changed her approach and, rather than using talk to communicate with Lucien, began to use physical action initially knocking her own model over in Lucien’s direction. This prompted Lucien to respond “No back” whilst he continued to build. However, again, Caitlin did not give up but rather began to try and help Lucien by pushing extra bricks towards him that he incorporated into his play. Caitlin continued to do this for thirty seconds and then used talk to emphasise her actions. At 21:14, as she moved some more bricks towards Lucien, Caitlin said “I got more bricks for you look”, followed with more bricks at 21:23 accompanied by “I got some more for you”.

Figure 19
Caitlin gives Lucien a brick for his model

Caitlin then tried to increase her involvement with Lucien, looking at his model from another angle, she invited him to tell her about his model as she asked

“What’s that” to which Lucien responded explaining that it was “a car”. Caitlin’s tenacity and social skills enabled her to be accepted by Lucien and to begin to build a peer interaction with him using both verbal and non-verbal communication.

Communication as Narrative

Narrative was prominent during this exemplar. When, after Lucien and Caitlin had been adjusting Lucien’s model together for a short while, Lucien took two of his people placed on a brick and flew them around above his and Caitlin’s heads. As he did so, Lucien exclaimed “Look at us” bringing attention to his actions, to which Caitlin replied “They going to fly in a minute” which described what was happening. Lucien then brought his people on their brick aeroplane to land on the decking in what he declared to be mud. Although this idea came entirely from Lucien expressed by his talk at 1:08 when he said “Oh mud” and then, as he pointed to where he had landed his brick on the decking, said “Here’s mud” at 1:12, Caitlin immediately participated in this pretend play and contributed to the narrative. Hence, at 1:19 Caitlin picked up a brick and gave it to Lucien saying “More mud. Look”.

Figure 20
Lucien and Caitlin focus together to co-construct their model and make meaning together

The change in emphasis during this exemplar, from constructing and discussing a model to building a pretend narrative, illustrated how it can be difficult to accurately categorise and describe the nature of a particular playful episode and the plasticity in children’s thinking and imagination during any given activity. The way that Lucien and Caitlin’s thinking during the activity changed, evidenced by their talk and actions, was a reminder that children’s cognition is rarely linear, but more rhyizomic in nature changing direction and developing in new and unexpected ways. Or to put it another way, the boundaries between the curricula areas or types of play are fluid spaces. Initially a boundary between the two children seemed to exist as Lucien explored alone rejecting Caitlin’s efforts to cross the boundary and join him, then later the boundary leaked and finally disappeared and the play encompassed both of them. Similarly, initially their activity could be categorised as construction play as they interacted with the bricks, but then their

play seamlessly seeped into imaginative play. This change in their play occurred, without the need for a change of resources or physical space, but simply following the children's thoughts and meaning making exhibited through their communicative behaviours. In this episode Lucien and Caitlin's play appeared to cross the boundaries often imposed by adults as they attempt to categorise children's development.

The shift in emphasis during this exemplar highlighted that when listening to children we always need to be open to new thoughts that might be very different from what we had expected to hear. This is because children's thoughts may cross boundaries fluidly, rhizomically, following an entirely new and unexpected path that is discussed in more detail on pp.168-169. A multi-modal ethnographic methodology enabled this observation to be recorded when Caitlin and Lucien were interacting with an everyday resource and yet, through their engagement, they made the activity their own, demonstrating imagination in which their thinking that follow a "flight of ascent" (Davies, 2014). Davies conceptualised thoughts in terms of flight describing times when ideas are enabled to flow freely as 'ascending' which contrasts with 'descending' when children's thinking is constrained by the ideas or actions of others as discussed on p.68

The concept that children's communication can enable observation of their thoughts was demonstrated again below through an observation of children interacting with a reading book. Reading and becoming literate is an important goal in education highlighted in the EYFS, and later, throughout the curricula documents that inform children's primary and secondary educational experiences. For this reason, it was important to include an observation where children were engaged in play and meaning making with literary resources. However, as the observation below illustrated, whilst books enable young children to begin to develop literary behaviours, they can also act as a catalyst for exploring other areas of learning and form the basis of interactions during which experiences can be shared and knowledge built upon.

Early Literacy

The materials in this exemplar were a large story book placed on a book stand and a range of smaller books that were set up inside on a carpeted area with cushions.

Two children were continuously engaged with each other and the materials and a third child observed and occasionally participated more actively.

During the year that data was collected it was interesting to note that the book corner was a popular place for the children to gather. As an adult I often think of reading as a generally solitary activity, yet to the children this was far from true. They regularly looked at books together, shared thoughts on what they were looking at and showed high levels of literary behaviour demonstrating that they knew how books worked**;** which way up to hold them up; that you turn pages sequentially to progress through the story; that information is contained within the printed words and simultaneously represented in the accompanying pictures. The children often chose to engage with, and enjoy books, sometimes with an adult, sometimes alone, but most often alongside another child(ren). Children's 'Literacy' was assessed following the criteria in the Curriculum Guidance which include the behaviours above alongside having favourite stories, rhymes or songs; repeating words and phrases and filling in missing words from familiar stories (Early Education, 2012, p.28).

Setting the Scene

This exemplar is from an observation made during the first half of the summer term on the 18th May, and is the only observation collected which primarily focused on two girls. In the book corner was a large copy of 'How do you feel' by Liu (2004) on the large book stand and this was the book that was featured during story times on the planning that week. In addition, there were books about different families and communities alongside a selection of other fiction and story books in the bookshelf. There were cushions on the carpet for children to sit on and look at the books. It was a rainy, cool afternoon so the door to the outside decking was closed.

Figure 21
Elizabeth and Eleanor look at their book together

The observation involved three children: Elizabeth, Eleanor and Noah. Elizabeth was 36 months, Eleanor 30 months and Noah 29 months. All the children were articulate and their language skills had been assessed as above average for their age, as had most areas of their development in terms of the

learning steps in the Curriculum Guidance. Noah was positioned lying between the two girls and less actively involved in the story.

What Happened

The room is calm and some of the children happily greet me when I arrive with one immediately running to sit on my lap. When the observation begins Elizabeth and Eleanor are sitting in the book corner facing each other either side of the book stand with Noah lying on his tummy directly in front and slightly further from the book, between Elizabeth and Eleanor. They are looking at 'How do you feel'. At the top of each double page is a line of faces featuring a white child showing different emotions indicated by the facial features and with the emotion name printed underneath. The emotions pictured include happy, sad, excited and proud. Initially Elizabeth, Eleanor and Noah look at the book showing their interest through their eye gaze and body posture, all focusing on the people in the pictures. Together they are identifying which character they think is the daddy and pointing out parts if the body in the pictures including eyes. Eleanor then asks:

00:18 "But is Daddy out?"

To which Elizabeth responds by reiterating that the figure they have identified, she believes, is the "Daddy". After a little more discussion about which picture represents "Daddy" and some of his physical features, Elizabeth shakes her head and exclaims:

00:32 "He can't see us".

Elizabeth and Eleanor negotiate the turning of the pages between them as they go using a combination of talk, gesture and action and, whilst sometimes one or the other tries to turn the page before both are ready, they mutually resolve any potential conflict peacefully and quickly. Reflecting on how they perceive their lives Elizabeth tells Eleanor:

1:06 "So we read lots of books".

And their familiarity, both with how books work and with this particular book. is demonstrated as they narrate the story almost word for word prompted by the pictures because, as yet, neither is able to read the printed text. For example, looking at the picture of the boy with his broken model, Elizabeth claps her hands

and explains “Sister broke it” before, both Eleanor and Elizabeth, re-enact the actions of the boy who expresses his frustration by stamping his foot. As Elizabeth and Eleanor stamp their feet, they add emphasis to their actions by proclaiming “stamp stamp” and then, on turning the page, they lift their chins and tilt their heads back, Elizabeth declaring “I really really proud”. The next page contains a picture of the child looking scared as he enters the dentist’s room with dad. Elizabeth and Eleanor look at the picture and Eleanor and Elizabeth flip between this and the previous page again discussing the relationship between the adults in the pictures:

2:24 Eleanor points to the picture. Elizabeth and Eleanor look where Eleanor points. Eleanor: “Who is that?”

2:25 Elizabeth: “That Mummy”.

2:27 Eleanor: “Oh”.

2:35 Eleanor turns the page. Elizabeth points to the book. Eleanor points to a character on the page. Elizabeth looks where Eleanor points. Eleanor: “Is that a Daddy?”

2:40 Elizabeth points to another character on the page. Eleanor looks where Elizabeth points. Elizabeth: “That’s Daddy”.

Figure 22
Elizabeth tilts her head and back and opens her mouth wide for the dentist

Turning the page again, the picture now is of the child in the dentist chair with his mouth wide open. Elizabeth, Eleanor and Noah look at the picture together and then re-enact the dentist scene tilting their heads back, opening their mouths wide and saying “Aaaaah”. The story continues and the child loses his teddy which makes him sad so the picture now shows the child crying. This prompts Elizabeth to make a sad face saying “I’m so sad. I want my teddy” accompanied by the Makaton sign for sad. Which, in turn, prompts all three children to pretend to cry loudly proclaiming “Waah waah”. The book then ends with the child happy on his birthday when he receives a new teddy to the delight of Elizabeth, Eleanor and Noah prompting Elizabeth and Eleanor to clap. This last picture then prompts

Elizabeth to count and represent her activity with gestures holding up five fingers emphasising the meaning of the number ‘five’:

3:24 Elizabeth points to the candles on the cake in the picture as she counts. Elizabeth: “1, 2, 3, 4, 5”. Eleanor watches Elizabeth

3:28 Elizabeth claps her hands. Elizabeth: “Five”. Elizabeth looks at the picture of the cake and candles.

Figure 23
Elizabeth clapping her hands excitedly

3:29 Eleanor points to the cake candles in the picture then holds up five fingers. Noah and Eleanor look at Elizabeth’s fingers. Elizabeth: “Five”

On the inside cover of the book are pictures of the title covers of other children’s books that Eleanor and Elizabeth study and discuss which of the books they each have at home. At the end of the book Eleanor asks Elizabeth if she can have the book to read alone now. Elizabeth leaves Eleanor to read alone then chooses ‘The Tiger That Came To Tea’ (Kerr, 1968) from the book shelf and sits down to read it next to Eleanor. Eleanor puts the big book on her lap and both children look at their chosen books separately. Noah watches Eleanor and Elizabeth until 4:49 and then stands up and goes to play in another area.

What the Exemplar Showed

Communication

The children used words, action and gaze to make and share meaning, they actively participated in the narration and discussion around the book. and physically responded to the materials acting out parts of the story. For example, when the children turn the page and the story continued with the child losing his teddy which makes him sad so the picture now showed the child crying. This prompted Elizabeth to make a sad face saying “I’m so sad. I want my teddy” accompanied by the Makaton sign for sad. Which, in turn, prompted Elizabeth, Eleanor and Noah to pretend to cry loudly proclaiming “Waah waah”. The action enabled the children to communicate their engagement and understanding. As with talk, children used action to fulfil different functions described by Halliday (1975) and discussed on pp.48-49. Of particular note was that the children used

action in an ‘informative’ way, that Halliday (1975, p.37) described as “I’ve got something to tell you”, as they shared their experiences. Halliday noted that the ‘informative’ function only emerged around two years of age just before, he argued, communication became internalised as the basis of a more mature language system of meaning that represents the child’s model of social reality. Action was observed as a means of communication, again fulfilling an ‘informative’ function, at other times including the small-world (pp.123-125) and painting exemplars (pp.150-151) and is discussed on p.143.

Communication that Showed an Emerging Understanding of Representation

The communication here showed that the children were beginning to develop an understanding of the concept of representation and were able to differentiate between their experiences and information in the literacy materials. The children demonstrated that they knew the illustrations were representations that communicated information about the story. For example, in response to the illustration of the boy crying after he has lost his teddy at 2:59 Elizabeth made a sad face and said “I’m so sad”. She then clarified the reason why adding at 3:02 “I want my teddy”.

The children were not yet reading the words that accompanied the story, but were responding to the pictures and annotating them, aided by their memory of the story. At 00:32 Elizabeth commented that “he can’t see us” when discussing the facial features of the character that they had assigned as the “daddy”. This showed that Elizabeth was aware and recognised that the picture acts in a different way to a real person and is a representation. The concept of understanding that one thing is a representation, or can stand for another thing, is an important development in children’s cognition and thinking as much of our society relies on this understanding including the ability to read and write, to understand numbers and mathematical concepts and to use money for the transaction of goods.

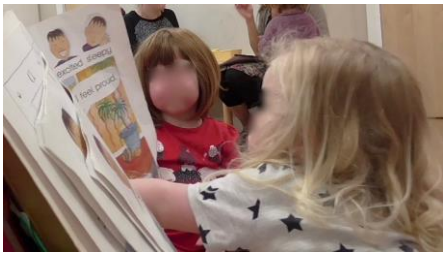

Figure 24
Elizabeth turning the page of the book with Eleanor

Evidence of Early Literacy Skills

Elizabeth and Eleanor showed through their words and actions that they were both familiar with books, and this book in particular, and developing early literacy skills. Elizabeth, Eleanor and Noah all gazed at the book, paying attention to the illustrations, showing that they were interested, for example at 2:42 after the page had been turned. The book was positioned upright as it would be read and both Elizabeth and Eleanor turned the pages sequentially. Communication that demonstrated early literary skills was something noted much earlier in the academic year during an observation for this study on the 13th October. On that occasion Lenny, then aged almost 32 months, and Elizabeth, aged 29 months, were sitting on the floor together in the book corner. Lenny had the book 'Little Rabbit Foo Foo' by Michael Rosen (1990) on his lap when Lucien, also aged 32 months, joined him and Elizabeth. At 25:06 Lenny opened the book at the beginning and started to turn the pages. However, he then turned over two pages at once, prompting Elizabeth to say "Missed two pages Lenny" (25:07). In response Lenny turned the pages back and Elizabeth then leant over and turned the page again before Lenny began to recite some of the words from the story. In both these observations the children shared their literary knowledge and made meaning with their peers using multimodal communication.

Action to Communicate

The first research question focused on how children used communication whilst the second asked how communication might be different around different materials. In comparison with the other exemplars, children's communication with the literacy materials appeared to prompt high levels of action to re-enact experiences and to identify with the characters in the book. Their action was often accompanied by talk or sound that gave emphasis to their actions, for example when the children opened their mouths as if at the dentist and also made an "ahhh" sound.

Action was seen in other exemplars, for example in small-world as children moved resources between different positions and during socio-dramatic play as the children moved around the room. However, here the children did not move around the space but rather used action to re-enact their experiences and share their ideas. Gesture was also used in conjunction with verbal language to add emphasis

for example when Elizabeth held up five fingers as well as saying “five” when counting the candles on the birthday cake. The use of gesture and speech during a mathematical aspect of the exemplar was interesting as this was also noted during the small-world activity when children were again exploring maths as discussed on pp.127-128. Here the action was prompted by the narrative which contrasts with the following exemplar during which the children use action and construct an imaginative narrative collaboratively based on their own thoughts and ideas.

Socio-Dramatic Play – Going on a Journey

The materials in this exemplar were bags and rucksacks, blankets, plastic replica food and assorted small toys that were initially in the home corner and then transported around the indoor space by the four children engaged in this observation.

This observation was collected in the second half of the autumn term and due to the movement of the children, on this occasion my field notes were vital to capture parts that were missed by the audio and visual recordings. Around this time, I had noticed during the course of my work as an early years practitioner, that some of the children were regularly engaged with their peers in spontaneous episodes of socio-dramatic pretend play during which they acted out going on different journeys, a theme that was repeated later that year during the spring term. This play usually involved small groups of three to six children deciding to collect bags and/or ruck sacks from the home corner to which they sometimes added small objects such as plastic food, musical instruments or other small toys. They then took these props with them as they travelled around the room. At times I observed the children go to their pegs to collect their coats or arrange chairs in lines behind each other that the children described variously as “a bus”, “a train” or “a car”, and then used as props in their play. This playful activity originated entirely from the children’s own interests, although having observed this over a number of sessions, more bags and ruck sacks were added to the resources in the home corner and written into the planning for the room, to enhance the children’s play choices. This particular activity was intriguing as it was played out repeatedly over many weeks by various different children, thus, appeared to be a shared and enduring interest during this time.

Setting the Scene

The planning during this observation was focused on a ‘light and dark’ theme to reflect the darker evenings and recent festivals that included Diwali, Halloween and Bonfire night. In the home corner were bags, dolls and blankets; there were two buggies just outside the home corner; there was a tray of paint with cars on the central table for mark-making; on the floor were some bricks and threading activities. As was usual the children had access to other resources. On the outside decking were large bricks, a sand tray with spades and builder tools; water tray with paint brushes; the rocking horse and some climbing equipment. However, on this occasion the door to the decking was closed because of strong wind and rain. On the walls were fireworks pictures that the children had painted recently alongside, photographs of a recent police visit and the usual birthday board and family pictures.

This episode involved four children, three boys and a girl, Jack, Lenny, Lucien and Caitlin; who regularly played together and had all moved to the toddler room from the baby room at the same time. Jack was aged 33 months, Lucien (33 months), Caitlin (32 months) and Lenny (32 months). All these children had been assessed as having good communication and language skills in terms of the steps in the Curriculum Guidance linked to their chronological ages.

What Happened

The room is calm and quiet when data collection begins that day. There are some children asleep, some children at the painting table, whilst others have accompanied an adult to collect boxes of cereal from the main building. When the children come back from their errand Jack and Caitlin go to the home corner, Lucien is singing to himself and humming quietly nearby and Caitlin calls to Lenny who then joins her and Jack in the home corner where all three look at a piece of fabric, a drink mat and a plastic plate but with no real focus. Then Jack suggests that they “go here” and Jack, Lenny, Lucien and Caitlin begin to act out a journey as they travel around the room. They all go to the door and then return to the home corner where they spend time choosing bags until each of them has their own bag. Jack, Lenny and Lucien then walk off together towards the door although Caitlin lingers behind watching the others. Jack has dropped his bag and returns to the home corner and looks through the bags and selects a ruck sack that he

puts onto his back saying “This my bag. I got my bag”. Jack then gives Lenny another bag saying “Lenny got a bag”. Jack, Lenny and Lucien then walk back towards the door watched by Caitlin. Lenny prompts Caitlin to join them saying “Caitlin we going” and she does, collecting a back pack for herself as she goes.

At the door there is a lot of excitement about the bags so Jack, Lenny, Lucien and Caitlin jump up and down together chanting “my bag, my bag, my bag”. Before they continue to move around the room together most often at Jack’s direction. When heading for the home corner once more rather than “let’s go” or “let’s go here” Jack is more specific saying “Let’s go home”.

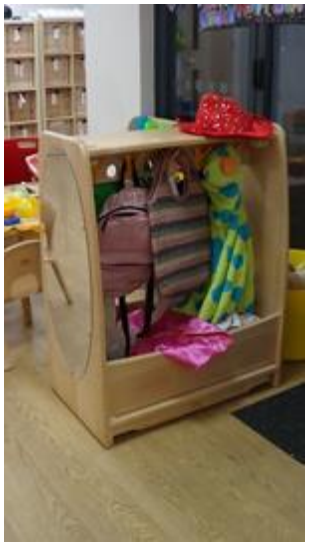

Figure 25
Dressing up resources including bags

After a while Caitlin appears to tire of the game and stops saying “Not going now”. Lenny stops with Caitlin and they sit down and take off their back packs. Caitlin holds her back pack towards Lenny. Lenny responds by looking at the back pack before each putting their packs on their backs once more. Caitlin and Lenny continue to sit in the home corner and Caitlin spontaneously begins to sing “Happy birthday to you, Happy birthday to you.” They are joined by Jack who says “Got to home here”. Caitlin then changes her song and sings “Halloween Halloween”. Lenny then sits down in the home corner and Caitlin sits next to Lenny and looks at him saying “You are superstar”. Lenny looks at Caitlin and smiles.

A few moments later an adult spreads a mat on the floor and brings plates of fruit, cups and water for snack time which prompts Lenny, Lucien, Jack and Caitlin to go and wash their hands in the bathroom before sitting down for their snack.

What the Exemplar Showed

Communication

Much of the talk in this episode could be categorised as ‘imaginative’ in terms of Halliday’s analysis of early talk as the children built on, developed and shared their ideas. ‘Interactional’ communication, both verbal and nonverbal, was also observed. For example, Caitlin used verbal communication to invite Lenny to join in whilst Jack used action to invite Lucien into the play. The children also communicated to sustain each other’s involvement and friendships, thus, were

engaged in communication that functioned as both ‘regulatory’ for example when saying “lets….”, and ‘interactional’ described as the “me and you” function, for example when Jack picks up another bag that he passed to Lucien (Halliday, 1975, p.19).

Towards the end of the observation, Caitlin was sitting with Lenny as she spontaneously declared that he was “a superstar”. This prosocial comment, functioning as an ‘interactional’ communication, appeared to have been unprompted and accompanied by a smile from Caitlin directed at Lenny. The comment was, arguably, purely designed to make Lenny feel good and suggested that Caitlin was beginning to develop a theory of mind so that she was able to consider another’s cognitive and emotional state. This ability is often thought to develop later in childhood when, Piaget (1978), argued the child is less egocentric. Lenny and Caitlin have known each other for some time having moved from the baby room together. This supports the findings of Eckerman and Peterman (2004) that suggested young children have greater social cognition than is often predicted and that this is particularly evident when they are with familiar peers as discussed in the Literature Review (p.56).

There were other, perhaps less obvious, examples of verbal communication being used for prosocial means. For example, when Lenny and Jack were walking to the door and Caitlin did not immediately follow Lenny looked at Caitlin and said “Caitlin we going” which prompted Caitlin to quickly follow. At other times prosocial messages were communicated through gesture or action rather than talk. For example, when the children were choosing their bags, Jack picked up an additional bag that he held out to offer to Lucien, thus including Lucien in this element of the play. The use of action to communicate was something noted throughout observations. The children did not simply use action to mimic others but to actively make meaning and share their own thoughts with others. Jack used action to invite Lucien to join in the pretend episode using communication in an ‘interactional’ way that Halliday (1975, p.37) described as the “you and me” function.

Action also appeared to sometimes give added meaning to the children’s verbal communication. For example, when Jack, Lenny, Lucien and Caitlin were at the door together, each with a bag, they began to jump up and down together

excitedly and all chanted “my bag, my bag, my bag”. Their jumping action appeared to add to their expression of excitement. Halliday described this style of communication that allows the individual to express their uniqueness and personal experiences and feelings as functioning in a ‘personal’ way. This was a communicative feature of all the observations as children reacted and interacted with the material world around them and sought to share their explorations and changing understandings with their peers.

Another interesting element in this short episode was the amount of singing or humming that the children spontaneously produced. Initially Lucien was sat singing quietly to himself and then, as the play unfolded, Caitlin sung more loudly “Happy Birthday” and then “Halloween”. The children seemed to sing for the pleasure of it rather than to communicate to others and sometimes, as with Lucien, did so in such a way that their voices were barely audible to others around them. Whether Caitlin sung entirely for herself or for those around her was less clear as, although she does not direct her singing towards anyone in particular, she was easily audible to Jack and Lenny with whom she was playing. Nevertheless, neither child chose to join Caitlin even during her singing of “Happy Birthday” which was familiar to all three children and usually a popular song choice in the setting.

Communication as Narrative

Narrative was central to this exemplar. During this episode it appeared at first, looking at the talk, that Jack was leading the play as he was the one who suggested moving initially saying “Let’s go here” and then later “Lets go”, “Let’s go home” and “Let’s go Lenny”. However, Lenny and Caitlin were also active participants, initially showing an interest through their gaze and then following Jack as he travelled, and then initiating the finding of bags and in their responses to Jack’s requests. When Jack said “Let’s go home” he then moved to the home corner suggesting that he associated the artefacts in this space with a home environment and a place which he can travel away from and return to. The collection of bags in connection with going on journeys was a facet of the children’s play that had been noted previously and in this exemplar Caitlin and Lenny were particularly interested in their bags whereas Jack only went to find himself a ruck sack after watching Caitlin and Lenny do so. Nevertheless, the bags

arguably provided a stimulus for verbal communication with Jack, Lenny and Caitlin all participating in talk about their bags.

All four children contributed to the pretend play and seemed to understand the genre and implicitly acknowledged the ‘rules’ of the game. Led by Jack, they each contributed their own thoughts. Their ideas centred around travel, what the children thought that you need to take with you from their own experiences as shown by the search for bags; and then moving using the space in the room as a whole. The use of the space offered by the whole room contrasted with the other observations that centred on particular spaces, for example in the art exemplar discussed below pp.150-153.

This case showed how the children used communication in an imaginative way to build a narrative and act out their story, in this case a journey, using material resources as props and the space available to support their emerging ideas. Like the other exemplars, children were also observed using ‘interactional communication to sustain their peer relationships and maintain the activity. However, as in construction Caitlin shows a high degree of social awareness and empathy praising Lenny which is a level of social skill not demonstrated by any of the other participants during data collection. Singing and humming was also a feature observed here and noted at other times including during the small-world when Lenny spontaneously sang “1,2,3,4,5 once I caught a fish alive”.

In this exemplar the resources were open-ended for the children to interpret in their own way. In contrast in the final activity the materials and space offered less flexibility as the children sat around a table with mark-making resources provided under adult supervision.

Painting

The materials in this exemplar were pots containing different colours of paint with paint brushes, large cardboard boxes and paper arranged on a table indoors. There were chairs placed around the table on which the children were encouraged to sit by an adult. There were three children continuously engaged with the materials throughout the observation and other children occasionally walked over to the table but did not choose to join the activity.

Painting was often organised as an adult-led activity during which much of the communication was typically initiated or prompted by an adult and, although a popular activity in the room, was often one where little peer interaction was observed. However, on the 2nd March, at the beginning of the second half of the spring term a group of children were interacting at a painting activity and engaged in spontaneous peer communication which was captured during an observation for this study.

Setting the Scene

During this week the planned theme was 'Nursey Rhymes'. On the side table were numbers and stars to decorate with mark-making resources and scissors following a recent interest in making snips with scissors observed in some of the children. The home corner was set as a baker's with rolling pins, playdough, plastic food and pictures of bread and cake. On the central table was the painting activity. As part of the continuous provision the children also had access to a range of other resources including a selection of textured objects in a feely basket, dressing-up resources and technology toys. On the floor the children had chosen to get out small cars and the car mat. All of the children who participated in this observation have been described above as part of other exemplars.

What Happened

As the observation begins the room is busy but calm. Some children are reading stories with an adult in the book corner, others are drawing at the mark-making table and an adult has just set up the painting activity which includes pots with red, blue and green paint.

Figure 26
Jack, Elizabeth and Lenny exploring the paint

Elizabeth (34 months) and Lenny (36 months) sit on chairs around the painting table and Jack (37 months) is standing at the table. Each child has an apron on and has a pot of paint and a paint brush and they are all concentrating on their own activity. Jack begins to stir the paint in his pot which causes bubbles to form that appears to fascinate him as he peers intently into the pot. He repeatedly bursts the bubbles with his paint brush and then stirs again watching more form. Jack attempts to show and tell the other children about his discovery offering the paint

pot and exclaiming that he has “bubbles” imploring them to “look”, but the other children remain focused on their own painting activity. Jack then mixes some red and green paint together in his pot and makes a brown colour. Again, he narrates his actions as he notices the effect:

1:27 Jack stirs green and red paint together and as he does so, he looks into the pot and noticing the effects of his actions says “Brown, look it’s brown”.

Jack then tries to share his exciting discovery with the other children using gesture and words:

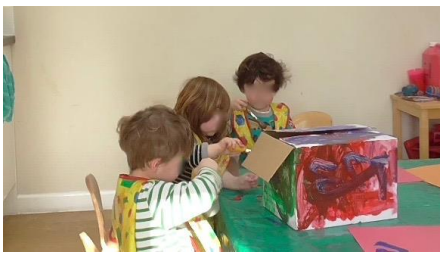

Figure 27
Jack holds up his brush and paint pot for Elizabeth and Lenny to see

1:34 Jack looks at Elizabeth and holds his pot towards her saying “Brown”. Elizabeth responds looking briefly into Jack’s pot before returning her attention to her own painting.

1:38 Jack again says “Brown” looking at the paint in his pot.

1:40 Jack applies brown paint to the box and Elizabeth looks at the marks Jack has made with his brown paint

The children continue to paint and, still excited by his making of the colour brown, Jack again tries to tell the others about it:

Figure 28
Jack makes marks with his brown paint watched by Elizabeth

2:24 Jack dips his brush back into his paint and as he looks into the paint pot he says “Oh look, brown”

2:30 Jack continues to look into his paint pot and holding his pot towards Lenny and Elizabeth, Jack says more loudly “Look I got brown”

2:33 Jack then stirs his paint with his brush and again says “I got brown”

Eventually Elizabeth responds to Jack and Jack then attempts to draw Lenny into the interaction as well:

3:04 Elizabeth “My one is black”.

3:18 Jack says “It’s just gone. Lenny it’s gone black.”

3:20 Jack moves his brush and holds it towards Lenny

3:21 Lenny looks at the paint on Jack's brush. Jack looks at Lenny and says "black, black"

The children then continue painting whilst an adult adds more paint and talks with the children describing the aim of the activity and what she would like them to do and asking them if they know which colour paints are in the pots until they finish

What the Exemplar Showed

Communication

Again, as with the previous exemplars, during painting Jack used gaze and facial gestures such as smiling to invite his friends to share his explorations and thoughts about the paint with him. This communication could be described as fulfilling an 'interactional' function. As he watched the effect of his actions on the paint, Jack shared what he saw verbally remarking on the bubbles and changing colour. This language might be described as 'informative' as he communicated information about what he was discovering to his peers. The only other child who used verbal communication during this exemplar was Elizabeth who used 'informative' language to describe the colour of her paint.

Jack used verbal and non-verbal communication when he mixed different colours of paint with a brush in a pot and made a new colour. When Jack tried to share what was happening to the paint with the other children sitting around the painting table he said "look" and leant towards the other children tilting his pot for them to see (p.151).

One of the findings that emerged from this analysis was that there was less peer communication than when children were engaged with other resources as discussed on pp.155-156. In addition, while engaged in painting the communicative behaviours that Jack's peers used in response to his initiations involved little verbal communication. Elizabeth responded once describing the colour of her own paint. On one occasion Lenny used talk to declare "Actually I want it" and then, as he applied paint to the box, he exclaimed "Magic" (1:58 & 2:03). It was unclear whether Lenny was directing his comments towards Jack and Elizabeth or using egocentric speech to narrate his own activity because he continued to look at his own paint as he made his comments. Both Lenny and

Elizabeth did at times look at Jack's actions and paint pot and leant towards him using non-verbal communicative behaviours that suggested they were sharing his interest and meaning-making. For example, Elizabeth and Lenny look at Jack's paint as he talks about the colours he is making. However, their participation in the interaction seemed muted in comparison with the more active peer interactions observed when the children were interacting in other areas of provision.

While painting the children were seated around a table all wearing aprons so in some ways this activity, whilst freely chosen by the children, might be constructed as a more formal context than in the other observations which might have contributed to less peer interaction. There was also a practitioner nearby who a few minutes later led the children to discuss the colours of the paint. Jack himself began to notice the colour of his paint and to explore the impact of mixing different colours together that could be interpreted as an 'ascending' line of flight (Davies, 2014) as discussed below, pp.168-169. However, this line of thought did not seem to develop further or range into other areas as had been observed during other playful interactions. Maybe it could be that the act of painting was, itself, a form of communication. However, as Kress (2010, p.51) highlighted, communication is a "quintessentially social activity" because whilst the focus of a representation is on the 'me' the communication happens when there is an interpretation of the message, the representation, by another or others so that the focus is on the social. So, perhaps, the painting activity might be thought of as the production of a representation that was focused on me or self, a primarily solitary activity, and maybe the communication and necessary focus on the social might happen later, for example when the representation was shared with others or displayed for others to see and interpret. Furthermore, in contrast with painting, exemplars of other activities were situated in more open spaces that might offer different communicative opportunities but also challenges that are considered in the Discussion chapter (pp.159-187).

Figure 29
The children sitting around the table, wearing their aprons during the painting activity

These exemplars are inevitably a small sample of the data gathered and are summarised in the table below:

Table 4: Main Points from the Exemplars

Exemplar	Materials	Communication observed
Small-World Play	Small metal and plastic vehicles and ramps made from drainpipes and wooden planks outdoors	• Eye gaze, showing or demonstrating through action, talk. • Included interaction, informative, regulatory and heuristic communication. • Action used when cognition challenged to make and share meaning
Construction	Lego Duplo plastic bricks and small-world people outdoors	• Eye gaze, action, gesture, talk. • Included personal, interactional, informative, heuristic and imaginative communication • Gaze, action and words used to access play, construct narrative and share flights of thought. • Words and actions used to show social understanding and empathy
Early Literacy	Large story book and other smaller books inside on the carpeted area with cushions	• Talk, action, eye gaze, gestures included Makaton signs • Included informative, interactional and imaginative communication. • Physically re-enacted parts of the story and own experiences
Socio-Dramatic Play	Rucksacks, bags, plastic food and small toys that fitted in the bags inside moving between the home corner and other areas of the room	• Action, talk, singing • Included regulatory, imaginative interactional and personal communication • Action to express excitement • Talk and action to build narrative and share lines of thought • Words and gaze to show social understanding and awareness of others' emotions
Painting	Pots of paint, brushes, large cardboard boxes and paper indoors around a central table indoors	• Action and gesture prominent • Occasional talk • Included interactional and informative communication • Action was used changing the way materials behaved and show to others • Eye gaze used to share interest

From the detailed analysis of the exemplars and with an overview of the data as a whole, findings were made in relation to the research questions and these are now discussed.

Overview of the Findings

In response to the first research question children were observed using multimodal communication to make and share meaning with their peers. Non-verbal communication was more prominent than speech with gesture, action and eye gaze noted in all the observations as discussed on pp.169-172. Communication was used to fulfil functions described using Halliday's categories. Some categories, such as 'interactional' and 'instrumental', were noted far more frequently than others, for example 'heuristic' communication. In addition, there were differences in the levels, and functional styles of, various communicative modes between activities when children were engaged with different resources and materials and these points are summarised below and explored further in the Discussion chapter (pp.160-162).

Materials

In terms of the second research question, compared with the painting exemplar, all of the other activities, and in particular socio-dramatic and construction play, were contexts where the children showed much higher levels of spontaneous peer communication, responding to each other's ideas and making meaning together. This supported Banerjee et al (2016) who argued that dramatic and construction play in particular offer children opportunities for social communication and interaction as discussed on p.163. Alongside the materials another factor that influenced children's communication in this current study which was pertinent to question two, was the space in which the activity was situated.

Activities in Open and Closed Spaces

All of the exemplars above involved children spontaneously interacting with their peers and materials that were part of daily life in the setting. However, as discussed above, there was notably less communication during the painting activity than in the others. Art and craft activities were often arranged around a table that was a more closed space compared to the positioning of other materials. Thus, the nature of art and craft materials and how they were often arranged

appeared to offer children different communicative affordances. This supported Flewitt (2005a) findings and is discussed on pp.165-166.

In addition, Flewitt (2005a, p.219) found that in the open spaces children used more peer communication which often took the form of non-verbal communicative action including to negotiate access which resulted in gendered patterns of usage as discussed in the Literature Review (p.65). This finding was supported by this present study with children observed using high levels of nonverbal communication to access play across all activities and most notably outdoors. This was illustrated by Caitlin's negotiations to access Lucien's construction and play and Alessandro as he interacted with Lenny during the small-world**.** There was some evidence to support Flewitt's finding that boys dominated open spaces during the construction activity when Lucien and Caitlin's outdoor play was interrupted by two boys who repeatedly tried to disrupt their activity despite Caitlin's pleas for them to stop.

Perhaps most importantly considering the inspiration for this study discussed on p.8, the last research question aimed to explore what aspects of children's communication are captured (or missed) by current practices of assessment, and with what consequences which is considered next.

What Are We Missing?

As noted above the practitioners' assessments often focus on the verbal during nursery activities, leaving little space or time to notice more subtle communication, for example gesture and action. However, in an attempt to shed light on the question of what else is missing, this study will now discuss those other themes that emerged that were perhaps surprising or unexpected, and potentially overlooked during the assessment practice in many of our early years settings.

Is Non-Verbal Communication Overlooked?

The first research question asked how young children communicate with their peers. Whilst children did use talk, they frequently used many other communicative modes including eye gaze, action and gesture during this study. However, these non-verbal communications appear to be overlooked so that some children are described as having few communication skills. This maybe because practitioners are not required to observe non-verbal communication as they do not

feature within the setting's assessment of children's communication skills at age 2-3 years. Nevertheless, these less obvious communicative behaviours were found to be an important means that the children used to make meaning with their peers in this current study. The direction of gaze was the most frequently recorded indicator of children's interest in their peer's activity and was observed among all the participants.

Gender and Peer Communication

In terms of question one another finding to emerge was that some children appeared to communicate during interactions with their peers more skilfully than was noted by practitioners which was also pertinent to question three. As data collection, transcription and analysis progressed it became clear that there were often as many, and often more, boys than girls who participated in spontaneous communication with their peers during each week's observation. Among the cohort who were observed there were children who had been assessed as having good language, and particularly verbal, skills and who, anecdotally, were described as sociable and talkative by practitioners and who, perhaps, engaged and spoke with me during the course of my work most often. Consequently, I had expected these children to regularly participate in the observations. However, as the data was gathered it was noticeable that many of these children who were predominantly female, appeared rarely, in the data and that instead there was a lot of data relating to male participants which is discussed further on pp.177-179.

Egocentric Speech

Although not part of the original plan for this study egocentric speech was a theme that emerged from the data, both when children were playing alone and with their peers as discussed in the Literature Review (p.45). Egocentric speech might be described as verbal language that the child uses to talk to themselves, for example to narrate or talk themselves through an activity or event, rather than to communicate and make meaning with others. This was pertinent to research question two and three. In terms of question two, egocentric speech was observed regularly and across different activities for example at the beginning of the socio-dramatic exemplar Lucien was quietly singing to himself (p.145); at the start of construction Caitlin was talking to herself (p.130); and during small-world play at times Lenny appeared to talk to himself as he tried to work out which cars would fit

before looking up and talking more loudly to engage with Alessandro (p.124). In addition, there were numerous occasions when children were observed using egocentric speech when playing alone. For example, on 20th October Emma was sitting next to me at the table cutting paper. Emma was absorbed in what she was doing and focused on the paper as she used scissors to makes snips. With each snip she made Emma said “cut cut” quietly narrating her activity whilst on the 6th October Elizabeth was observed exploring plastic construction bricks and quietly vocalising to narrate her actions as she played. However, in my role as a practitioner egocentric speech was a phenomenon that I had rarely noticed which was relevant to question three. This prompted me to ask colleagues if they had noticed the phenomenon in their regular observations. Everyone said that they had not noticed egocentric speech or self-talk among the children with whom they worked and yet it continued to appear during the observations for this study most weeks. This suggested that, like non-verbal communication, it was something that was overlooked in the busy nursery environment. One reason that staff may not have previously noticed egocentric speech is that they are not required to notice it for assessment purposes. However, egocentric speech is important because it makes children’s thinking visible and, thus, can enable a more complete picture of children’s skills and understanding as discussed on pp.45-46.

Summary

This chapter has described the analysis and findings of this study that enabled a rich picture of the many styles of multimodal communication that children used to make meaning with each other to emerge. Consequently, this study supported a socio-cultural perspective on communication following the findings of Flewitt (2005a), and suggested that children used a variety of means of communication that were often overlooked in the busy environment of an early years setting. Of particular note were differences in communication styles between activities when children were engaged with different resources and materials. Additionally, some children, particularly some of the boys, were observed to make and share meaning in ways that had previously gone unnoticed. The findings of this study and why some children’s communicative interactions, that potentially reveal aspects of their thinking, had previously remained unseen will be discussed in more detail in the Discussion chapter that follows (pp.159-187).

CHAPTER FIVE: DISCUSSION

This chapter brings together all aspects of the thesis to discuss the findings in relation to the Literature Review (pp.16-73) and clarify the thesis' unique contribution to knowledge. The children in this study were aged 2-3 years in the toddler room of their early years setting in contrast with many studies that have focused on children in preschool aged 3-4 years or older. In addition, the observations of peer communication were collected over an academic year, by a practitioner who was familiar to the children, around different materials and activities rather than focused on the communication of particular participants. Children were perceived as bringing their own, individual experiences to each interaction. Analysis showed that through communication the children made meaning, constructed knowledge and understanding which was extended, challenged and changed in response to objects, both human and material. What communicative modes and how the children were observed to use communication are the focus of this analysis.

Throughout this study the children were observed to engage in multimodal peer communication that was effectively captured through an ethnographic methodology that utilised a combination of audio and visual recordings and field notes. The communication captured included more obvious behaviours, for example talk and pointing, but it was through closer analysis of the data that more subtle communication, for example mimicry, physical action, posture, facial expression and especially eye gaze, were revealed as important enabling children to engage with each other, and show and share their interests and understanding.

Children's Communication Styles

The first research question asked how young children communicate with their peers. Throughout the year the children were observed using talk and non-verbal communication that was categorised in terms of Halliday's (1975) functional categories to describe various styles of speech and the different ways of making meaning that he associated with each. All but one of Halliday's categories described in the Literature Review (pp.48-49) were observed suggesting these are a useful tool in thinking about how young children used talk and other non-verbal communicative modes to interact and make meaning together. Talk was not the

most common way that children interacted with shared action and gaze noted more often than vocalisations across each of the activities.

Halliday's Categories

Analysis of the data through the lens of Halliday's categories enabled links to emerge between material resources and children's peer communication. Six of his categories were observed during this study although some were more commonly observed than others. 'Instrumental' communication was the only category not observed whilst 'interactional' communication was observed during each exemplar.

'Interactional' and 'Personal' Communication

Among the categories that Halliday (1975, p.37) identified to describe the functions of communication was 'interactional' language described as the "you and me" function. This category was observed during all the exemplars as children invited their peers to join in, as peers responded and then they continued to play and share meaning together. Similarly, 'personal' communication was used in all the observations. Halliday described this as allowing the individual to express their uniqueness and personal experiences and feelings. Children used this language as they reacted and interacted with the material world around them and sought to share their explorations and changing understandings with their peers. Both of these categories appeared central in this study because they enabled and sustained peer interaction. All the exemplars also contained examples of other speech categories described by Halliday. Often children would use communication to fulfil a variety of functions when making meaning with their peers during an activity.

'Informative' Communication

During small-world described on pp.123-125, Lenny used spoken language in a variety of ways that included 'informative' communication. as he shared his thoughts with his peers whilst experimenting with new ideas. Similarly, during painting Jack also used 'informative' communication to share his emerging thoughts and ideas. Jack persistently and excitedly attempted to communicate and share with his friends the effect of his actions on the paint as he stirred his pot with his brush causing bubbles to form and burst and the paint colour to change. Jack

shared his meaning-making through talk “look” (pp.150-151) and through action showing the pot with the paint to his peers to demonstrate what he had found. Again, during literacy Elizabeth and Eleanor used ‘informative’ communication to share their experiences and understanding of the world. For example, they shared and discussed ideas of what a ‘daddy’ is and what happens at the dentist as described on pp.139-141.

During construction Caitlin used ‘informative’ communication as she moved more bricks towards Lucien that he incorporated into his play. Caitlin said “I got more bricks for you look” (21:14), followed by pushing more bricks towards Lucien at 21:23 accompanied by “I got some more for you”. These actions and comments of Caitlin’s were hard to locate within Halliday’s categories as in some ways they might be described as ‘interactional’. However, whilst Caitlin might have used these communicative behaviours as a means to begin an interaction, in themselves they may have been more accurately described as ‘informative’, letting Lucien know that there were more bricks for him to incorporate into his model.

‘Imaginative’ Communication

Another category that was observed was ‘imaginative’ communication that Halliday described as functioning to enable pretend scenarios. Perhaps as might be expected, this category was prominent during socio-dramatic play as the children acted out going on a journey and used communication to share, develop and built on each other’s ideas about their journey as discussed in the Analysis and Findings (pp.145-148). However, whilst ‘imaginative’ communication might have been expected during socio-dramatic play, it was also observed during other activities including construction, and literacy.

Whilst engaged with construction resources as Lucien and Caitlin continued to adjust and discuss his model, the exemplar took an imaginative turn. Lucien and Caitlin built on each other’s pretend play ideas, as described on pp.131-132, expressed through ‘imaginative’ communication. Likewise, during literacy there was also an element of pretend play but whereas in construction this came from the children’s thoughts, now it was prompted by the narrative in the book. For example, when the book pictures the main character visiting the dentist Eleanor, Elizabeth and Noah tip their heads back and pretend they are at the dentists too as described on p.140. Thus, ‘imaginative’ communication was seen across

different activities that enabled the children to express their thoughts and follow surprising lines of flight as discussed below (pp.168-169).

Categories Observed Less Commonly

Halliday's 'heuristic' category that describes communication asking why was less commonly seen. During small-world Lenny used actions to show Alessandro his thoughts. Lenny's communicative behaviours could be classified as 'heuristic because Lenny was exploring his environment and asking 'why?' in relation to which vehicles would and would not fit down the pipes as described on pp.124-125. Another example was noted during construction when Caitlin tried to increase her involvement with Lucien, she looked at his model from different angles and invited him to tell her about his model. Caitlin's questions might be described as 'heuristic' whilst Lucien's response, "a car", was 'informative' in nature.

'Instrumental' language when children express their wants for example "want juice" was not observed as the children engaged with their peers. Perhaps this was because when they did want something, for example a particular object, the request was directed to the individual who could fulfil the want rather than a general want. For example, during small-world Leo makes a sad face and exclaims "I want it back" in response to Lenny's actions as described in the Findings and Analysis (p.126). Halliday (1975, p.19) explained that 'regulatory' language "functions to control another's behaviour" whilst 'instrumental' language functioned to satisfy the child's needs. According to Halliday, 'instrumental' language, in contrast with 'regulatory' language, was used when it did not matter who provided the service. Leo's request was directed at Lenny and only he could fulfil Leo's request so this comment was best described as 'regulatory'. During the socio-dramatic exemplar 'regulatory' communication was also used for example, when Jack said "let's go", "let's go here" and "let's go home" (pp.145-146). Jack's language was directed at his peers as he led the play and requested them to behave in a particular way.

Analysis of the data showed that some activities offered greater opportunities for peer communication than others and this will now be discussed further.

The Influence of Materialities

The second question which this study set out to explore was how communication might vary between materialities utilising Gibson's (2015) concept of affordances discussed on p.66. This study found that during free play the children were observed using a range of communicative behaviours to make and share meaning with their peers. However, there were differences between the amount and functions of communication when children were engaged with particular materials. In addition, different materials and activities were associated with different styles or modes of communication. This supported the argument that the socio-material context influenced the communicative styles of the children.

During small-world play there was more informative and regulatory talk whereas when the children were engaged in socio-dramatic play there was more imaginative talk. However, pretend or imaginative play often entered the children's activities in, sometimes surprising, ways. For example, play with books was often a catalyst for pretend play as observed on the 13th October and the 18th May. In addition, when Caitlin and Lucien were playing with the bricks, their models were a catalyst for their thoughts and actions to follow an imaginative flight represented through imaginative communication (pp.131-132).

Literacy Materials and Communication

Fischer (2017) and Cremin et al (2018) found that books prompted children to explore a range of subjects and demonstrate literacy skills as discussed in the Literature Review (pp.67-68). Likewise, in this study during the literacy exemplar and throughout the year it was noted that books were often a catalyst for children to explore a whole variety of subjects, both real and imaginary, and an opportunity to practice literary behaviours.

Early Literacy Skills

Fischer (2017, p.137) discussed on p.67, found that long before children read in the traditional sense, they engage with literature and "begin to approximate reading behaviours". Likewise, in this study the children appeared to engage with the book and literature long before they could read. They were not yet reading the words, but their communication showed that they were responding to and annotating the pictures as described above, aided by their memory of the story,

which had recently been the book at story time. Elizabeth also demonstrated that she knew the illustrations were representational and not literal as discussed in the Analysis and Findings chapter (p.142).

Literacy at Home and in Nursery

Fischer's (2017) observations involved Elijah and Hannah engaged with books in their home environment. Wells (2009), argued social change has led to many more young children spending more time in early years settings where there are less opportunities for 1:1 adult interaction but more opportunities for peer interaction as discussed on p.72. Nevertheless, Elijah chose his bedroom as the place to engage with his books which shared some characteristics with the book corner in this study. Both Elijah's bedroom and the book corner were cosy, enclosed spaces that may have supported the idea of a place to look at books.

Moreover, reading Fischer's article challenged me to think about how I, and other practitioners, perceived children's mark-making in reading books. In the setting where I worked and this study was situated, practitioners discouraged the children from writing in story books and encouraged them to mark-make on paper, chalk boards or in drawing books. An alternative response would be to reflect on what we might learn from children's mark-making in this context. For example, by finding multimodal ways to listen to their ideas and thoughts. As part of the Look Who's Talking to Project, discussed on pp.52-53, Blaisdell et al (2019) encouraged 3-5-year-olds to write their own stories contributing to a large scrap book and making books of their own which enabled the children to share their thoughts. These activities, including making their own books in which they can write, could be extended to younger children to offer responsive creative opportunities that enable children to express themselves and support their literacy development.

Literacy in Early Years Settings

While Fischer's observations involved children interacting with books alone, in this study children engaged in literary behaviour alongside their peers. This could be explained by the different contexts of family home and an early years setting and the opportunities for interactions with others that these offered.

Cremin et al's study discussed in the Literature Review (p.62), focused on literacy activities where practitioners were key, often leading the activity. They found that

children actively engaged with literature and co-constructed narratives with their peers and adult practitioners using multimodal communication, particularly action. Young children's storytelling and narrative skills have also been studied in the context of other activities. For example, Puroila et al (2012) explored how children constructed narrative focusing on a drawing activity (Literature Review, p.64). However, there is little about how children engage with books during peer interactions.

In this study adult-led story times often had predefined learning goals noted on the planning. This meant that the adult would steer the activity in a particular direction which in terms of Davies analysis often maintained a 'flight of descent' as discussed on p.68. In contrast, when children explored books with their peers the findings supported Cremin et al that literacy materials prompted verbal and non-verbal communication to make and share meaning to re-enact the story incorporating their own cultural knowledge. In addition, when exploring books with their peers during this study, children's thinking roamed in a 'flight of ascent' as evidenced by their communicative behaviours, described on pp.139-141, when the children freely shared thoughts and ideas about a wide range of different topics including familial relationships, emotional feelings, dental care, number order and birthdays.

Whether children were alone as in Fischer's study, or during adult-led activities as observed by Cremin et al, literacy materials often followed unexpected paths. Moreover, this study highlighted that peer interactions also supported 2-3-year-olds to share literacy materials and co-construct narratives and knowledge that is enmeshed in their culture following their own freely chosen topics and interests. The children's thoughts and understanding were made visible through multimodal communication that necessitated practitioners listening openly as described by Davies (2014) and discussed below (pp.168-169).

Space and Communication

Flewitt (2005a) argued that alongside materials, how activities were configured within a given space also influenced children's communication. She found that in closed spaces such as during prescribed craft activities there were limited opportunities for children to explore their own meanings and interpretations compared with open spaces such as the home corner and small-world mat where

space was less clearly defined by tables and chairs. Flewitt also noted that in more open spaces adults were more peripheral and watched from a distance rather than closely monitoring the children. This study offered evidence to support this because there was markedly less peer communication and meaning making observed during painting in a closed space than in the other activities with the only extended episode centred around colour mixing. Painting was the only observation where children were positioned on chairs around a table, which was more closely monitored and controlled by an adult than any of the other observations which were in more open, less clearly defined, spaces. This suggested that, alongside materials, there was also a relationship between levels of peer communication and how far spaces were open or closed.

In addition, Flewitt (2005a) also found that space impacted on the communication children used to access activities. She asserted that the use of gaze, facial expression and movement was most prominent during child-led activities and to negotiate access to interactions in “open spaces”. This was supported during this study with many of the children using a range of communication to make and share meaning which included verbal and non-verbal modes. For example, when Caitlin wanted to join Lucien during construction, he was more responsive to her gestures and non-verbal behaviour, offering him bricks, than to her more overt interest expressed through her talk that he initially rejected.

Hackett (2015), discussed on pp.49-50, also drew attention to the issue of space to explain her observations of children playing in a museum. The interaction between Lenny, Leo and Alessandro in small-world, described on pp.123-125, was reminiscent of the social and communicative behaviours observed in Hackett’s study. She drew on Lefebvre’s (1991) social production of space and Ingold’s “zone of entanglement” as discussed on p.49. Lefebvre’s argument that social practice and space must be experienced before it can be conceptualised seemed pertinent to Jack as he experimented with the paint and showed his peers what he was doing as they sat around the painting table described on pp.150-152. The painting also offered Jack different possibilities to explore which were, as Ingold highlighted, intertwined yet not unidirectional. So as Jack stirred his paint the colour changed and bubbles appeared that he observed and described to his peers. Likewise, the children’s play during small-world appeared synchronised ebbing and flowing around their experience of the space and enmeshed with

materials in which their interaction was set. In both these activities the concepts that the children were exploring emerged from their own ideas and were entangled with the materials and space available.

Spaces at the setting in this study were set up according to the room planning for that day with resources designed to support areas of the curriculum as discussed on p.20. However, the difficulties around categorising children's spontaneous play either in terms of provision or assessment for the EYFS (DfE, 2017a) goals and the Curriculum Guidance (Early Education, 2012) were noted in all the observations including when children were engaged in literacy activities. In literacy described in the previous chapter (pp.139-141), among the areas of learning noted were communication and language; literacy; expressive arts; personal, social and emotional development; and mathematics. Again, during painting and small-world children engaged in meaning-making across the curriculum including mathematical and scientific concepts; physical development in terms of fine and gross motor skills; and communication to enable social interaction and share their thinking.

Play Spaces are Fluid

The seepage between artificially imposed boundaries demonstrated how action flows without boundaries so that the space may best be described in terms of Mol and Law's (1994, 2004) discussed on p.65. They argued that play spaces have boundaries which come and go and allow leakage so are best described as fluid, ebbing and flowing rather than clearly delineated. This seemed to aptly describe the interaction between Lucien and Caitlin. Initially a boundary between the two children seemed to exist as Lucien explored alone rejecting Caitlin's efforts to cross the boundary and join him, then later the boundary leaked and finally disappeared and the play encompassed both of them.

Likewise, children's cognition is rarely linear but across and between spaces in unexpected ways. Deleuze and Guttarri (1987/2004), discussed in the Literature Review (pp.26-27), argued that thinking is best described as rhizomic in nature changing direction and developing along new pathways. This was supported in this study by children's communication that signalled unexpected directions in what they were thinking. During construction, described on pp.130-132. Lucien and Caitlin's play flowed seamlessly between construction and make-believe using

talk and action to sustain interaction, share thinking and make meaning across spaces and in novel directions. Likewise, during literacy, described on pp.139-141, Elizabeth and Eleanor explored the book and included role-play and mathematical elements in their play. This illustrated how it can be difficult to accurately categorise and describe the nature of a particular playful episode in terms of the early years curriculum and contributed to knowledge about the plasticity in children's thinking and imagination during any given activity evidenced by their communication.

The notion that children's communication can enable us to observe their thoughts. recognise and understand the ways that children are using materials, across the curriculum and in unexpected ways, requires that we listen openly and without prejudice.

Communication that Makes Thinking Visible

Communication was used by the children in all the exemplars to make and share thinking and meaning in new or unexpected ways following ascending flights of thought. For example, during small-world play Lenny uses talk and action to communicate his thoughts about which vehicles will fit into the drain pipe as discussed on p.127. Similarly, during painting Jack combines talk and gesture to share with his peers what he is discovering and thinking about how the paint changes in colour and texture in response to his actions (p.152). Both of these examples promoted cognitive development that was evidenced through children externalising their thoughts as their engagement with materials led to new knowledge.

Listening to Children can Bring Surprises

Davies (2014) drew on the concept that children's thinking is rhizomic (Deleuze and Gutttari, 1987/2004) and which she described in terms of ascending and descending lines of flight as discussed in the Literature Review (pp.68-69). She argued that when adults constrain children's thoughts a 'flight of descent' is maintained. In contrast, she argued, when they listen openly, responding to children's ideas rather than following a preconceived agenda, they can enable children's thoughts to follow a 'line of ascent' that have the potential to more effectively support young children to make meaning and learn.

Davies' comment that children have extraordinary, creative capacities that emerge during intra-active encounters as they make meaning and bring themselves and their community into being as discussed on p.69, resonated with many of the observations for this study, but perhaps none more so than during construction. This was because Caitlin and Lucien were interacting with an everyday resource and yet, through their engagement, they made the activity their own, demonstrating imagination in which their thinking did indeed seem to follow a "flight of ascent". The resources prompted them to explore new trains of thought including the flight of the small-world people and subsequent landing in the imagined mud. This turn in their play was unexpected and creative. Similarly, during socio-dramatic play it was important to listen and watch carefully to allow the children to express their ideas and engage in an imaginary journey without restricting the direction of their thoughts. Jack initiated the activity and encouraged others to join him as described on p.145. Caitlin and Lenny followed Jack's line of flight. During these exemplars the children built on and extended each other's thoughts ranging freely across different areas of the curriculum. Each child contributed to developing creative, ascending lines of thought which the methodology of this study was able to effectively capture. This highlighted the importance of giving children space to explore their thoughts without adult interruption and to observe and document what emerged. In addition, this enabled new insights into how children use multimodal communication to create and share meaning with their peers and how practitioners might be supported to document a greater range of children's learning in the busyness of an early years setting.

One of the aims of this study, addressed in the first research question, and key to the second and third questions, was to explore how children communicate and one of the features of all the exemplars was that children used talk and non-verbal modes to interact and make meaning together.

Non-Verbal Communication

The findings of this study discussed on pp.156-157 supported research that has found children of different ages and different language communities use gesture to communicate and effectively make-meaning and share interests (Flewitt, 2005a; Eriksson et al, 2012; Taylor, 2014; Cremin et al, 2018). This study involved children aged 2-3 years, younger than many studies that have focused on pre-

school children aged 3 years and over or those in primary school. This meant that findings contributed insight about the ways that this age group use communication extending evidence from other studies focused on older children. Eye gaze was noted as a means of indicating and sharing an interest as discussed on pp.156-157, and this supported the findings of Flewitt (2005a) and Nyland et al (2008) about the importance of gaze as a means of communication and integration into an activity. This study also supported Flewitt's (2005a, p.220) assertion that "multimodal analyses illustrate how adults and peers co-constructed meanings not only through words, but also through gaze, facial expression and body movement" which she argued supported a constructionist, neo-Vygotskian perspective. This approach also asserts that knowledge and meaning-making are contextualised, influenced by the socio-material environment and consequently this study compared communicative behaviours between activities rather than between individual children.

Although Flewitt (2006) noted that children rarely participated in extended verbal exchanges without an adult present, she emphasised that this was not to say that the children did not communicate but rather that they found diverse, non-verbal, ways to make meaning and build cooperative relationships. Similarly, in this present study that focused on children younger than those in Flewitt's study, every observation included examples of different children using non-verbal communicative behaviours to successfully co-construct meaning and build relationships with their peers. This was illustrated, for example by the holding up of a small car to show which one was being tried in a drain pipe next or holding up a brush with paint to show the colour being described. These actions which effectively relayed information between peers would have been easy to overlook but were revealed in this study through close analysis of the data and contribute to knowledge about how 2-3-year-olds use multimodal communication.

Talk and Non-Verbal Communication

The results of this study supported Goldin-Meadow's (2003) proposal that gestures, combined with talk, can enable a more complete, unified picture of children's ideas and extended this to children aged 2-3 years. The children used different modes of non-verbal communication that included gesture and action, and did not appear to be contingent on the individual's verbal communication

skills. For example, during small-world, Lenny used the most talk and combined this with other means of non-verbal communication as discussed on pp.127-128. Another example of the use of verbal and non-verbal communication to share new discoveries was offered by Jack when he mixed different colours of paint as described on pp.150-151. The use of posture and action to communicate new learning was also found by Taylor (2014) among older children when they were discussing complex biological concepts during their science lessons.

These examples suggest that sometimes, when children are thinking hard and their cognition is challenged, they find it easier to demonstrate their thoughts using action and gesture than to use verbal language alone.

Gesture-Speech Mismatch

This supported Reynolds and Reeve (2001) and Pine et al (2004) who found that gesture-speech mismatch was associated with a change in thinking and understanding. Goldin-Meadow (2003) suggested that this disparity between what children say and do when cognitively challenged can be explained because gesture provided a visual representational format that enabled incomplete ideas and thoughts to be communicated and shared with others. So, whilst Lenny and Jack used limited talk to describe their findings during small-world and painting as discussed above (p.171), they demonstrated and shared what they were questioning and discovering through their visual gestures and actions that were effectively captured on the video recording. These observations contribute evidence to support Goldin-Meadow's (2003) proposal of a gesture-speech continuum and the notion that different modes of communication sometimes relay different messages or understandings discussed on pp.44-45. In addition, this study generated findings that this phenomenon which had previously been noted in older children, was also observed in 2-3-year-olds. This is important because it means practitioners need to pay close attention to the different messages that young children's multimodal communication might convey to build an accurate picture of their understanding.

Gesture without Speech

Flewitt (2005a) found children frequently used non-verbal communicative to access peer play as discussed on p.65. In this study Alessandro used gaze, gestures and actions without the need for talk to actively participate, share

meaning and initiate play during peer interactions as discussed on p.128. Despite this Alessandro had been assessed as having few communication or social skills as discussed on p.123. This supports Flewitt's (2005a, p.221) assertion that these "silent expressions of meaning" were often overlooked or undervalued by staff and likely to be missed by practitioners. Moreover, children who had verbal communication skills also used non-verbal modes to successfully access play. For example, during small-world, Kylie also initially watched the game from the side lines showing an interest and exchanging gazes with Leo and Lenny before eventually joining in the play. The use of gesture and eye gaze to join activities also supported Corsaro's (2000) assertion that children have to learn strategies to access playful interactions and extended this to younger children aged 2-3 years.

Action to Share Experience and Understanding

The use of action to communicate was noted throughout the observations for this study evidenced in the amount of content in the 'Action' columns of the tables used to record the transcribed data as described on pp.111-112. The children did not simply use action to mimic others but to actively make meaning and share their own thoughts with others and to give added meaning to their verbal communication. For example, when Jack, Lenny, Lucien and Caitlin combined talk with jumping to express their excitement as discussed on p.146. In addition, the physical action that accompanied book reading appeared to enable the children to share more of what they knew than afforded by spoken language alone. In this present study, action was used in creative ways and in material contexts. The children sometimes appeared to use action to show each other what they were thinking rather than using talk. This supported the concept that young children learn through doing as suggested by constructionist theory. During small-world, discussed previously on p.127, action appeared to be an important part of their participation and a means to share their thinking. Moreover, the children in all of these exemplars were not using action when alone, but during interaction with their peers. This supports the idea that action is an important means of communication, sharing experience and making meaning when words alone cannot communicate what young children want to express which substantiated the findings of Puroila et al (2012) and Peterson (2017) discussed on pp.63-64.

Alongside the ability to access play and share meaning, children use communication to support collaboration and participate in their community and culture.

Communication that Supported Social Interaction and Peer Culture

Turn-Taking and Collaboration During Peer Interactions

This study showed that the children engaged in the turn-taking and reciprocity essential to effective communication. Trevarthen (1979) described the reciprocal interactions between infants and their primary caregivers in terms of proto conversations (Literature Review, pp.54-55). Likewise, the children in this study, aged 2-3 years, appeared to closely observe each other synchronising their play around the space, materials and actions of their peers. For example, when during small-world, Lenny and Leo took turns to post and collect their cars from the tunnel, so that each child had a car. In addition, at 5:04 Lenny looked at the tunnel and then Leo and said “One for you and one for me” before taking his turn to post a car reinforcing the reciprocal nature of their activity.

Communication as Dance

Watching the interaction between Lenny, Leo and Alessandro and their play materials, described in the Analysis and Findings (p.128), reminded me of a dance as they exchanged gaze and action and where each partner knew what they were to do and coordinated their responses to fit with the others. Bernstein (2009, p.70) argued that an object “becomes a thing when it invites a person to dance”, to interact with it. However, whereas Bernstein argued that certain artefacts invite or hail a person to engage in a particular or ritualistic way, it seemed that the vehicles and ramps invited and engaged the children in new ways and thinking. So, although these ideas might have been familiar to others with more experience of mathematical and scientific concepts around size, fit, speed and velocity**,** to this group of children these were new ideas. Thus, the children engaged in a novel, but never the less coordinated, dance.

Building on the concept of dance and the importance of small changes in movement, gesture, eye gaze and talk contingent on the actions of others, both human and nonhuman, seemed to reflect Manning’s (2016) argument, discussed in the Literature Review (pp.62-63), that minor gestures are often overlooked because larger or more obvious actions, for example verbal talk, are

foregrounded. She likened gesture to that of a minor key among musical notes that necessitated an openness and listening to be understood. Manning challenged the notion that reason and thinking were linked to stillness and quiet and questioned whether listening and learning could be facilitated through more active postures, bodily movement and action. For me this was exemplified when Lenny showed the big car to Alessandro and then demonstrated that it won't fit in the pipe, before collecting a smaller car and showing that to Alessandro before successfully posting it into the pipe. Lenny did use talk which was in many ways more obvious yet his subtle, non-verbal actions effectively conveyed how his thinking was changing as discussed on p.127. Throughout this observation it seemed that very often for all the children, and especially for Alessandro, communication was characterised by gestures in an arguably 'minor key' that could so easily be overlooked and undervalued yet contributed to the dance that informed the children's learning that afternoon. Likewise, at the beginning of the construction exemplar, the obvious communication was when Caitlin asked Lucien if she could join him and he vocally rejected her request. However, careful analysis of the audio-visual data showed how Caitlin then used subtle, less obvious actions that were easily overlooked to effectively engage with Lucien as described on pp.130-131. These examples contribute knowledge about the range and application of subtle communication used by 2-3-year-olds with their peers that enabled them to make meaning together.

Peer Collaboration in the Early Years

Eckerman and Peterman (2004) and Katz (2004), discussed on p.56, concluded that young children developed social cognition and interpersonal awareness much earlier than Piagetian theory would suggest and this is particularly evident among familiar peers, for example in early years settings. This was supported by this study which offers evidence of communicative behaviours and turn taking that facilitated peer interactions among children aged 2-3 years.

Early Peer Interactions and Friendship

In this study children in the toddler room were observed repeatedly seeking each other out, choosing to spend time together and interacting such that they might be described as friends. Their relationships were characterised by the sharing of interests and ideas, for example in the enactment of a journey during socio-

dramatic play (pp.145-146). This supported Dunn (2004) who argued that the characteristics of friendship vary according to children's developmental age with toddlers and pre-schoolers viewing friendship as the understanding and sharing of interests and offering mutual affection and support.

In addition, Carter and Nutbrown's (2016) research with 5-6-year-olds found that friends were important to them and supporting children's friendships can enable practitioners to gain an understanding of their peer culture as discussed on p.56. The children in this study, although younger, were observed to show similar features in their social interactions. This suggests friendship is important to 2-3-year-olds and, following Carter and Nutbrown's argument, could be supported by practitioners to enable young children to build and contribute towards their community and culture.

Early Peer Culture

Corsaro (1992) studied young children's peer cultures as discussed in the Literature Review (p.57) He proposed a move towards an interpretative approach and away from individualism. His research showed that children created their own culture in early years settings and that this is important in socialisation. The children in this study were younger than those observed by Corsaro but, nonetheless, shared routines and made meaning with each other creating peer culture. This supported the view that young children actively interpret and transform the world around them. For example, during construction when Lucien switched to imaginative play, with no explanation Caitlin immediately recognised and actively participated in the pretence as described on pp.131-132. This was because pretend play was familiar as a regular part of the children's routine and culture that needed no introduction and enabled them to try out and explore concepts through multimodal communication.

An element of peer culture and collaboration, which was evidenced by the 2-3-year-olds in this study, is the potential for learning through the sharing of experiences and thought to create new meaning and understanding.

The Potential of Peers to Support Learning

There has been much debate around how peers might support each other's learning, the role of communication and whether learning is best facilitated by an

adult or peer as discussed in the Literature Review pp.49-50 & 58. From a Vygotskian, social constructionist perspective knowledge is constructed through interaction. Throughout this study the focus was on peer interaction and materials outside of the child. During all the exemplars the children communicated understanding and made meaning that supported learning. For example, during small-world described on pp.123-125, and painting discussed on pp.150-152 the children were exploring new concepts learning through interaction with the materials and communicating their thinking through action and interaction with others and the materials in the space available. Moreover, rather than an adult, another child of a similar age, a peer, might be best positioned to offer a different understanding or perspective that is within a child's ZPD and so maximise the learning potential in a given context, as described on p.58.

Constructing a Narrative Together

Another way that children used communication with their peers to share understanding and which potentially enabled learning was through building a narrative or story. Enacting and engaging with the narrative was prominent when children were engaged with literacy materials as discussed on pp.138-143, however it was also a feature of children's engagement with other materials. In some ways this was similar to communication that made thinking visible because it enabled others to know and share what a particular child was thinking. This communication was not linked to solving a problem or working out how something worked, but rather to explain what was happening in play.

Narrative was also central to the socio-dramatic exemplar where the children acted out their journey. The children clearly knew something about travelling and the preparation needed but used this to develop their own ideas and routines which supported Corsaro's (1992, p.169) assertion that "children creatively appropriate information from the adult world to produce their own unique peer cultures" evidenced through their evolving narrative discussed on p.136 & 148. This study showed that children younger than those in Corsaro's research were creating their own culture informed by their understanding of the adult world. During construction Lucien and Caitlin also co-constructed a narrative building on each other's ideas around flying and landing in mud as described on pp.131-132. The children recognised the play and each understood how to continue and

extend the narrative adding their own novel ideas and information taking elements of what they know which included flying and then landing on earth. In addition, these findings substantiate Puroila et al (2012) who highlighted the importance of listening to narrative as a means to learn about children's experiences and understandings and offers evidence that this argument extends to younger children aged 2-3 years

What Else Are We Missing?

This study was inspired by a desire to understand how young children use multimodal communication and what is captured or unintentionally missed by practitioners under pressure to meet the demands of the curriculum. It is in an attempt to shed light on this that this study will now discuss those themes that emerged that were perhaps surprising or unexpected, and potentially overlooked during the assessment practice in many of our early years settings.

Boys do Talk!

Initially gender was not a focus of this study. However, as data collection and transcription progressed it became clear that boys' communication was unexpectedly prominent in the data as discussed on p.157, which contradicted commonly held expectations. For example, one day the headteacher at the setting casually commented that I would, of course, capture far more communication among the girls because boys talk less and need more language support. In addition, practitioners in the setting were alert to supporting boys' language skills whenever the opportunity arose, because they were regularly told by senior management that girls talk more than boys. However, the empirical evidence to support such assertions is complex. Some researchers have argued that there are biological explanations that account for gender differences in early language acquisition, at least in some respects (Burman et al, 2008; Eriksson, 2012; Zambrana et al, 2014). Conversely, others have suggested that any gender related differences in children's early language acquisition are related to the way society constructs gender and how this permeates children's everyday life, including their language experience. Arguably this intersects with other factors and is actively taken up or rejected by individual children as they construct images of themselves through their multimodal communication (Blaise, 2005). This

somewhat mixed evidence that continues to be debated, is discussed further in the Literature Review (pp.39-40).

The cohort of this study included some children who, before observations began, I had expected to be prominent within the data as discussed on p.157. As the data was gathered and transcribed a different picture began to emerge, in particular relating to the level of male participation. For example, small-world which was outside and away from adult-led activities, predominantly featured Lenny, Alessandro and, to a lesser extent, Leo. In construction, which was again outside, the focus was on Caitlin and Lucien; socio-dramatic included Lucien, Jack, Lenny and Caitlin; and communication during the art activity was centred around Jack. In this study the only observation that focused mostly on communication between girls was captured in the book corner and was one of the reasons for selecting that particular episode as the literacy exemplar as discussed on p.120. Throughout the year there were observations around the different materials, inside and outside, that featured more boys than girls. The field notes included details of where and with who practitioners and children were engaged. Analysis of these notes revealed that the female children who appeared to be missing were often found interacting with adults rather than with their peers. For example, throughout the observation on 9th March it was noted that Emma was sat with a practitioner and Emma, Elizabeth and Eleanor were often noted to be engaged with practitioner-led activities. Although these were among children assessed as having good verbal communication this was often informed by observations of children at circle time, engaged in adult led activities or during interactions with adult practitioners. In contrast, this study focused on peer communication, consequently the data gathered featured children who were engaged in a range of activities making meaning with other children rather than with adult practitioners. Thus, the methodology and data collection tools enabled evidence that revealed the communication skills of some children, in this cohort at least, especially some male children, who were often overlooked in other contexts. This finding has implications for how we observe and assess children and highlights the importance of observing during free play and documenting children's thoughts and communication whilst listening carefully without interruption.

Communicating with adults offers different opportunities for language development. Adults have greater language experience and consequently more

engagement with them might support children's language development including lexis and syntax. This has the potential to lead to those children, in this study predominantly girls, who spent larger amounts of time with adults to develop language skills more quickly than their peers especially in terms of the EYFS learning goals. Additionally, those children, predominantly boys in this study, who spent longer with their peers rather than adult practitioners would learn different skills. This might, partially at least, explain how some of the children in this study who were assessed as having above average language skills had been enabled to build a good understanding of lexis and syntax through their increased contact with adult role models compared to those who spent more time engaged in activities with their peers who were likely to have less knowledge of these aspects of language. Moreover, as discussed by Osgood (2012) the staff in many early years settings are mostly female and this was the case in the setting where I observed. In the room where this study was based there was only one regular male member of staff who, at the time, was a 1:1 assistant working with a child who had been assessed as requiring additional support as discussed on p.85. It would be interesting to know whether, if there were more male practitioners in the setting, this would encourage more boys to interact with them or whether some children, particularly boys, would still prefer peer to peer interaction.

Egocentric Speech

Egocentric speech described when children appeared to use talk directed at themselves rather than another as they played although appeared to be overlooked in the setting as discussed in the Analysis and Findings on pp.157-158. In the middle of the first term the data for the first four observations revealed children engaged in egocentric speech each week. However, practitioners reported that children rarely, if ever, demonstrated egocentric speech which suggested that it had previously been overlooked or missed, perhaps obscured by more obvious actions and the need to focus on collecting evidence towards the EYFS learning goals. This supported, Winsler's (2009) findings that whilst parents often noted egocentric speech in the home environment, it was reported less often by practitioners.

Vygotsky (1978) argued that when children are cognitively challenged egocentric speech supports thinking and provides a window into their thought processes

which was supported by Calderwood (1999) and Nelson (2015) as discussed on pp.47-48. This study found that children aged 2-3-years, also display egocentric speech when their understanding is challenged and to solve problems in their early years settings. For example, when Lenny considered why some cars would run through the drainpipe whilst others did not, he appeared to talk to himself as he used action to physically explore his dilemma as discussed on pp.127 & 157.

In this study spontaneous egocentric speech was often similar to social speech, like that observed by Gillen (2000), except that the context suggested the child was talking to themselves. In addition, children in this study were observed using egocentric speech when they were with others as well as alone. For example, during painting and small-world it was sometimes unclear whether or not Lenny was directing his speech to others and Emma, discussed on p.158, swapped from talking seemingly to herself before she directed her speech to me yet there seemed no difference in communication style.

Singing in Egocentric Speech

Calderwood (1999) observed that singing is often a pervasive part of young children's environments that can be internalised and used to express themselves and for pleasure, as discussed on p.47. Singing was an activity familiar to the children in this study as part of the nursery routine. For example, singing was a regular part of circle time and when the tidy up time song was sung it indicated that it was time for the children to finish free play and put the resources away ready for the next activity. In these instances, singing was almost always a group activity, yet the children appeared to appropriate this genre and reproduce it spontaneously in more solitary contexts.

Children were observed singing to themselves on numerous occasions in this study. Their facial expressions indicated that singing brought enjoyment, hence, might be described as ludic enabling children to play with language purely for the intrinsic pleasure that it brings. Children were observed spontaneously singing familiar songs, for example Lenny sang "1, 2, 3, 4, 5. Once I caught a fish alive" (9th March); humming such as during the socio-dramatic exemplar as discussed on p.145; and making up songs illustrated by Caitlin's "Halloween" described on p.146. Caitlin's song enabled her to express herself which was a function of singing noted by Calderwood (Literature Review, p.47). However, in contrast with

Calderwood, Caitlin produced her song during peer play rather than when she was alone.

The absence of differentiation between social and egocentric speech, including singing, observed during this present study and the ways that it enabled self-expression supported its social origins. This supported Vygotskian (1986; 1962) theory which suggested that attention to egocentric speech might enable practitioners to gain insight into children's thoughts and ideas and that this can be applicable to those as young as 2-3-years-old when playing alone and also with their peers.

Children with Additional Needs (SEN)

Everybody learns differently and needs support at times in their lives. Nevertheless, there are often general patterns or trends of change in the cognitive abilities of children of a similar age who are exposed to a similar learning environment.

Using the EYFS and the steps in the Curriculum Guidance, the participants' 'development' including their communication and language; and personal, social and emotional skills were measured and judged against preconceived trajectories. Haraway et al (2016) argued developmentalism originated from a particular world view and can never be universally applicable, because the world is never experienced by all individuals uniformly as discussed on pp.25-26. Inevitably, some children were assessed as above the expected standard and others below. However, within any group some individuals behave and learn in ways that differ significantly from the majority of others and, in young children, these individuals are often identified as having some sort of developmental or language delay, or given a more wide-ranging diagnosis. These children are often then described as having additional needs, or special educational needs (SEN) that require particular additional support as discussed on p.85.

Labelling and the Deficit Model

The impact of labelling children was highlighted by Hart et al (2004) who argued that every child is different, but nonetheless, they also have potential and a future that needs to be recognised and nurtured as discussed in the Literature Review (p.43). It was this issue that first planted the seed for this study, hence, demanded

recognition within the findings and discussion. During observations for a previous course that inspired this study, it was noted that a child who had Down's Syndrome communicated and made meaning with his peers far more than was recognised through formal observations. This had led to an assessment that this child had few social and communication skills. Similarly, in this study children used communication in ways that had gone unnoticed and, thus, undocumented in terms of their assessment at nursery.

Different Skills in Different Contexts

Most striking was Alessandro, who was assessed as falling below age-appropriate levels in terms of his communication and social skills as discussed on p.123. Within adult led activities this assessment of Alessandro appeared to be accurate. In contrast, with his peers, during free play Alessandro was observed participating in social interactions, making choices and using communication to make and share meaning with others as illustrated on pp.126-128. This again highlighted the need for practitioners to ensure that assessments of children draw on information gathered in as many activities and contexts as possible to build a more complete picture of the child. Additionally, these findings supported the argument that adults need to listen to the many modes of communication children use and be open to be surprised by their different skills and what they can do (Davies, 2014; Hart et al, 2004 as discussed on p.25 & p.43)***.***

Considerations Around Areas of Learning

Different materials and the physical environment appeared to impact on children's peer communication as discussed on p.163. Materials were used by children to explore and make meaning across curricula areas. This illustrated how using the same materials, children's learning was observed to flow following lines of flight spanning different developmental areas as discussed above (p.169). Consequently, Davies (2014) argued practitioners need to listen carefully and openly to most effectively facilitate children's learning. Nevertheless, the curricula documents that inform practice and assessment throughout the education system in England define areas of learning in terms of discrete categories. In the EYFS (DfE, 2017a) and Curriculum Guidance (Early Education, 2012) there are three prime areas of learning and four specific areas as described on p.19. Breaking children's learning into developmental areas enables practitioners to consider what

different activities might offer children and to focus support towards particular goals. It also offers a way to compare different children and ensure that individuals who might be struggling in a particular area are identified and offered targeted support which can be useful. However, with practitioners focusing on particular learning goals, there may be occasions where some skills can be missed. Furthermore, children may be encouraged to use resources in certain ways, curtailing other possibilities and ascending lines of thought.

Issues with the way children's communication was assessed within formal curricula were also noted by Taylor (2014) in relation to year 5 pupils (aged 9-10 years). Her findings, discussed on p.52, led her to conclude that whilst the curriculum, and consequently what practitioners notice, is dominated by linguistic modes, children communicate multimodally learning through a range of semiotic resources but that these are potentially overlooked or undervalued. Nevertheless, as Hart et al (2004) acknowledged measurable outcomes for learning are important and that the UK government at that time was committed to raising standards of education in schools. The results of this study suggest that there is a need for a balance so that practitioners remain open to see other possibilities and give children space to explore materials in different ways and demonstrate skills in ways that practitioners might not previously have considered which is discussed further below. For children such as Alessandro discussed above (p.182), his abilities and knowledge were not recorded and valued in his assessment because the focus was on the skills identified in the EYFS learning goals. This overlooked the communicative behaviours that he did use and which were observed during the course of this study and described on pp.123-128.

What is Seen

The concept of developmentalism and the increasingly common use of photographic evidence to document learning can mean that certain abilities are highlighted and other skills and abilities overlooked as discussed in the Literature Review (pp.69-70). For example, in the setting where this study was based it was common practice for adults to seek opportunities to photograph children demonstrating skills that are highlighted within the EYFS and the Curriculum Guidance whilst overlooking opportunities to photograph children learning skills

that were excluded from these documents, which potentially disadvantaged some children more than others.

In addition, Hart et al (2004) argued that ability labelling, such as that in the EYFS and the Curriculum Guidance, has an impact on pupil identity that impacts on their dignity and self-worth whilst simultaneously influencing the attitudes, expectations and practice of practitioners towards the child, which in turn, limits future learning. Evidence to support this argument was offered by Tizard and Hughes (1984) as discussed on pp.41-42. Consequently, Hart et al emphasised the importance of valuing what children can do rather than what they cannot do which is central to the philosophy that informs the educational practice in Reggio Emilia, Italy where children are seen and understood as rich and full of potential as discussed on p.32 (Edwards et al 1998).

Valuing and supporting what children can do necessitates an openness to listening to the different ways children communicate without preconceptions that might limit the ability to 'see' potential skills and knowledge that might lie outside of the remit of formal curricula (White, 2016; Davies, 2014). If, as Haraway (Gane and Haraway, 2006) argued, all categories and concepts are provisional constructs then new ways to collect and classify things need to be considered. In this respect Haraway supported Latour's argument that this could be effectively achieved through thinking of the world it terms of connections. The need to rethink how to categorise is certainly true at a practical level in the early years sector, because if we are not to fall back into developmentalism, then how might children's learning journeys be best documented to capture the changing skills of all children?

What this Study Revealed

The methodology of this study enabled data that captured young children communicating skilfully using different modes and provided insight into the range of multimodal communication that they use to fulfil many functions and to share and make meaning with their peers. Flewitt (2005a), Taylor (2014) and Flewitt and Cowan (2019) found practitioners often focused on children's verbal communication whilst other modes were overlooked or went unnoticed which was supported by this study and extended to children aged 2-3 years.

Practitioners' observations and assessments were guided by the learning goals in the EYFS (DfE, 2017a) which focused on verbal language because these are

required by Ofsted but this leaves little space or time to notice more subtle communication, for example gesture and action. However, following her review, Maybin (2009, p.222) concluded that research from linguistic ethnography depicted settings as “rich, hybrid places in terms of children’s language and literacy practises” and emphasised the “importance of recognising the diverse, complex functions of language beyond the confines of curricula defined learning outcomes and objectives”. The importance of recognising the many ways children communicate was echoed by Dahlberg et al (1999) who argued that communication is key to learning and that children actively interact and communicate as they build experiences and understanding.

The analysis of peer communication among 2-3-year-olds and the inclusion of non-verbal communication extended the application of Halliday’s categories. This enabled the functions of communication to be explored focused around materials rather than particular children which contrasted with previous studies as discussed in the Literature Review (p.68). Likewise, widening the definition of language to encompass non-verbal modes enabled a greater range of communicative behaviours than had previously been noted in the setting to be revealed consistently over an academic year in this study. For example, when Lenny was exploring which cars fit into the drain pipe tunnel (pp.123-125) or when Caitlin and Lucien discussed the model that Lucien had made (pp.131-132). The children interacted with each other looking, showing, using action, gaze, gesture and talk to express themselves and build on their own and the other’s ideas.

In addition, the researcher in this study was also a practitioner familiar to the children which is not unprecedented but is unusual. This dual role brought challenges as discussed below but also advantages because the children were in a familiar situation that made sense so less likely to behave differently or become shy or overwhelmed by the observations.

Observing as Researcher and Practitioner

As a researcher taking the time to closely study the children engaged in peer interaction around different activities, much more communication was noted than during observations carried out in my role as a practitioner. This was because as a practitioner there are many demands on time and the focus necessarily becomes on what is required to be noticed by the setting to complete obligatory paperwork.

In contrast, as a researcher the focus was much wider and I allocated time to observe without the demands of gathering evidence against narrow criteria. The audio-visual recordings were analysed second by second which enabled less obvious communication, arguably that in a minor key as discussed on p.44, to emerge. This enabled the different modes that children used to communicate to be more fully recognised and valued as advocated by Taylor (2014) and discussed on p.52.

As a researcher more time was afforded to observation and analysis than would have been possible in my role as a practitioner. Consequently, a tension was revealed between the demands of early years practice and the ability of practitioners to build a close, detailed assessment of children's skills across different activities over an extended time period. This issue can be particularly challenging with children who predominantly communicate through non-verbal behaviours or who engage with materials that afford fewer communicative opportunities or are less commonly the site of observations, for example in the outside environment, and their perceived silence risks being pathologised as discussed on pp.61-65. In contrast, this current study was able to contribute evidence that showed all the children were effectively communicating and making meaning with their peers. How a more nuanced picture of children's different communication skills might be enabled given the time constraints practitioners face needs careful thought and reflection and this issue is considered in more depth in the next chapter.

Summary

This study revealed communication that had previously been overlooked among the cohort and the findings are summarised below:

- 2-3-year-olds a greater range of multimodal communication, including egocentric speech, than had previously been noticed during practitioner observations among the participants
- Non-verbal communication and action were more common forms of communication than talk
- Non-verbal communication was often subtle resembling a dance between the children

- Children used communication to fulfil different functions including to access play and interact with their peers
- There were differences in communication linked with different materials
- Children used materials in unexpected ways that enabled surprising, ascending lines of thought expressed through multimodal communication
- Observing children in a range of activities with their peers enabled some children, in this study boys and a child diagnosed with speech and language delay, to show previously unseen communication skills

CHAPTER SIX: PRACTICAL IMPLICATIONS OF THE FINDINGS

This study was based in an early years setting and the researcher was a practitioner. The findings showed that children aged 2-3 years were using communication to make and share meaning with their peers that had previously gone unseen or unnoticed because practitioners are under pressure to meet statutory assessment requirements. This led to some children's skills being overlooked or undervalued and has implications for practice. Informed by the findings of this study ideas about how children's communication could be more effectively recognised and promoted are summarised below before being explored in more detail**:**

- Recognising that children are not a homogenous group but that each individual is uniquely rich and skilful with different communicative preferences
- Raising awareness of multimodal communication so that verbal and nonverbal communication are both valued and recognised
- Raising awareness that different materialites afford different communicative opportunities so ensuring observations of children cover different activities, both indoors and outside, and include spontaneous peer interactions to enable a richer picture of children's skills to emerge
- Considering how to capture communication of children, often boys, who spend much of their time interacting with peers obscured from adult view for example in outside space
- Developing a listening culture and raising awareness of different communicative modes and behaviours, in particular non-verbal communication
- Encouraging practitioners to listen openly when observing and be prepared to be surprised by children's thoughts and actions
- Recognising that the documentation of children's skills is a process rather than individual observations
- Raising practitioners' awareness that documentation can be multimodal including video; written notes; comments from children; and artefacts, and that different modes can support different ways of 'seeing'

- Ensuring that practitioners are qualified and/or have opportunities to engage in training to enhance professional knowledge about the many ways that children communicate and how practitioners and children can co-construct language learning together
- Considering ways to reflect on documentation with other practitioners', children and their families who can all bring fresh insights and a different perspective

Children are Individual, Uniquely Rich and Skilful Communicators

This study showed that all the children used communication and made meaning with their peers. Often children communicated in subtle ways that would have been easily overlooked ordinarily but were enabled to emerge through the methodology of this study and revealed all participants to be competent communicators, which in some instances contrasted with how they were constructed in terms of the EYFS (DfE, 2017a).

Raising Awareness of Multimodal Communication

The UK government in 2019 was committed to measuring and raising standards in early years education as discussed in the Literature Review p.19. This includes utilising what Hart et al (2004) described as an ability model, assessing and labelling children according to predefined abilities, for example in the EYFS. Arguably, that does not necessarily promote, recognise, nurture and encourage the potential and scope that all children have for learning. An ability model, maybe inevitably, segregates children's learning into subject areas in the various curricula documents and then measures children's skills and achievements against pre-determined criteria within these areas.

Hart et al (2004) argued that apart from measurable goals and outcomes, of equal importance is to nurture a love of learning, fascination and enthusiasm and the value of thinking, making links and connections in its own right so that learning is not simply an isolated outcome. These dispositions resonate with the characteristics of learning that are briefly discussed in the EYFS (DfE, 2017a) and reiterated in the Curriculum Guidance (Early Education, 2012). The EYFS states that the characteristics of learning are for practitioners to reflect upon during the planning and facilitating of activities. However, this paragraph is easily lost or overlooked in contrast with the extended emphasis placed on the developmental

statements and learning goals, discussed on pp.19-20, which settings must show that they are supporting children to achieve.

Likewise, Hart et al argued that all children have the potential for learning, change and growth, through a process of transformability with their teacher or practitioner. However, the constraints of the curriculum mean that some of children's changing skills risk being overlooked. This issue was highlighted by Flewitt (2005a, p.220) who argued more than a decade ago that the findings of her study "extended neo-Vygotskian approaches to learning through talk and highlighted the need to develop early years curricula that clearly articulate and value the many ways that young children make and express meaning". This challenge remains today, illustrated by this study that found that whilst children used multimodal communication as discussed on pp.156-157, both policy and practice prioritise the verbal and often overlook the importance of other communicative means and the thinking that it conveys.

How Children's Skills are Assessed

The aims of early years policy are debatable as discussed on pp.24-25, however early years settings in England must meet the standards and criteria outlined in the EYFS (DfE, 2017a) for Ofsted inspection. The effects of these requirements are somewhat ambiguous as discussed on pp.29-30. Evidence that policy and constructions of what children should do or be are too narrow has been offered over many decades (Labov, 1972; Bradbury, 2013). Discussing the constraints that formal education places on young people's ability to flourish, one teacher commented that "pupils are often very gifted in certain areas (model-making, cartoons, diagrams as well as orally) even if they can't write it down. It just seems a shame that we can't judge that more" (quote in Hart et al, 2004, p.227). More recently, since data was collected for this study, there has been greater recognition of a broader range of communication skills illustrated by the document "Birth to 5 Matters: Non-statutory guidance for the Early Years Foundation Stage" (Early Education, 2021). This was written by an early years coalition, composed of 16 early years sector organisations and builds on the Curriculum Guidance (Early Education, 2012). Whilst talk is still prioritised in this document, there is an increased awareness of multimodal communication. For example, it is recommended that practitioners "value nonverbal communications and those

offered in home languages of children learning English as an additional language" and "observe and then mirror a child's interesting movement or series of movements" which, they argue, "can be very powerful with reluctant speakers or children not yet ready to use English" (Early Education, 2021, p.73). Despite this welcome recognition of the importance of multimodal communication, in the early years the focus remains on spoken language as a precursor to literacy that risks other skills being overlooked.

Perhaps the starkest example of this was Alessandro discussed on pp.182-183, however, other children, particularly some of the boys as highlighted on pp.177-179, were assessed as having lower than expected communication and social skills. Yet as part of this study these children were often observed in communicative peer interactions. Arguably, children might show different, sometimes greater, skills when interacting with their peers rather than an adult in their early years setting. However, how to capture observations of children interacting with their peers needs careful consideration given the time constraints and pressures on practitioners. Potentially raising awareness of the ways children communicate, and the importance of an attitude of openness as discussed on pp.193-194, could enable practitioners to be more alert to less obvious, minor yet important communicative behaviours, and mindful of what is happening in the time available.

The Impact of Context, Materialities and Interactions

Activities

Fine grained analysis of the data enabled the gathering of examples such as those discussed above (pp.122-153) that highlighted the need for early years provision to include a wide range of resources that offer children different possibilities to interact and make meaning in many different ways. The type of activity and materials with which children were interacting was linked with differences in their communication yet, paradoxically, resources were used in novel ways across the areas of the curriculum as discussed on pp.166-168. This is potentially important for practitioners when thinking about how to assess and promote communication and to build a fuller picture of individual children's skills. The differences in communication were particularly marked for some participants, including Alessandro who was observed in communicative interactions with his peers

throughout this study as discussed on p.123. Likewise, some of the boys were often observed to communicate with peers outside or away from practitioner-led activities so that their skills were less obvious as discussed on pp.177-179. By focussing observations around different activities and peer interactions over time this study was able to capture hither to unrecorded skills that might otherwise have remained overlooked. This highlights the importance of making time within the busy nursery day to observe in a wide a range of activities, indoors and outside, and with others including peers, to capture the fullest picture possible of how individual children can and do communicate.

Enabling an open attitude and greater appreciation of how children might demonstrate different skills with different people, in different spaces and activities, would require raising practitioner's awareness through some form of training which is discussed on pp.198-199. This could also be addressed through opportunities at staff meetings to look at audio-visual recordings of children engaged in different activities taking the time to look at and discuss what is being communicated. Using recordings enables the observation to be slowed down and replayed so that attention can be drawn to elements that might otherwise be overlooked. In this way practitioners can practice openness and become more alert to what they observe in the classroom.

Why Children Sometimes Appear More Competent with Peers

Alongside materialities, who children interact with can influence the skills that they use and develop. Arguably, children display higher levels of competency with their peers rather than with an adult. Firstly, whilst practitioners are likely to accommodate the child's needs more readily than peers, they might have learning goals in mind that focus their interactions, prompting and noticing particular skills, yet unintentionally constraining or overlooking others. In addition, it is arguable whether children's learning is best supported by adults who may have greater experience, or peers who might be a better match in terms of the ZPD (Vygotsky, 1978) as discussed on p.58. For example, Caitlin showed a surprising level of social skill and tenacity for her chronological age when she engaged Lucien in play as discussed on pp.134-135. Had Caitlin been approaching a practitioner it is likely that they would more readily have responded to her advances than Lucien and thus, Caitlin would not have needed to utilise her skills to the same extent.

Alternatively, had an adult been unavailable to play and said “no”, then Caitlin might have felt less able to use her skills to challenge this response. Once Caitlin had engaged Lucien, their subsequent interaction was interesting with ascending lines of thought that might not have emerged with an adult as discussed on pp.136-137. This has implications for research and practice because both are often adult-led. Yet, as Caitlin showed, some skills come to the fore during peer interactions where children are likely to be more similarly matched than when engaged with adults who are likely to be more able and have greater experience beyond the child’s ZPD. As a practitioner it is easy to focus on supporting children to reach learning goals however, during this study, I came to realise the importance of balancing this with giving children the time and space to demonstrate their skills in their own way without preconceived targets in mind. In terms of settings, this highlights that children need opportunities to explore open-ended resources alongside their peers without planned outcomes as well as access to more adult-directed activities.

Listening Openly and Being Prepared to Be Surprised

To enable us, as adults, to understand the knowledge that young children possess necessitates that we listen to them without prejudice, open to different ways of thinking about the world and how children communicate their thoughts in myriad different ways as discussed on pp.168-169. This was supported in this present study that captured data in which children were observed using materials in unexpected ways communicating through multiple modes to create meaning with their peers. For example, during the episode of socio-dramatic play discussed on pp.144-146 the children pretended to go on a journey using real bags and blankets that they chose how to interact with to build their narrative. Again, during the painting exemplar during which the adult goal was to encourage the children to identify primary colours while painting boxes for a group model, Jack made new colours and caused bubbles to appear that he excitedly shared with his peers (pp.150-151).

Children are Creative and ‘Think Outside the Box’

Sometimes children create possibilities from their rich imaginations that, to adults are unexpected and outside of what might have been envisaged, but which children are able to share and explore with their peers when given time and space.

This ability was illustrated by Lucien when he imagined that there was mud on the decking with Caitlin when interacting with construction materials for which the learning goal was to build with bricks (p.131). The use of multimodal data gathered over an academic year was invaluable to record these observations because I was able to replay and revisit the interactions many times over and analyse them in fine detail. This enabled this study to note communication among 2-3-year-olds that could easily be missed in the busy, often noisy early years environment and add to evidence from previous research that noted multimodal communication in preschool children often aged 3 years and over as discussed on pp.63-65. One way to address this would be to raise awareness of the different ways children communicate through training sessions as discussed above on pp.191 & 198-199. In addition, the increased use of recorded observations that enable practitioners to closely review and analyse children's activity and participate in shared reflection to identify different modes of communication could be utilised more widely.

At times the audio and visual data recorded something that had been missed in the field notes, particularly in terms of small gestures or eye gaze, but also occasionally in words that were missed. However, field notes were also important especially because in these details of the wider context could be noted, for example that it was the first warm day of spring on the 9th March as discussed on pp.122-123, or that eye gaze was directed at something outside of the scope of the audio and visual recordings. This highlighted the importance of keeping the context of individual observations in mind. Whether in terms of the wider context or fine-grained analysis it is paramount that practitioners listen openly.

Listening is Crucial

Davies (2014) highlighted that it is crucial for adults to listen and observe, open to being surprised as discussed in the Literature Review (pp.68-69). She argued that this is because children create knowledge, following lines of flight sometimes outside of that suggested in formal curricula documents or imagined adults. Exactly what that knowledge is will be different in each place and at different times because each child will bring different skills, experiences and interests to the materials. This was illustrated in the present study when children expressed thoughts and made meaning drawing on their own experiences and imaginations as discussed on pp.168-171. Alongside an openness to the knowledge children

create and planning that is responsive to their skills and interests, recording of children's learning journeys is important for them, their parents and practitioners to enable reflection and as evidence of learning.

Documentation: A Process that can be Multimodal and Co-constructed

Informed by a more socio-cultural view of play and learning, recogonising and more accurately recording the varied communicative styles that young children choose to use might be informed by, what Clark (2005, p.500) described as "a culture of listening", in which the views and perspectives of both adults and children are valued and debated. One way to promote listening to children's multimodal communication is through the use of documentation inspired by the work of Reggio Emilia (Dahlberg et al, 1999). Dahlberg et al (1999, pp.146-147) described this 'documentation' as a "process of visualisation" that attempts to understand what is going on "without preconceived framework or expectations" and the 'document', rather than a reality, is a social construction hence the child(ren) and practitioner together co-construct the documentation. The concept of documentation enabling learning to be visible was evidenced in this study where a combination of tools enabled children's skills to be made more visible as noted on p.159. To translate this into practice would necessitate using a wider range of media to collect information about children's learning across a range of activities including those that do not have a planned outcome such as spontaneous peer play. There would then need to be time to reflect on what data showed children to be doing and thinking.

Observation as a Process

This study demonstrated that children are able to actively and creatively make meaning with their peers that was captured during ethnographic observation. In contrast, Dahlberg et al (1999, p.146) argued that documentation is not observation because, they contended, observation is a "technology of normalisation", a means to assess, categorise in relation to predetermined categories. Whilst this might be true when children are observed for the purposes of assessment against prescribed criteria, in this study observation was not constrained by the EYFS or other predefined categories. The findings suggested that valuing observation as a process rather than simply for assessment and raising practitioner awareness of how children communicate around different

materials is important. This is because children have and use skills and knowledge that might not be included in the EYFS or other documents and widening the scope and nature of observations could enable a greater range of skills to emerge and show how all children actively and creatively make and share meaning often through their multimodal communication.

Documentation Is Multimodal and Co-constructed

Capturing a range of communication can be challenging and an important aspect of documentation is that it can be multimodal. Edwards et al (1998) suggested that, within the process of documentation, the teacher's role is to be an attentive observer and researcher who must create opportunities to listen, using all their senses, so that children can share their ideas, generate hypotheses and create knowledge that is made visible. Documentation can include drawings, written work, children's words scribed by an adult, artefacts, and digital media such as audio and/or video recordings and more. Technological advances have meant that digital media is increasingly used to record observations of children as discussed on p.94. One of the advantages of video evidence that was highlighted by McKinnon (2007) is that it can be slowed down, reviewed and analysed. This means it is a valuable tool in terms of research, as in this study, and as a way for practitioners to review, notice and reflect upon more of what children are doing to inform practice and the planning of a more flexible curriculum that builds on children's strengths and interests. In addition, as children create meaning and share their learning with others, they also have the opportunity to revisit, interpret and reflect upon their learning journey that can be a catalyst for discussion and the creation of more knowledge and learning. Furthermore, Whalley and Dennison (2007) highlighted that documentation can facilitate more effective communication with parents and carers that can enable greater understanding and build a more holistic picture of individual children.

This strategy of collaboration between parents and the setting around documentation is already supported by many settings utilising digital systems and commercial packages including *Target Tracker* as discussed on p.21. Flewitt and Cowan (2019) noted that digital documentation has both potential and limitations. Among the advantages of digital documentation were that parents found this more accessible than paper formats; and that the use and incorporation of video offers

the potential to observe and document aspects of play that might otherwise be overlooked. However, they also noted that digital documentation presented challenges including the potential for iPads or other devices to interrupt interactions with children and the limitations of commercial packages that can be rigid, offering little flexibility in terms of layout, design and opportunities to reflect on children's learning that potentially constrains what is seen and recorded. To overcome these challenges practitioners' need support from managers and policy to recognise and record children's learning that might follow unexpected pathways as discussed on pp.193-195. This would require documentation to include multimodal observations, records and artefacts that reflect, recognise and value what children are doing and the meaning they are making regardless of whether it links to the EYFS or other specified goals. Potentially this could be collected during the nursery day by raising awareness of the importance of observing children engaged in spontaneous play inside and outdoors and through training so that more of children's multimodal communication is noticed as discussed below (pp.199-200).

Thinking Critically about how Observations are Recorded

Increasingly digital media is used to record children's learning journey's which can enable a greater range of communication to be captured as discussed above (pp.196-197). Nevertheless, there are issues that arise and need careful consideration as discussed in Methodology (pp.94-95). Additionally, the camera is not a neutral tool, but rather decisions are made about what to photograph as discussed on p.95. The visual, Lindgren (2012) argued, needs to be recognised as a tool that, whilst it does document and reveal, is also productive and contributes to social formations and constructions that need to be considered. A crucial difference between the ways that such methods are currently used and the way Edwards et al (1998) described the process of documentation is in terms of what is being listened to. This resonates with Davies' (2014) argument and the findings of this study that however learning is recorded, practitioners need to think critically and be receptive to children's subtle communication as well as more obvious behaviours and to look beyond the need to evidence particular, predefined skills and attributes. This could be enabled through training and raising awareness as discussed below and by increased opportunities for practitioners to reflect

together. For example, excerpts of observations could be shared and discussed as a regular part of staff meetings.

Practitioner Training and Professional Development

In order to see other possibilities beyond those in the early learning goals or be surprised by children's thoughts, meaning-making and communication requires a highly educated workforce. However, recruiting and retaining highly qualified practitioners capable of reflecting and seeing in different and novel ways is challenging and complex, not just in England but across Europe and further afield (Elwick et al, 2018; Van Laere et al, 2012). In the setting where this study was based staff held a range of qualifications as discussed on pp.88-89. The nursery required practitioners to be qualified to Level 3 or above, but assistants were only required to be qualified to Level 2 and, at times, this was waived due to issues of recruitment and retention of assistants.

Among the factors that have been identified behind the issue of recruiting and maintaining well-qualified practitioners are that: the early years sector does not have a strong reputation for offering good career progression or varied career opportunities; childcare is seen as a female occupation; and that ensuring continuous professional development opportunities is often a challenge (DfE, 2017e). These issues were explored by Osgood (2010; 2012) who argued that, despite attempts to professionalise the early years sector, for example with the introduction of EYP/EYT status, practitioners were often constructed in paradoxical ways by parents and carers both as 'expert' and as 'classed subject' which could negatively impact on retention of an experienced, well qualified early years work force. To recruit and retain an early years workforce that is more highly qualified and able to recognise the different ways our children make and share meaning might require practitioners to be more positively constructed and their knowledge and experience accorded greater value.

Moreover, as this study found, the opportunity to work as a practitioner and pursue study as a researcher enabled communication to be revealed that had a positive impact with the assessments of some children's skills being adjusted in light of these findings as discussed on pp.185-186 & 200. This highlighted the importance of opportunities for practitioners to participate in opportunities for professional development which can be challenging to facilitate in busy settings as noted by

Georgeson et al (2014). One way to approach this could be to regularly allocate time during staff meetings as well as on inset days to provide information about relevant training opportunities; to invite speakers to deliver sessions for example on subjects such as multimodal communication or working with 2-year-olds; or to review recordings as discussed on p.192.

Reflecting with Others

Practitioners' dedication, enthusiasm and desire to improve children's outcomes was noted by Georgeson et al (2014) and evident in the setting where this study was situated. However, practitioners are under pressure from the demands of the EYFS as discussed on pp.29-30, and consequently have little time to make fine-grained observations and thought needs to be given on how this can be enabled. One potential way that has been utilised in Penn Green discussed on p.33, is for one person to record observations of children together that can then be shared among the practitioners. At the time of this study each practitioner in the setting was responsible for ensuring they themselves observed each of their key children. A different approach could be that observations of children around different materials and activities are recorded and shared between practitioners for example during staff meetings. Alternatively, different practitioners can view the observations and note what they see among their key children, again to share with others to ensure practice is consistent and enable different perspectives to be considered. This would potentially be more time consuming than simply observing when leading an adult-led activity, but less time consuming than each practitioner recording a wider range of information individually. It may be that practitioners could look at observations from one area of provision and children's communication in that space during each staff meeting on a rolling basis. Alternatively, practitioners could take turns to be responsible for making the observations to be shared with others again on a rolling basis. In each of these approaches the emphasis is on widening the activities that are observed and on sharing information between practitioners. In this way hopefully it would be possible to enable a wider range of observations that can be reviewed and revisited by different practitioners to reveal more of children's skills within the time constraints of daily practice. What works for each setting will be different and likely will change and evolve over time. However potentially finding ways to gather a

greater range of observations to enable closer analysis and reflection, as this study did, could reveal more of young children's communication.

Another important aspect is to raise awareness of multimodal communication so that a greater range of communicative behaviours become more noticeable. This could again be facilitated through the sharing of research such as Peterson (2017) discussed in the Literature Review (pp.63-64) and this study; and opportunities to discuss how this relates to practice. These ideas could then be extended to explore observations that had been collected enabling discussion and collaboration between practitioners. This, in turn, might enable new ideas and perspectives to emerge and be shared to inform a more flexible, responsive approach to curricula planning and documentation.

Sharing Knowledge

The advantages of sharing knowledge and discussion of ideas between practitioners, may be illustrated in a small way through an informal conversation that took place in the setting where this study was based. The knowledge and insight that was created about the importance of observing children in different activities and with their peers as well as adults was shared with practitioners at the setting. A few weeks later a practitioner reported that she had made time to observe children in the outside space during peer interactions. This enabled her to document communication among some children who she had previously assessed as using little communication based on observations during adult-led activities. As a result, the practitioner was able to recognise more of children's communication and build a fuller, more nuanced picture of their skills and abilities. This example illustrated the importance of practitioners sharing knowledge and experience to develop practice and positively impact on how some children were assessed. In addition, the new knowledge about children's skills was then able to inform the planning and ensure the opportunities children were offered more accurately supported their interests and next steps.

This current study found that young children effectively communicate and make meaning through modes other than talk and, thus, their gifts and skills are often overlooked. Increasing practitioner awareness of children's multimodal communication, encouraging an attitude of openness and listening, and exploring different approaches to documentation, could create conditions where all

children’s skills can be more effectively recognised and supported. Moreover, this argument was supported in small ways during this study when informal discussion in the setting about knowledge that was emerging led to some practitioners becoming more alert to communication that was previously unseen as described above. This positively impacted on how multimodal peer communication, including minor gestures, were valued, understood and supported in the ongoing interactive dance, with others and materialities, that underpins children’s meaning-making and learning journeys.

CHAPTER SEVEN: CONCLUSION

This study explored the ways that children aged 2-3 years communicate and make-meaning during peer interactions with different materialities in an early years setting. A socio-cultural approach, informed by Vygotskian theory, was taken. Children were perceived as rich, capable active participants in their community learning through participation in activities with others and their environment. This study brings together these factors utilising social semiotic theory to contribute knowledge about how 2-3-year-olds use multimodal communication with a focus on material objects during interaction with their peers. In addition, the findings of this study offer evidence about how very young children negotiate socially and use egocentric speech, which offered insight into their thoughts, both when playing alone and with others. An ethnographic methodology and use of multimodal data using field notes, audio and visual data collected over an academic year effectively enabled a rich description of the communication young children use to co-construct and share meaning with their peers. Analysis of this rich data enabled the research questions to be addressed.

Addressing the Research Questions

In response to the first research question about how children communicate with their peers, the data generated from this study enabled communication skills that had previously been unseen in the setting to be made visible. The children were observed to use a range of multimodal behaviours that included action, gaze, imitation and vocalisations with their peers. Non-verbal modes were used more frequently than talk and these, often subtle, behaviours were effective enabling the children to share and make meaning.

Data was collected in relation to materialities rather than particular children, and analysed in terms of Halliday's (1975) categories which enabled the second research question to be addressed. Because this study defined communication as multimodal Halliday's categories were applied to vocalisations and non-verbal communication. There were times when defining the function of particular instances of communication required careful consideration illustrated on p.162. Nevertheless, the categories were useful and enabled identification and comparison of how multimodal communication was used across different activities.

The results supported Flewitt's (2005a) argument that children use different styles of communication when engaged in different activities and extended this to include 2-3-year-olds who were the focal age group in this study. Different materialities were also linked to how open or closed spaces were which also appeared to influence the opportunities for peer communication as noted on pp.155-156.

In terms of the third research question about which aspects of children's communication are captured (or missed) by current practices of assessment, and with what consequences, this study found that children use a greater range of communicative skills than are recognised within the EYFS (DfE, 2017a). In addition, this study concluded that some aspects of children's communication were inadvertently overlooked or missed, in this study particularly some of the boys as discussed on pp.177-179. The data collected offered evidence that supported Flewitt's finding that non-verbal communication was frequently overlooked by practitioners and that this was also the case for children aged 2-3 years. Moreover, this study found that this was, in part at least, attributable to the pressures of assessment to meet the standards in the EYFS that meant practitioners focused on particular communication skills, often the verbal, overlooked other equally effective modes of communication. This was compounded by differences in the communicative opportunities offered by different materialities such that children's activity choices impacted on how they communicated and what was seen. In addition, this study noted the prevalence of egocentric speech which appeared to be largely overlooked in the busyness of an early years classroom. Consequently, for some children the skills that were (un)noticed by practitioners led to a lower assessment of their communicative abilities than evidence collected for this study suggested. This is important because through language children make their knowledge visible. Thus, if some communication is missed it is likely assessment of their knowledge and understanding of other areas will also be inaccurate. As a consequence, they are likely to be offered opportunities and support below their ZPD that do not maximise learning potential.

This study concluded that a way needs to be found to enable a more complete, nuanced representation within the time constraints of a busy early years setting. Yet this representation needs to capture and celebrate the individuality and unique

skills of each individual and the myriad, rhizomic paths along which their ideas and thinking may travel, ascend and develop as they grow and change.

Practical Implications

Informed by a socio-cultural perspective, and drawing on the findings of this current study and other research (Edwards et al, 1998; Dahlberg et al, 1999; Hart et al, 2004; Whalley and Dennison, 2007), some implications for policy and practice emerged which were discussed in Chapter Six (pp.188-201) and now are presented as a concluding summary. These included that early years practice could be enhanced and more effectively promote, recognise and document all children's communication by raising awareness of different communicative modes, especially non-verbal, more minor gestures. This study also highlighted the importance of listening and being prepared to be surprised by what children's communication reveals which is important because through language children make visible their thoughts, ideas and interests. It is only by understanding what children already know that we can effectively support their learning. In addition, this study revealed that children use different modes to communicate ideas during interaction with materialities. For this reason, it is important to observe and document children's behaviour through a variety of media, in different spaces and during a variety of activities that can enable a more holistic picture of children's skills and abilities. In this way the risk of missing or undervaluing some children's abilities and knowledge can be reduced which in turn means that planning can be more effective to address children's current learning and interests. Developing a listening culture, raising awareness of multimodal communication, the affordances that different materials offer and ways to document learning is likely to necessitate opportunities for training and professional development. This can be a challenge for practitioners and managers when there is a lack of time in the busy early years settings where tasks must be prioritised. Consequently, training, observing and documenting learning are often necessarily allocated relatively little space in the nursery day to the detriment of some children whose communication is arguably less visible. Resolving this challenge would need careful consideration as discussed on pp.197 & 199-200.

New Insights

As this study progressed and the observations were transcribed and analysed, it was striking how often the children used the resources and materials provided in new and creative ways, different from how the practitioners, including myself, had imagined. This gave me a new insight and respect for the skills and abilities of the children and how they were actively making meaning and contributing to their world now in ways that had previously gone unnoticed. The creativity and ingenuity that was captured by the use of multimodal data collection is best encapsulated by Malaguzzi in his poem 'The Hundred Languages of Children', an extract of which is attached in Appendix 5 (p.243). Malaguzzi said that all children have a common gift, that of potential, and it is up to us to offer as wide a range of experiences and resources as possible. This is because the wider range of possibilities we offer children, Malaguzzi (Edwards et al, 1998) explained, the greater will be their motivations and the richer their experiences. As Corsaro (2000, p.91) highlighted, practitioners, other professionals and society need to not "Think of childhood solely as a period when children are prepared for entry into society". But rather think of children as "already a part of society from their births, as childhood is part and parcel of society".

This study contributes knowledge about how 2-3-year-olds communicate, often using subtle modes in a complex dance that is easily overlooked by practitioner under pressure from the demands of the curriculum. In addition, this study explored how we might more effectively see communication skills within the everyday lives of our children, to value their ideas communicated in different modes around different activities, and the contribution they make to their own and their peers learning, their culture and the communities to which they belong.

Reflecting on Methodology and the Limitations of this Study

As discussed in the Methodology chapter of this study (pp.116-117) the cohort was small and thus results are not generalisable. Nevertheless, as Yates (2003) and Law (2006) have highlighted, small scale studies are none the less valuable as discussed on p.116. Furthermore, some (Adair, 2010; Buchbinder et al, 2006; Eder and Corsaro, 1999) have argued that ethnography is particularly useful as a methodology in early years research as highlighted on p.76. Moreover, Adair argued that the findings generated through ethnographic studies, despite their

small size, could effectively inform policy and practice developments. This is because, arguably, ethnography enables a richer understanding of young children's experiences (Adair). This was supported by this study which was able to capture observations of children interacting with their peers in ways previously unseen or unnoticed. Collecting both audio-visual recordings and field notes was valuable because the audio-visual data enabled a fine-grained analysis of children's communication whilst field notes enabled communication to be contextualised.

One issue that arose throughout the study was to challenge and reflect upon my own subjectivity. Music (2010) described the challenges that all researchers face in acknowledging difference and suspending assumptions, informed by cultural and personal values, that inevitably influence our perceptions and ideas. This is undoubtedly a challenge, particularly during 'insider' research and was highlighted by Corbin Dwyer and Buckle (2009). They argued that the researcher's "perceptions might be clouded by personal experience" (Corbin Dwyer and Buckle, 2009, p.58). Similarly, Le Gallais (2008, p.146) suggested that the insider researcher's "involvement and proximity to the setting might challenge the validity of the research".

However, Corbin Dwyer and Buckle argue that being an outsider does not necessarily ensure objectivity. In addition, Le Gallais argued that all researchers, whether they are 'inside' or 'outside' the setting, are likely to find differences and similarities in their understanding or appreciation of the situation under investigation. As such, Corbin Dwyer and Le Gallais proposed a researcher continuum, discussed on p.105. Moreover, Corbin Dwyer and Buckle argued that in any study the researcher "personhood affects the analysis, so, too, the analysis affects our personhood" (2009, p.61). From this perspective subjectivity can be seen to be a fluid concept that both affects and is affected by the research process.

Le Gallais argued that what is important is for the researcher to be aware of and reflect upon their own position and subjectivity. She suggests that one way to promote this was through a reflective journal which was something that I kept throughout the research process and found useful to assist me to think about my own assumptions and how my thinking changed over the course of the study and

the experience of being practitioner, student and researcher reading different literature; gathering, analysing and reflecting upon the data in an iterative cyclical process. Crucial to this was also the opportunity to discuss and challenge my ideas on different levels with my academic supervisors, other practitioners, the children and their parents. Although it did not entirely resolve the issue of my subjectivity, other perspectives were added which enabled a more reflective approach that I hope enhanced this study and my own practice.

One aspect of my subjectivity that required careful consideration was that because I knew the children well and wanted to show their skills it was necessary to take care not to read too much into what was observed. Ideally all the data or a high proportion would have been shared with other practitioners but time constraints made this impossible. I did share data informally with other practitioners who were interested and in agreement about the communication I noted. In addition, when children showed unexpected or surprising skills, I would look at the data for similar examples and also discuss the observations in general terms with parents who confirmed behaviours they had seen in their children at home. Sections of the audio-visual data were also shared with my supervisors to check that they agreed with the analysis.

My dual role as practitioner and researcher brought challenges including the difficulties for myself, other adults and the children to differentiate between these roles and arguably it was impossible to switch entirely from one to the other. Steps were taken to address this with the children, other adults and for myself. These included asking the children if I could watch them play; observing during my free time with a break between my time focused on being a practitioner and then on being a researcher; and, whenever possible, asking other practitioners to support and care for the children whilst I observed to remain as separate as possible as discussed on p.89 & 105-106.

The challenges around subjectivity and my dual role as practitioner and researcher meant it was difficult to know if, despite my efforts described on pp.101-102, children had given meaningful consent or what more I could have been done to address this issue. The possibility remained that participants, children and practitioners, may have felt reluctant to refuse consent because of their relationship with me. This was something of a dichotomy as this study sought to

position children as skilful, strong and actively participating in their community. Whilst acknowledging that my dual role might have compromised the extent to which children could be said to have given informed consent this was an issue that was never fully resolved.

Another consideration discussed in the Methodology chapter is that the trustworthiness of qualitative studies is important. Kirk and Miller (1986, p.32) argued that although we can never be absolutely sure that we understand all the "idiosyncratic cultural implications of anything", the best check we can make is to ensure a "good theoretical orientation and good rapport over a long period of time". The first of Kirk and Miller's assertions was covered in the Literature Review that established the rationale and theory that informed this study. In terms of their second point, that was supported by Lincoln and Guba (1985, p.307) who argued that findings are more credible if the researcher is able to demonstrate a "prolonged period of engagement"; this present study consisted of data collected throughout an academic year with a good rapport established over an extended period as discussed on p.77.

The observations represented consistent behaviour over the year with concurrency between field notes and the audio and visual data. Savin-Baden and Major (2013) recommended triangulation and member checking as strategies to ensure quality during the research process and the consistency between field notes and the audio and visual data might have provided this to some degree. Additionally, while, arguably, the children were too young to member check with directly, frequent anecdotal discussions with other practitioners and observations from my own daily engagements indicated that the children's interactions and behaviour were similar to their behaviour at other times. Furthermore, ad hoc conversations with parents and carers indicated that the communicative behaviours recorded in the data were in line with what families observed in their children at home. It would also be interesting to observe in a different setting, perhaps in an area with a different socio-cultural mix, and compare the findings to identify any changes in the communication styles and modes used. However, what the observations enabled was a rich description of children's peer interactions and communicative behaviours and the time to really analyse and notice the detail of what particular children were naturally doing, the communication that they used and the meanings they constructed with their peers.

Peer communication could have been explored by other methods including structured and/or unstructured interviews either with practitioners working with children or with their parents and/or carers, however these would have risked missing any communication that was overlooked in the busyness of daily life or, as has been discussed above because non-verbal communication was overlooked and talk prioritised (p.77). Given the age of the children, ethnography enabled data about their peer communicative interactions to be gathered directly and enabled everyone in the class to participate, whatever their communication skills and preferences, without relying on other's perceptions.

The data for this study could have been interpreted and analysed from different perspectives within a broadly socio-cultural ontology as discussed on pp.112-113, However, given that this study focussed on how children communicate with their peers, applied linguistics and the work of Halliday (1975) was utilised. Analysis was facilitated through the adaptation of Taylor's (2014) table as discussed on pp.111-112. This table enabled a clearer picture of children's different communicative behaviours to emerge and drew attention to the prominence of action and non-verbal communication. Halliday's categories that were constructed to describe the functions of young children's talk discussed on pp.113-114, were useful. The categories provided a framework that enabled a picture to emerge of how the children were using verbal and non-verbal communication during peer interactions and how the functions of communication varied linked to materialities.

As part of the planning for this study one issue that was given careful consideration was whether to follow children home and compare their communicative behaviours at home with those at nursery. Whilst this might have yielded a useful comparison, at home children are likely to receive more adult attention and interact less with peers of their own age and with material resources different from those at nursery. Consequently, any differences in communication style could have been attributed to myriad factors and, as the focus was peer communication, the early years setting was pertinent. There were also practical and ethical issues with following the children into the home environment. Thus, this study was limited to peer communication in the nursery.

Future Research

Following the discussion above, future research might explore the differences between children's peer communication in different contexts including home, nursery, with childminders or in toddler groups. However, this would require consideration about which factors impact on any differences observed in communication for example, but not limited, to differences in: the ages and experience of communicative partners; the physical and social environment; and the materials and activities on offer.

In addition, this ethnographic study was small-scale as discussed on p.116. One direction for future research would be to replicate the methodology in other early years settings who have a different approach or ethos as well as with a different cohort and explore how far findings are similar and where there are differences. In addition, it would be interesting to use a similar methodology to explore the communication of children as they grow and gain more experience of interacting with others and using language, especially with their peers. Furthermore, these two strands could be usefully combined through longitudinal ethnographic research using multimodal data collection to observe children in their early years settings and beyond to explore how their peer communication might change as they grow and enter the primary school years. In these ways a still richer picture of children's peer communication could be constructed to build on the knowledge generated in this current study.

Summarising the Knowledge Generated by this Study

In the early years the focus is often on spoken language as a precursor to the literacy that becomes central to education in primary school and beyond. In contrast, this study utilised an ethnographic methodology that enabled a rich description of the multimodal peer communication children, aged 2-3 years, used to make meaning across a range of activities during free play, in their early years setting revealing hitherto unseen communication skills among some of the cohort. This enabled knowledge to be created about how different materialities afford children different communicative opportunities and how practitioners, under pressure to meet the requirements of statutory assessment, might inadvertently overlook some communication skills. However, by increasing practitioner awareness of the countless ways children communicate and exploring new

multimodal approaches of documenting and reflecting upon their thinking and learning, it could be possible to take action to enable the skills and abilities of all our children to be more effectively recognised, nurtured and treasured.

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APPENDIX 1

S

Practitioner Consent Form
Exploring Young Children's Peer To Peer Communication In An Early Years Setting

	Please initial or tick box
I agree to take part in this research which is to explore children's peer communication.	
The researcher has explained to my satisfaction the purpose, principles and procedures of the study and the possible risks involved.	
I have read the information sheet and I understand the principles, procedures and possible risks involved.	
I am aware that it is possible I will be observed in the course of recorded observations.	
I agree to the researcher taking making audio-video recordings during the project.	
I understand how the data collected will be used, and that any confidential information will normally be seen only by the researchers and will not be revealed to anyone else.	
I understand that I am free to withdraw from the study at any time without giving a reason and without incurring consequences from doing so.	
I understand that the anonymised data might potentially be reused in an unidentifiable form for training and educational purposes. I consent to the data being used in this way.	
I understand that in the unlikely event of an incident of serious possible or actual harm of any kind being suspected or witnessed during observations then, this would be reported and access to the data given to the designated authorities. Procedures would follow standard child protection and/or whistle blowing policy.	

Name (please print) ……

Signed …….. Date ……

Address……...

…….

……..

Email……....

Thank you

APPENDIX 2

S

Information For Participants

Exploring Young Children's Peer To Peer Communication In An Early Years Setting

What is the study for?
I am currently undertaking postgraduate (doctoral) study at the University of Brighton.

What will it mean for me and my child(ren)?
I am studying how children talk to and communicate with each other in the course of their usual activities in the nursery by observing, audio-video recording and making notes. The study is about spontaneous communication and it will also focus on the different areas of the nursery where children may gather (eg, home corner, wet play, etc). I will aim to observe different activities for around 45 minutes four or five times each half term, outside my normal working hours when the room is staffed by other practitioners to ensure the quality of your child's care nursery experience is maintained. It's important to note that your child may or may not actually be observed in practice – it depends on where I am focusing my fieldnotes and camera at the time. (If they are not observed, this only reflects their choices at those times, and nothing else). Because there is evidence that young children show greater communication skills at home than at nursery, later in the project I might ask to talk to you about your child's communication. Your child will not be specially advantaged by being observed, nor would they be disadvantaged in any way if they were not. I hope the research would help me develop as a practitioner and to share my findings with others.

Does my child(ren) have to participate?
No. It is up to you to decide whether or not to agree to let your child to be observed. If you decide he/she can be observed, you will be asked to sign a consent form however you/your child is still free to withdraw at any time and without giving a reason. If you decide he/she will not participate the research may continue but your child will not be included on observations and no notes will be made of their communication.

What about confidentiality?
To comply with the Data Protection and Freedom of Information Acts recorded data will be anonymised (eg children will be given pseudonyms), and personal data treated as confidential. You can request to have any data relating to your child destroyed. All data will be securely stored in electronic form in a locked drawer.

Can I change my mind?
Yes. If you decide, at any time, that you do not want your child to be observed, that is absolutely fine and you do not have to give a reason for this. If so, the research will continue but no notes will be made of your child's communication.

What will the observations be used for?
The anonymised results will form part of a thesis to be submitted to the university. There might be some potential re-use of the data as the basis for discussion with other practitioners and academics about what my research might show and how it might contribute to rethinking our practice. Images from the study will not be included unless in an unidentifiable form.

Can I see the data?
No, not normally, but I am happy to give you verbal feedback on request and you can access other recordings in your child's learning journey as usual.

What if I want to talk to someone else?
If you have any concerns or wish to talk to someone else please contact my supervisor Dr Sara Bragg, Senior Research Fellow, Education Research Centre, B325 Checkland Building, University of Brighton, Falmer, Brighton BN1 9PH. s.bragg@brighton.ac.uk, or alternatively Prof Andrew Hobson, Head of the Education Research, Education Research Centre, B326 Checkland Building, University of Brighton, Falmer, Brighton BN1 9PH. A.Hobson@brighton.ac.uk.

If any aspect of the study raises issues for you that are at all concerning or unsettling please speak to me so that we can address your concerns and arrange extra support if needed.

The study has been reviewed and approved at by the College Research Ethics Committee.

Thank you for taking the time to read this information sheet.

APPENDIX 3

Extract from Field Notes 9/3/17

The planning in the room is still based around nursery rhymes with this weeks focus rhymes Incy Wincy and Five Little Ducks. Consequently the home corner has dough, rolling pins and cutters for a bakers shop, there are large spiders and paint on the central table; numbers and mark-making materials on another tables; and musical instruments on the floor. It is a lovely sunny, mild spring day so the door to the decking is open and on the decking are four ride on cars and the children and an adult have made three ramps for the small world cars. When I begin to observe the room is calm and happy with most of the children outside where three are involved in the small world ramps and cars activity.

Leo and Lenny are playing with small cars and the ramp and Alessandro is watching them

Lenny has pushed the drain pipe which had been propped as a tunnel ramp onto the floor and is crouched looking down it

Leo: I need a tunnel back

Lenny stands up and moves the pipe into an upright position holding it next to him. The plastic pipe is as tall as Lenny. Leo watches

Leo: Put it down

Lenny puts the pipe back into position

Leo: Thank you

Lenny pushes a car down the pipe

Leo smiles: Ooooh

Leo and Lenny take turns to put cars down the pipe watched by Alessandro

Lenny picks the tunnel up again: Ok

Leo picks up a car

Lenny put’s the tunnel back down

Leo puts car into tunnel

Leo then picks up a small wooden car

Leo: Very special car, wooden car

Lenny puts a car down the tunnel

Leo: Ahha

Lenny walks to get car from end of tunnel talking quietly to self as he does

Lenny picks up two cars and gives Leo one: One for you and one for me

Lenny puts car down the tunnel

Lenny and Leo laugh

Leo: That really funny

Kylie drives ride on car into tunnel watched by Lenny and Leo. Lenny tries to put car into tunnel but angle tricky as tunnel has moved slightly

Lenny: It’s not going in cos Kylie

Lenny moves the tunnel so can be more easily reached

Lenny: There you go

Lenny and Leo pick up a car each

Lenny: One for you and one for me

Lenny and Leo puts their cars down one after another, both laugh while collecting cars as they come out of tunnel so both children again have a car each

Lenny: One for him and one for me

Leo: Aaaah

Leo puts car down tunnel, Leo and Lenny watch car come out

Adult asks Alessandro if he wants a turn, Alessandro nods. Adult encourages Alessandro to take a turn

Alessandro approaches the tunnel watched by Lenny and Leo

APPENDIX 4

Extract from Transcribed Table 9/3/17

Time	Speech/ vocalisation	Actions	Gaze	Gesture, facial expression	Socio-material
3:35		Leo posts car down tunnel			
3:36		Lenny runs and collects car from the end of the tunnel then returns			
3:42	Lenny: one for you, one for me		Lenny and Leo look at each other, Alessandro watches them	Lenny points to Leo with car in other hand	Lenny and Leo have instigated a turn-taking pattern
3:44		Lenny crouches at the top of tunnel			
3:45	Leo: Don't want a car?	Kylie moves towards tunnel slightly		Leo points at Kylie	
3:46		Leo moves forward slightly Leo moves back beside Lenny	Leo and Kylie look at each other		

Time	Speech/ vocalisation	Actions	Gaze	Gesture, facial expression	Socio-material
3:47	Lenny: Not for you on that car cos	Kylie is sitting by tunnel on her car	Lenny and Leo look at Kylie and she looks at them	Lenny points to Kylie	
3:51		Lenny posts car into tunnel			
3:54		Leo runs to collect car and brings it back to top of tunnel	Kylie watches Lenny and Leo		
3:57				Lenny and Leo laugh	
4:00	Lenny: Really funny				
4:01		Leo posts car down tunnel			
4:04		Leo and Lenny run to end of tunnel			
4:05		Lenny picks up car	Leo and watches Lenny	Lenny laughs	

APPENDIX 5

Extract from *The Hundred Languages*

The child
is made of one hundred.
The child has
A hundred languages
A hundred hands
A hundred thoughts
A hundred ways of thinking
Of playing, of speaking.
A hundred always a hundred
Ways of listening of marvelling of loving
A hundred joys
For singing and understanding
A hundred worlds
To discover
A hundred worlds
To invent
A hundred worlds
To dream
The child has
A hundred languages
(and a hundred hundred hundred more)

Loris Malaguzzi (translated by Lella Gandini)