‘Using graphic symbols’: An investigation into the experiences and attitudes of a range of practitioners using graphic symbols with children in the Foundation Stage (three to five year olds) school settings

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Glossary

The following abbreviations appear in the thesis and are used to indicate the following terms:

AAC – Augmentative and Alternative Communication

DCSF – Department for Children, Schools and Families

DfES – Department for Education and Skills

EYP – Early Years' Practitioner (excluding teachers)

This research is concerned with three groups of practitioners. Two of these groups will be referred to by job title; 'teachers' and 'speech and language therapists'. The third group is characterised by a range of job titles. To encompass this group of practitioners working with job titles from among the following; 'teaching assistants' and 'nursery nurses', the term 'early years practitioners' will be used. This term is suggested by Letts and Hall (2003) who argue that it "can be used to apply to anyone working in a professional capacity with young children under five years of age" (p.211).

FS – Foundation Stage of education (3 – 5 years old)

LEA – Local Education Authority

LSA – Learning Support Assistant

NHS – National Health Service

NN – Nursery Nurse

PCT – Primary Care Trust

R&D – Research and Development (departments within PCTs)

RCSLT – Royal College of Speech and Language Therapists

SLT – Speech and Language Therapist

TA – Teaching Assistant

Disability terminology

The work presented in this thesis relates to a number of research topics surrounding inclusion and disability. As a result it was necessary to identify and use terminology related to these topics which was acceptable in England at the time the research was conducted. At various points throughout the thesis the researcher refers to existing research which was conducted in other regions and countries. The time lapsed since some of this research was published varies. Although every effort has been made to use acceptable and appropriate terminology in the thesis, when presenting the findings of existing research, it was sometimes necessary to use the original research terms employed in order to accurately represent findings. This has resulted in a slight variation in terminology used in relation to some very specific aspects of disability.

Abstract

There has been a recent increase in the use of graphic symbols in school settings (Abbott and Lucey, 2003). However, the use of graphic symbols in schools remains, to date, an under-researched area. In order to address this and develop understanding of practitioners' experiences of using graphic symbols in school settings, exploratory research was conducted investigating the experiences of a range of practitioners using symbols in Foundation Stage school settings.

A qualitative research design was used drawing upon an interpretive phenomenological philosophical framework. The research sample consisted of three groups of practitioners; teachers, early years practitioners (teaching assistants, learning support assistants and nursery nurses) and speech and language therapists. Data were collected through semi-structured interviews which were conducted face-to-face by the researcher. In the interviews participants were encouraged to explore their experiences of using graphic symbols and their associated beliefs and attitudes about this topic.

Interview data was analysed using thematic analysis which was facilitated by the use of qualitative data management software QSR NVivo2. Prolonged engagement with the data led to the development of a theoretical framework based on a set of themes and subthemes. Four major themes were identified:

practitioners' beliefs about which children to use symbols with; practitioners' thoughts about children's understanding of symbols; practitioners' accounts of the ways symbols are used; and, practitioners' experiences of the implementation of symbols.

Interpretations of the data were extended further to develop two original theoretical constructs; 'models of reasoning' and 'perceptions of professional roles'. These constructs were developed to provide an over-arching framework depicting the researcher's interpretations of the data set as a whole. The findings suggest that practitioners go through a process of reasoning and decision making surrounding the use of symbols. Practitioners in this study also appeared to be influenced by their perceptions of their own professional role and those of others in their decisions surrounding the implementation of symbols. The theoretical model may provide some explanation for the ways in which individual practitioners interact and work alongside practitioners from the same and different professional groups.

The findings of the research were related to existing literature in the fields of symbolic development, symbols and literacy, and, collaborative working. The findings led to the development of five suggestions for future research.

Chapter 1 – Introduction to the thesis

1.1 Introduction

As the first chapter in this thesis, the primary aims of the Introduction are to explain the purpose of the thesis, introduce the research areas that surround the research topic and to present the objectives of the research. The Introduction also provides signposting to the key areas of the thesis.

In this chapter, the researcher clarifies why the research is important, timely and relevant in the current research climate. The chapter provides an outline of each chapter in the thesis, which introduces the structure and layout of the thesis and demonstrates how the overall research process fits together. This chapter provides an introduction to the research topic by defining the context of the research and exploring the political and policy developments influencing practitioners in relevant settings.

1.2 The purpose of the thesis

The thesis provides the documentation of a complete research process. Each stage of the research has been recorded and transparently presented to ensure that the exact process can be explained and understood chronologically and

systematically. The research was conducted over a period of two and a half years and the preparation for the research began in April 2007.

1.3 Introducing the research areas and focusing on a topic

The research process began with the outline of a very general research topic. Initially, the central research objective was to focus on the 'use of graphic symbols' and 'collaborative working'. Graphic symbols are defined in the thesis as follows:

> A graphical representation of a referent (the item or concept which is being referred to, real or abstract) usually presented individually or alongside other graphic symbols, traditionally used to support face to face communication but with other emerging purposes. From now on in this thesis the term 'graphic symbols' will be replaced with 'symbols' and this definition can be assumed, unless otherwise stated.

The research topic was gradually defined and narrowed down to the use of symbols in Foundation Stage (FS) (ages three to five) school settings, incorporating the related collaborative working of a range of practitioners using symbols in these settings.

As the research questions were developed it appeared logical to focus on one age range within educational provision, in England, and the 'Foundation Stage' of education (children aged three to five years) was selected. A range of settings provide education for children of this age range, however, the decision was made to work only with 'school settings' to focus the research topic further. Other

settings were ruled out on the basis that symbol use may be influenced by a number of additional factors in these settings, for example, the range of practitioners working in other settings varies and the attendance of children is not always compulsory.

‘Collaborative working’ in schools had been the focus of a body of existing literature (Literature Review, Chapter 2). The decision was made to focus on the experiences of practitioners working in school settings (possibly collaboratively), judged likely to use symbols. The research population is introduced in chapters 2 and 3. The research topic focuses on practitioners working in statutory organisations and is influenced by the political agenda as a result. The political context of the research is introduced later in the chapter and demonstrates that inter-professional working has been a focus in recent policy developments for these groups of practitioners. It was, therefore, logical and important to incorporate an investigation of the ways in which practitioners worked together into this research.

The definition of the research topic was guided by the literature search and review of existing research literature. The research topic was narrowed down as it became clear which aspects of ‘symbol use’ were most suitable for investigation.

1.4 Objectives of the research

The objectives of the research can be summarised as follows:

- To investigate the experiences and attitudes of teachers, teaching assistants (TAs), nursery nurses (NNs) and speech and language therapists (SLTs) using symbols in a range of FS school settings

- To explore the experiences, attitudes and perceptions of these practitioners about:
    - the purpose of using symbols in schools
    - how they currently use symbols in schools
    - how the practitioners who use symbols work with other practitioners in schools
    - the consistency of current symbol use in schools

The extent to which the objectives outlined here were addressed is explored in the Discussion (Chapter 7).

1.5 The importance of the research

The research was designed to have the potential to influence practice and be of practical use to practitioners. The research focuses on practitioners' experiences of working in schools and provides insight into the complexities within this. The

research may be of interest to practitioners working in education, speech and language therapy services, policy makers and researchers in these fields.

The research focuses on an emerging research topic, the use of symbols in schools, and is the first to explore this in the detail that qualitative research methods allow. The findings provide an interpretation of the experiences of a range of practitioners, which may stimulate further research and debate. The limitations of the research are presented as the basis for recommendations for future research.

1.6 The structure of the thesis: Outline of each chapter

The thesis is made up of seven chapters, including this chapter. The chapters are introduced below and the purpose and content of each chapter is summarised.

2. Literature Review

This chapter provides an explanation of the literature review process undertaken in preparation for this research. The results of the literature search are discussed and literature identified is explored and evaluated to provide the basis for justifying the research topic and methodology employed in this research. The conclusions of the literature review are presented along with the research questions that were developed as a result.

3. Research Methodology

This chapter explores the research methodology beginning with the philosophical framework. Influential disciplines and schools of epistemological thought are referred to and related to the way the research was conducted. The strategic and methodological frameworks are also introduced.

Specific details of the methodology employed are provided, including; sampling, ethics and data collection. The pilot study process is described and the outcomes of the pilot study are explained. The methodology of the main study is then explained in detail. Key research practices that were undertaken are introduced and explanation is given of the factors affecting these processes, for example, gatekeepers and access to the research population. Procedures for obtaining ethical approval are outlined step-by-step. The research sample are described, as well as the procedure used for conducting interviews and materials used to collect data.

4. Analysis

This chapter presents the framework and method used to analyse the interview data. The use of qualitative data management software, QSR NVivo2, to facilitate the management of the interview data is discussed. The considerations and implications of using the software are presented and the role of the software in the analysis process is explained. The cautions and limitations of using the software

are considered, as well as the applicability of the functions of the software for this analysis.

The Analysis chapter later explains, in stages, the processes of organising, managing, analysing and interpreting the interview data in a process of thematic analysis. The process from transcription and initial coding, to the development of themes organised hierarchically and theoretical constructs, is explained. The procedures involved in the analysis are described in detail and are reflected upon openly throughout this chapter and those that follow.

5. Findings Part One – Thematic Framework

The first Findings chapter presents the hierarchical framework of themes and subthemes that were developed and refined during the analysis process. The framework is presented and the researcher explores how the themes and subthemes fit together. The themes and subthemes are considered in turn and are explained with examples from the raw data presented as quotations.

6. Findings Part Two – Theoretical constructs and narrative

The second Findings chapter introduces the theoretical constructs developed as a result of the analysis of the interview data, which contribute to an over-arching explanation of the framework of themes and subthemes. These original theoretical constructs are explained and illustrated with models and examples providing examples of how the constructs apply to the data.

The explanatory narrative provides the explanation of all of the findings and the inter-relationships between themes, subthemes and theoretical constructs.

7. Discussion

The first part of this chapter addresses the research objectives and the research questions identified at the end of the Literature Review. Findings are related to the existing research literature identified in the Literature Review. Responses to the research questions are grounded in the data and draw upon the findings. These responses consider the extent to which the findings are supported by existing literature, as well as identifying the original contribution made by this research. In the second part of the chapter, the researcher explores the transferability of the theoretical framework. Future directions for research in this research area are proposed.

The third part of the chapter explores the researcher's systematic reflection on the research process as a whole. The applicability of approaches, methods and processes is considered and changes that would be made to improve future research are discussed.

The final part of the chapter considers the usefulness and contribution of the research to researchers, policy-makers and practitioners. Dissemination of

findings is considered. The importance of 'symbol use in schools' as an exploratory research area is reiterated.

1.7 Context of the research: Recent policy developments

The following section provides an overview of the political context and recent policy developments influencing the provision of statutory services in education and speech and language therapy at the time that this research was conducted. The most influential documents are introduced and their impact on practice and professional culture is considered.

Every Child Matters: Change for Children

This research involved an investigation of the experiences of a range of practitioners working in the 'public sector' in the fields of speech and language therapy and early years education (in England, 2007-2009). Practitioners working in the 'public sector' (in England) are guided by Government legislation and frameworks which identify key priorities and frameworks governing their practice. The most influential documents and frameworks relevant to the research were identified and explored.

At the time the research process commenced, a number of widely publicised documents had been released by Government within the previous five years,

relating to the provision of education and services for children. These documents drew attention to Government priorities surrounding the implementation of initiatives targeted at improving outcomes for children. Table 1 provides an outline of three of the most influential documents in this research.

Table 1 – Key political documents

Key political document or policy	Overview
Every Child Matters (DfES, 2003)	Outlines the Government's main themes and objectives for improving outcomes for children
Early Years Foundation Stage (EYFS) framework; including statutory framework (implementation September 2008) (DfES, 2007a)	A learning and teaching developmental framework for children aged 0 to 5 years
The Children's Plan: Building Brighter Futures (DCSF, 2007)	Discusses the implementation of targets from Every Child Matters Emphasises improving standards in the children's workforce

These key documents are of central relevance to the political context of the use of symbols in schools at the time of the research. Arguably the most pivotal document in relation to this research was Every Child Matters (ECM) published in 2003, which outlined the standards of services for all children that the Government was working towards at the time.

Initiatives from Every Child Matters

Following the publication of Every Child Matters (ECM) (DfES, 2003), the Government introduced a number of themes, including; common assessment

frameworks, information sharing, and, multi- agency working (DfES, 2006a, 2006b, 2006e). All of these initiatives related to the way practitioners work together. These can be seen to represent demands on practitioners at the time the research was conducted and are considered to be factors affecting ways of working in schools.

In recent years, there has been increasing demand from Government agencies, practitioners and parents for children's services to be more informative, involving fewer assessments and more coordinated support. This has led to use of the term 'joined-up services' to represent the ideal outcome for service delivery. The Department for Education and Skills (DfES) (now Department for Children Schools and Families - DCSF) promised to work towards; "a seamless and effective service" (DfES, 2006d). ECM documented a series of promises to make improvements in documents detailing planned initiatives, for example, the Children's Workforce Strategy (DfES, 2005). This reinforced the Government message that there will be higher expectations of the children's workforce.

The practitioners working in schools who are likely to use symbols, are now required to meet a range of requirements in working with colleagues from the same and different disciplines (for example, teachers and TAs working with SLTs). The likelihood of being able to work to these requirements is affected by a number of factors including; time, proximity and understanding of roles and professional terminology (McCartney, 1999). Models of working in schools are complicated

further by differences in mainstream and special school settings (RCSLT, 2000) and this may be a factor affecting the use of symbols.

The themes and initiatives outlined in ECM, if successfully engineered, aim to enable practitioners to be more cost effective and time efficient. The implementation of 'joined-up' ways of working also highlights practical issues for practitioners and managers to consider, including; case load management, prioritising, and the practicality of co-locality (DfES, 2007; Law et al., 2000a; Mills, 1996).

The Early Years Foundation Stage (EYFS) (DfES, 2007a) is a framework designed to be followed by practitioners working with children from birth to five years. This framework for practitioners was implemented fully in September 2008 and replaced the existing Birth to Three Matters (DfES, 2002) and Foundation Stage frameworks (QCA/DfES, 2000). The framework is based on the principle of a developmental continuum that children follow and has several key themes, including; a unique child, positive relationships, enabling environments, and, learning and development. The framework provides practitioners with an outline of developmental stages that children progress through and suggests how to provide learning opportunities that are 'developmentally appropriate'. These stages are not rigidly linked to age and are designed to acknowledge the unique strengths and needs of each child.

The ‘drive for inclusion’

The ongoing debate in education surrounding ‘the drive for inclusion’ of all children in mainstream schooling was an important contextual factor in this research. It is widely acknowledged that all children should be enabled to access teaching and learning opportunities, which was reiterated in the Special Educational Needs and Disability Act (2001). Schools are responsible for making the necessary accommodations for all of the children who attend.

The claim of the Warnock Report (DFE, 1978) that all children have the right to receive accessible learning opportunities is often a benchmark by which current practice is compared and evaluated. This report had considerable implications for the organisation of practitioners in schools and the skills that would be required to carry out their roles effectively and fairly. Despite criticism and issues around the implementation of inclusive schooling, the ‘drive for inclusion’ is still recognised as a doctrine for practice and is a contextual factor in education-related research (Warnock, 2005; Norwich, 2001).

Teaching staff are increasingly required to differentiate teaching for the range of learners in the random class population of each academic year, taking into account the applicability of certain tools and methods for some children and not others. The expectation to provide all children with accessible learning opportunities has implications for the use of symbols in schools as practitioners might use symbols to support the provision of these opportunities for a range of children.

1.8 Summary

This research relates to statutory services provided in the fields of education and speech and language therapy. The political agenda influencing practitioners in these fields is an important part of the context of this research. An overview of the political and policy context demonstrates that practitioners are influenced by a number of key documents and policies including; ECM (DfES, 2003) and the EYFS (DfES, 2007a). Several key themes have been identified relating to; working collaboratively, sensitivity to children's unique patterns of development, and, educational inclusion.

This chapter has provided an introduction to the purpose and objectives of this thesis. It has provided a general introduction to the research areas that the research is related to and has indicated how an understanding of these research areas led to the definition of a research topic. The chapter also provided an overview of the entire thesis by summarising the content of each chapter and providing signposts for the structure of the thesis.

The following chapter describes the search conducted for existing literature surrounding the research topic and a review of the literature identified. The

Literature Review chapter summarises the contribution of the literature identified and concludes with the introduction of the research questions.

Chapter 2 - Literature Review

2.1 Introduction

This chapter presents a review of the literature identified in the literature search. Search terms are provided in the Appendix (Appendix 1). This process was central to the formation of research questions, conceptualisation of research concepts and justification of the research topic and design, all of which are introduced in this chapter.

The research identified in the literature search was evaluated individually, as well as, as a body of work providing a platform for the current research. The literature review supported the researcher in affirming the use of symbols in schools as an under-researched area in need of exploratory investigation. It also allowed the researcher to develop critical insight into the methods used previously in research surrounding this topic and examine the contribution of their findings.

2.2 Findings of the literature review

The existing research that informs this literature review represents a number of research areas which are related to the research objectives introduced in the Introduction chapter. The literature reviewed in the process of defining the

research topic appears to fall under several over-arching disciplinary areas; speech and language therapy, education and learning sciences, and, developmental psychology.

2.2.1 Defining symbols

The specific type of symbols referred to in this research are those which have been traditionally designed for the purpose of enabling individuals with communication and learning difficulties and other disabilities to learn, communicate and become literate. Examples of these types of symbols currently used in England are; Widgit Literacy Symbols, Mayer-Johnson Picture Communication Symbols (PCS), Makaton Symbols and Blissymbols. Table 2 introduces each of these symbol sets.

Table 2 – Information about symbols used in the UK

Symbol Developer	Information about the symbols
Widgit Software – Widgit Literacy Symbols www.widgit.com	• Support face to face communication for those with little or no speech Development of literacy • Support language development for those with moderate and severe learning difficulties
PCS www.mayer-johnson.com	• Originally a picture dictionary to fill a need for a transparent set of symbols • Originally for communication, now for education purposes
Makaton – Makaton Symbols www.makaton.org	• For children and adults who are developing literacy skills • To teach communication, language and literacy skills to

	people with communication and language difficulties.
Blissymbols www.blissymbols.co.uk	• "Blissymbols form a system of meaning based symbols which can be used by people with severe difficulties in speaking to communicate without speech" (Blissymbol Communication UK, 2007)

Symbols can be differentiated from pictures and illustrations, although some symbols are more 'pictorial' than others. It is the design, function and purpose of the symbols which separates them from pictures.

Widgit Literacy Symbols have been adapted from the Rebus symbols developed by van Oosterom and Devereux (1982). PCS symbols are an American symbol set; Mayer-Johnson have recently set up an international partnership with Widgit Software. Makaton symbols are part of a multi-modal system of symbols and manual signs, many of which have been adapted from British Sign Language. Blissymbols were developed to form part of an emergent universal language. Their use has since been adapted and they are frequently used as part of an augmentative and alternative communication (AAC) system by people with communication difficulties around the world (McNaughton and Lindsay, 1995).

Information from commercial and charitable organisations associated with symbols, such as The Makaton Charity and Widgit Software (Appendix 25), suggests that they have traditionally been used with individuals with a range of disabilities and

difficulties. Symbols are used with children in a variety of ways, depending on the needs of the child and the nature of their difficulties. For example, the use of symbols to enable children with congenital physical disabilities to make needs known and reinforce verbalisations is quite separate from, and different to, the use of symbols for supporting children with autism in learning to initiate communication (Bondy and Frost, 1994).

Clark (1981) argued that some children may benefit from learning how to use a 'logographic' symbol system that is similar to English. Examples of this could include; Widgit Literacy Symbols or Makaton symbols, both of which are sets which include individual symbols representing whole words. An alternative would be a complex rule system, such as Blissymbols, in which individual symbols can be combined to make words (Bliss, 1965). Other children may simply need a small set of individual symbols for making requests. Little is currently known about when these decisions are made in schools, or by whom.

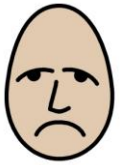
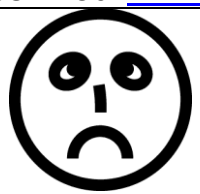
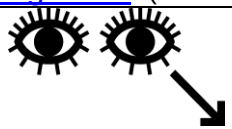
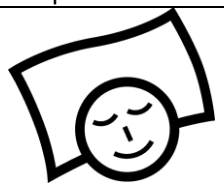
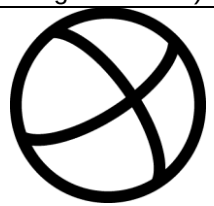
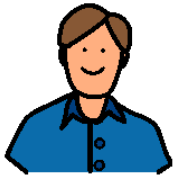
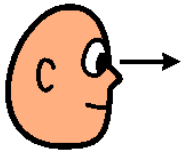
Lloyd and Fuller (1986) argued that sign and symbol systems should be categorised as either; 'aided' (requiring external assistance) or 'unaided' (not requiring external assistance). Fuller, Lloyd and Schlosser (1992) went on to argue that symbols could subsequently be categorised as; static or dynamic (permanent or not permanent), iconic or opaque (easily intelligible or arbitrary) and as part of a set (closed in nature) or system (designed to work together).

Using the framework outlined by Fuller, Lloyd and Schlosser (1992), the symbols referred to in this research would mainly be categorised as; aided and static, and would range from iconic to opaque, and both sets (Widgit Literacy) and systems (Blissymbols). Symbol *sets* will refer to collections of symbols designed by individual developers. The term symbol *systems* will refer to collections of symbols which can be manipulated to form various interconnected icon compositions, for example, Blissymbols, in which a number of symbols can be combined to make a single concept and which has internal 'rules or logic' as required by Fuller and colleagues (1992). Table 3 provides examples from each of these key symbol sets.

2.2.2 Research related to symbols

The specific topics explored in existing research related to symbols are usually related to the specific objective of using symbols in each instance. The literature identified reflected various different objectives involved in the use of symbols. The various objectives and purposes for using symbols are explored in the literature review, as well as research exploring the characteristics and appearance of various types of symbols. Research into symbol use is frequently, but not exclusively, related to AAC.

Table 3 – Examples of symbols from three symbol sets available in the UK

Widgit Literacy Symbols	 boy	 sad	 look	 sleep	 football
	Widgit Literacy Symbols copyright Widgit Software 2008 Tel. 01223 425558 Web: www.widgit.com (Information provided at request of Widgit Software)				
Makaton Symbols					
	Boy	Sad	Look	Sleep	Ball
	Makaton Symbols © The Makaton Charity (www.makaton.org). Used with permission				
Picture Communication Symbols	boy 	sad 	look 	sleep 	football 
	Picture Communication Symbols©1981-2008 by Mayer-Johnson LLC. All rights reserved worldwide. Used with permission				

Surveys of symbol use

There have been two studies that have explored the use of symbols in schools. This research has been focused on special provision. Jones, Reid and Kiernan (1982; Kiernan, Reid and Jones, 1979) conducted a survey of the use of signs and symbols in special schools in England, Scotland and Wales. Abbott and Lucey (2005) conducted a survey of symbol use in special schools in England, approaching 1269 schools and getting a response rate of 64%. Of the special schools that returned questionnaires, 77% reported using symbols. Symbol use was found to be particularly prevalent in schools provided for children with learning difficulties. 96% of special schools in this category reported using symbols.

Jones, Reid and Kiernan (1982, 1979) reported the findings of their survey of special schools for children who were 'mentally' and 'physically handicapped'. They approached 854 schools and received an 84.7% response rate. Their findings suggested that 30% of schools for 'mentally handicapped' children reported using symbols, whilst 86% of schools for children who were 'physically handicapped' used symbols. They argued that they had observed an increase in symbol use in special schools but a proportion of children who could potentially benefit from their use were still not being given access to symbols. Abbott and Lucey (2005) reported, in research taking place over 20 years later, that symbol use was widespread in special schools and that symbols were used for many purposes including; literacy, emotional development, reducing anxiety and frustration, enabling autonomy and expression.

The findings produced facilitated the quantification of symbol use in a sample of special schools demonstrating the extent of symbol use in this area of provision. These research examples involved a survey method and did not generate in-depth responses from practitioners working 'in the field', meaning it was not possible to explore the reasons symbols were used, or how they were used specifically, in these settings. This indicates an important area for future research which focuses on how symbols are used, with which children, and why, so that symbol use in school settings can be more clearly understood.

Iconicity

Researchers discussing symbols frequently refer to the 'iconicity' of the symbols. Fuller and Lloyd (1991) defined iconicity as the "visual relationship of symbols to referents" (p.215). A number of studies have led to the claim that iconicity is influential in children's understanding and acquisition of symbols. Koul and Schlosser (2001) discussed the role of variables in symbol characteristics which they referred to as 'symbol variables'. Koul and Schlosser (2001) considered iconicity to be a 'symbol variable' and they argued that the iconicity of symbols influences the learning of symbols in individuals with autism accessing AAC systems. Mirenda (2003) summarised existing research surrounding AAC and autism and suggested that the iconicity of symbols was an influential factor in the acquisition of symbols by individuals with autism.

Millikin (1997) and von Tetzchner and Martinsen (1992) explored the role of iconicity in the acquisition of symbols in groups of children using AAC. Millikin (1997) discussed the implications of varying the iconicity of symbols when integrating these into AAC systems for a range of users. Von Tetzchner and Martinsen (1992) presented a similar discussion of this topic in their book about using communication aids and also concluded that iconicity facilitates the acquisition of signs (symbols).

Callaghan (2000) tested the ability of children aged two and three years to understand the symbolic status of pictures. The iconicity of the pictures or symbols was varied in various conditions in which children were shown symbols and asked to select the corresponding object. Objects used included small replica animals, balls and blocks. The findings of the study demonstrated that three year olds performed better in matching the symbols to objects when symbols were more iconic. These findings suggest that children develop an understanding of the representational function of highly iconic symbols after objects but before less iconic or 'opaque' symbols. Existing literature surrounding symbolic development will be explored later in the literature review.

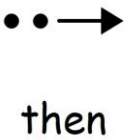
Within the major sets of symbols used in school settings in England there are examples of different degrees of iconicity. Fuller and Lloyd (1991) were critical of the inconsistent use of terms surrounding the umbrella heading of 'iconicity'. Their earlier suggestion (Lloyd and Fuller, 1986) to categorise symbols as either 'iconic'

or ‘opaque’ can be linked to the ‘iconicity hypothesis’ (Fristoe and Lloyd, 1979). Fristoe and Lloyd (1979) presented the ‘iconicity hypothesis’ when proposing the use of iconic manual signs to develop communication skills in individuals with ‘mental retardation’. They argued that use of ‘iconic’ manual signs would enhance the development of AAC as an alternative to speech. This approach builds on an attempt by Stokoe et al. (1965) to describe manual signs as iconic, metonymic (using the word/sign for a similar and related concept to represent the referent) or arbitrary (where it is unclear what the relationship between the sign and the referent is). The term ‘iconicity’ has since been applied to symbols as well.

Fuller and Lloyd (1991) discussed use of the terms ‘transparency’ (the extent a symbol is ‘guessable’) and ‘translucency’ (extent to which a relationship between the symbol and referent could be perceived) and concluded that the AAC field should; “adopt ‘transparency’, ‘translucency’ and ‘opaqueness’ as a set of terms to describe the iconicity of symbols” (p.218). Detheridge (2004) described points in a proposed continuum in more accessible English, starting with “recognisable”, “guessable”, “learnable”, and ending on “abstract”, the symbols with the least pictorial resemblance to what they represent. Figure 1 is an example of a ‘recognisable’ symbol from the Widgit Literacy symbol set. Figure 2 is an example of an ‘opaque’ symbol from the Widgit Literacy symbol set.

Figure 1 – Example of a recognisable symbol

Figure 2 – Example of an opaque symbol



Some symbols are referred to as transparent illustrations of the concept they represent, for example, a tree represented by a line drawing of a tree; some researchers use the term ‘pictorial’ to describe these (Abbott et al., 2006). Picture Communication Symbols (PCS) are an example of these kinds of symbols. Concepts which cannot be represented pictorially (for example, a ‘wh’ question; ‘who’, ‘what’) are usually depicted by symbols which are ‘opaque’, the opposite to transparent. In the Blissymbols set most (but not all) concepts are represented with opaque symbols. Blissymbols have been described as having the combined characteristics of a language (Abbott et al., 2006; Blissymbol Communication UK, 2007) because of the way the individual symbols can be combined to alter their grammatical meaning.

The literature surrounding the concept of ‘iconicity’ appears to possess a degree of consensus that symbols can be organised into a progressive continuum, starting with the most ‘transparent’ or ‘guessable’ symbols and progressing to the most opaque or arbitrary. In their discussion of ‘symbol variables’, Koul and Schlosser (2001) described this continuum as a ‘hierarchy of transparency’ (p.163). There is some overlap between this proposed continuum and a broader ranging ‘representational continuum’ which some writers use to describe wider visual symbol systems (other means, or modes, of representing including; written words, manual signs, photographs and objects).

Mirenda and Locke (1989) referred to an ‘aided symbol hierarchy’ ranging from objects which they described as the ‘most iconic’, to orthography which was the least iconic. McNaughton (2006) described this continuum as an ‘AAC literacy ramp’ which is based upon a progression through the various modes of representation. The sequence of representational items on the ‘literacy ramp’ suggests that photographs are the easiest form of representation to understand at the base of a ramp. Symbols and traditional orthography were believed to be progressively harder to ‘decode’, appearing higher up on the ramp. McNaughton (2006) based this argument on the work of Vanderheiden and Lloyd (1986) who presented ‘static symbols’ in order of perceived difficulty, starting with objects, photos and pictures. McNaughton (2006) did not include objects in her ‘literacy ramp’. According to McNaughton (2006), the development in understanding various forms of representation occurs in stages for individuals developing literacy

skills and being supported by AAC. The literature surrounding the use of symbols and literacy is explored later in this chapter.

The reasoning behind organising the representational modes in this way can be related to the perceived level of cognitive processing required to recognise the relationship between the representation and its' referent. This cognitive skill is referred to by Williams (2002) as 'decoding'. This is defined in the same way as an emergent reader becomes able to decode words, by understanding that the graphemes represent the sound or phoneme initially (if using a phonic approach). Some representational modes are easier to decode, than others. For example, a cup could potentially provide a transparent representation of a 'drink' or 'drink time' and be relatively easy to decode. But at the other end, orthographic written language is opaque and the written word 'cup' requires significantly more decoding (Williams, 2002; Mirenda and Locke, 1989).

Figure 3 demonstrates how the representational modes discussed, including symbol sets, may appear if mapped in a hierarchy from most 'iconic', to most 'abstract.

Figure 3 – Hierarchy of representational modes

Most abstract / most difficult to decode	Orthography / text
↑	Graphic symbols: Blissymbols Makaton symbols Widgit Literacy symbols PCS symbols
	Photos
Most iconic / easiest to decode	Objects of reference

This area of study is related to the cognitive skill involved in making a connection between the representation/symbol and the referent. Researchers have referred to this aspect of cognition as the development of understanding the representational function of symbols, also referred to as symbolic development.

Symbolic development

Researchers, including DeLoache (2005, 2004) and Callaghan (2000, 1999), have suggested that the means of representing a referent (object, photograph, graphic symbol, orthographic word) is a good indicator of the level of symbolic development required to be able to interpret and decode that representation.

The level of cognitive skill required to understand a symbol has been related to the concept of 'cognitive load'. 'Cognitive load', the demand on working memory during certain tasks, was discussed by Sweller in an exploration of 'cognitive load

theory' (1994). For example, transparent iconic symbols have low cognitive demand (they are more easily decoded) because they are visually explicit (transparent) and are likely to be recognised by individuals with lower levels of symbolic understanding. These symbols are less demanding on working memory because the individual is more likely to be able to build on what they already understand (Sweller, 1994).

Porter and Ashdown (2002) proposed the existence of a progression continuum which can be used to enable a child to gradually advance from transparent symbols, to orthographic written English as a developmental progression. This progression can be seen as a sequential process from the individual user's starting point (the level of symbolic understanding they currently have relating to the type of symbols they are able to work with) to the best achievable outcome point at which they can function effectively. This will vary greatly between symbol users and affect the objective of symbol use with each individual.

When discussing the factors involved in selecting symbol systems and vocabulary, Millikin (1997) recommended that the objective of introducing symbols is determined by the unique abilities and needs of each individual child. She suggested that the process of developmental progression is unique to each child. Similarly, Abbott (2000) argued in a discussion of the use of symbols; "it is not helpful to stick rigidly to a single symbol set, but to use images which are acceptable and understood by the individual" (Abbott, 2000, p.94).

Much of the research around symbols makes some association with the concept of symbolic development. DeLoache (2005), DeLoache et al. (2004, 1998) and DeLoache and Burns (1994) explored the process of development by which children come to understand the representational function of pictures and/or symbols. In research spanning over ten years, DeLoache and colleagues focused on exploring the ways in which young children interacted with representational photographs and objects. They discovered very young children confuse representational objects for the 'real thing' and make 'scale errors' (DeLoache et al., 2004) by trying to interact with small-scale replicas of recognisable objects.

DeLoache and colleagues concluded that this confusion that children under the age of three experience reflects the necessary stages in understanding representation and symbols. DeLoache and Burns (1994) noted that understanding the purpose and function of all pictures, as symbols, is a complex cognitive skill. They argued that; "understanding pictures is a greater challenge than is generally recognised" (DeLoache and Burns, 1994, p.108). This suggests that understanding pictures, the 'easiest' level on McNaughton's (2006) literacy ramp, is still a complex cognitive task for young children.

DeLoache (2004) termed the ability to understand that a symbol represents a concept or idea 'representational insight'. DeLoache (2004) drew attention to the 'dual representation' aspect of symbols, highlighting that a symbol has two

functions; the two-dimensional object (for example, a piece of card), and a representation of the referent. It is argued that children begin to develop the ability to understand 'dual representation' and gain 'representational insight' in stages from birth (Rochat and Callaghan, 2005; DeLoache, 2004).

Callaghan (1999) explored children's ability to understand the representational function of pictures/symbols by asking children aged two, three and four years, to draw and use their own symbols of familiar objects after observing an adult model this behaviour. The findings of this research suggested that children became able to recognise the function of symbols at the end of their third year. In a later study, Callaghan (2000) asked children to select objects after being shown a relevant symbol and varying the iconicity of these symbols and found children aged three years were significantly more successful than those aged two years. This research led Callaghan (2000, 1999) to claim to be able to identify the stage of development in which typically developing children recognise the concept of 'dual representation' (e.g. that the function of the picture or symbol is to represent something outside that picture or symbol). Callaghan concluded that; "symbolic understanding of pictures emerges late in the third year" (2000, p.211).

Callaghan was later involved in the development of the 'six level model of pictorial meaning' (Rochat and Callaghan, 2005). In a discussion of ideas surrounding the development of understanding pictures, Rochat and Callaghan (2005) presented a model of six levels in children's development of the representational function of

‘pictures’. Starting from no differentiation between symbol and referent at birth (level 0), the model followed children up to age five (level 5) who were fully aware of the referential function of symbols. This model was influenced by the previous research of Callaghan (2000, 1999) and DeLoache (2005, 2004). The model proposes a pathway for children’s development in understanding the difference between two- and three-dimensional items. As a result, the model may be related to the development of understanding the representational function of objects, photos and symbols.

The research surrounding symbolic development frequently involves technical language and concepts. Having explored teacher’s understanding of various initiatives in special education, Nind (2000) suggested that practitioners must understand the theory behind the techniques they use. This implies that practitioners using symbols must have some grasp of the concept of symbolic development if children’s development in this area and the use of symbols go hand in hand. This argument suggests that research is needed investigating practitioners’ understanding of symbolic development (the process towards understanding that a symbol is a representation of a referent).

Rochat and Callaghan (2005) provided a model for symbolic development up to age five which suggested that at age three the child begins to understand the ‘link’ between symbol and referent. The levels of symbolic development of children aged three to five years (in the Foundation Stage) may be diversified by individual

traits and characteristics and this may have implications for teaching and learning techniques. This raises further questions about whether practitioners in school differentiate the way they use symbols with children at different developmental stages, special educational needs, or with different first languages and how they approach this issue when working with groups or as a whole class.

Symbols and AAC

In the field of AAC, symbols have a well-established role in supporting communication, whether integrated into a low tech communication board, or part of a high tech device, such as a voice output communication aid (VOCA). Symbols can be seen as a replacement for speech when speech is not physically possible and are a valuable resource for many individuals who may be unable to speak because of a physical disability, for example, cerebral palsy. These children may use symbols to express needs by touching a button labelled with a symbol which will provide a voice output or simply indicate to a conversation partner what they wish to say.

McCurtin and Murray (2000) introduced a range of factors when considering introducing AAC to adults or children and advised practitioners to consider the nature of the individual's need for support with communication. McCurtin and Murray (2000) categorised the nature of communication difficulties among AAC users as; congenital, progressive or acquired. Within these categories they made further distinctions between physical, learning and other communication difficulties.

von Tetzchner and Martinsen (1992) divided communication aid users into the following groups; expressive language group (motor difficulties), supportive language group (developing towards speech) and alternative language group (including individuals with autism and learning difficulties). This work demonstrates the range of AAC users, many of whom are supported by symbols. In later work, von Tetzchner and Grove (2003) suggested an additional way of grouping AAC and symbol users, under the following headings; motor impaired, language disordered, language disabled and individuals with autism.

Abbott et al. (2006) documented case studies of individuals using symbols for a range of purposes including expression and comprehension of language and information which further reflect the diversity of AAC users supported by symbols. Within the field of AAC, symbols are a means of communicating which are integrated into communication aids or simply passed between a child and those in their immediate environment. Symbols often provide a means of communication with conversation partners, including; practitioners, family members and peers. They play an important role in enabling individuals to participate in learning and social activities in the school context and in a wider society challenging social exclusion. There are, however, factors to consider when implementing the use of symbol-supported communication aids in schools.

Calculator and Jorgensen (1991) and von Tetzchner et al. (2005) discussed practices and strategies related to integrating symbol-supported AAC and AAC users into school settings. Calculator and Jorgensen (1991) concluded that a number of factors were integral to this process, including; collaborative input from practitioners, families and the AAC-user, development of functional communication skills and available communication partners.

Von Tetzchner et al. (2005) also stressed the importance of a facilitative social environment within the school setting and peer communication partners. They acknowledged that these conditions were complex to achieve but argued that they were possible and important to facilitate the use of symbol-supported AAC in schools. Bousaki (2006) discussed her own practical experiences of the use of low tech symbol-supported communication boards in mainstream schools and discussed a number of variables including the knowledge and experience of the practitioners involved.

Symbols have a valid place in the field of AAC as they function to augment, enable and enhance communication and form part of alternative means of communicating. Symbols are also used to demonstrate and teach interaction and exchange in communication. Symbols are seen by some as a way to “compensate for the impairment and disability patterns” (Mirenda, 2003, p.204), meaning that they provide an alternative mode of communication to enable the user in any aspect of functional communication that may need support with.

The researcher has observed symbol use in a number of schools, mainstream and special, indicating that symbols are becoming more accessible to a wider range of children. Symbols have been used to enable inclusion of children with a requirement for AAC, but existing research has not addressed how they are being used with other children in the setting. As symbol use becomes more widespread, this raises questions about the use of symbols unrelated to AAC and the perceptions of practitioners about the purpose of symbols

Symbols, modes and multi-modality

Researchers in the fields of communication, learning sciences, and, information and communication technology have considered the implications of presenting information to communication partners and learners in the form of multiple representations, through more than one sensory channel and/or using more than one 'mode' simultaneously. The use of more than one 'mode' was at the heart of the 'total communication' approach developed by Denton (1976), who argued that a range of modes should be used to support the development of communication skills in deaf children. Grove and Walker (1990) also stressed the value of using more than one mode when discussing the development of Makaton signs and symbols, which form a multi-modal system originally used with individuals with learning difficulties.

Kress and van Leeuwen (2001) discussed the use of various 'modes' in communication, including; language, image, music, sound and gesture, and contemplated the use of more than one mode to represent a referent or message. They argued that mono-modality has begun to be replaced by increasing use of multi-modal forms of communication and that this has implications for communication in society in general, as well as in specific settings, including schools.

In her work surrounding the use of multiple representations in learning, Ainsworth (2006) argued that research in this area is still in it's tentative stages and that; "much is still unknown about how the form of a representational system influences learning" (2006, p.185). When considering the factors involved in using multiple representations to support learning, Ainsworth (2006) developed the DeFT approach to learning with multiple representations. This framework focused on the Design and Function of the multiple representations and the cognitive Tasks involved in understanding these for the learner. The framework was developed to demonstrate the complexities in using multiple representations. It encourages those designing learning opportunities to consider the way multiple representations will appear to learners, how they will operate together and how the learner will process this. Ainsworth (2006) argued that multiple representations are often useful when learning is taking place but the influence of design, function and cognitive tasks involved in the way information is presented to learners should always be considered.

Loncke et al. (2006) discussed multi-modality in relation to AAC and argued that multi-modality is an essential part of AAC as users are often required to switch between speech, symbols and other modes while using their communication systems. They concluded that the role and implications of multi-modality should be considered in research surrounding symbol-supported AAC systems which often operate with more than one mode.

Zentel et al. (2007) considered the implications of presenting information in more than one 'mode' on the internet for special school pupils with cognitive difficulties. After exposing children to information in various formats including text alone and symbols and auditory input, Zentel's findings suggested that the children benefited most from the auditory condition in which visual symbols were also provided. This supported their argument that children with cognitive difficulties struggle with information presented in text alone.

Research and debate surrounding multi-modality is relevant to the use of symbols in schools because of the suggestion that using more than one representation may increase the likelihood that information is understood / interpreted correctly. The increasing use of symbols represents growing support for the assumption that visual aids and the use of more than one 'mode' can support communication and learning. This claim is supported by the widespread use of Makaton, a multi-modal

system of manual signs and graphic symbols, in more than 40 countries (Grove and Walker, 1990).

For Millikin the fundamental advantage of symbols is that they are; “received through the visual modality” (Millikin, 1997, p.97). There has been some suggestion that some children may have ‘visual strengths’ (particularly those with autism) and that there may be groups of children who respond better to visual symbols than verbal commands, finding visual prompts easier to comprehend.

Symbols and literacy

The use of symbols in connection with the development of literacy is in its formative years but is reflected in the recent name change, in 2000, of Widgit Rebus symbols to Widgit Literacy symbols; “created to support literacy” (Pampoulou and Detheridge, 2007). Pampoulou and Detheridge (2007) discussed the use of symbols to support literacy in mainstream school settings and suggested that symbols could potentially benefit a number of children in this area of learning.

Previous research in the field of symbols and literacy is discussed below and has covered; symbol-supported ways of teaching reading, as well as the literacy development of children using AAC systems and children with language and learning difficulties. The first of these areas of research is characterised by the suggestion that symbols can be seen as a step towards becoming literate as a ‘transition tool’ which provides a bridge to becoming ‘text literate’ (Abbott et al.,

2006, p.77). This claim is related to the assumption that symbols are easier to 'decode' than text, as well as the claim that symbols can be introduced as a progression to understanding text.

Various methods of using symbols to support the journey towards understanding text and teaching reading have been explored. As previously mentioned, McNaughton (2006) developed the 'AAC literacy ramp' to demonstrate the process of development from interpreting and understanding transparent representations, to 'decoding' more abstract representations. Referring again to Vanderheiden and Lloyd (1986), McNaughton (2006) described the stages of AAC users developing literacy from relating to symbols (PCS or rebus, now Widgit), to bringing meaning to print.

McNaughton (2006) suggested that literacy development was distinctive for AAC/symbol-users. McNaughton's (2006) ramp appeared to suggest that literacy development may be different among symbol-supported AAC users to those developing language and communication typically. McNaughton (2006) argued that literacy development should be supported by 'explicit instruction' and giving children learning experiences appropriate to their needs.

Sheehy and Howe (2001) explored the use of a 'mnemonic handle technique' in a study in which twelve children with learning difficulties, aged 12 to 15, were encouraged to identify something that they associated with words they were

learning. These ‘reminders’ were used as the basis for symbols which were embedded into the words participants were learning to recognise. Sheehy and Howe (2001) found this technique to be more effective than ‘word alone’ in teaching children with limited reading skills to recognise words. Sheehy (2002) experimented with using three symbol-based approaches to teaching reading to children aged eight to 13 with learning difficulties and no word recognition skills. As well as the ‘word alone’ condition, symbols were embedded into the words in the ‘picture cueing’ and ‘handle technique’ conditions. The findings suggested that a combination of all three approaches was most effective with this group of children which may also support a ‘multi-modal approach’ as discussed earlier.

Other studies of symbol-related reading programmes have made similar claims. Le Page and Mills (1990), who conducted a study of the effect of a picture-symbol pre-reading programme on children’s attitude towards reading argues that; “there seems to be little disagreement that decoding picture symbols can be used as a step towards decoding more abstract orthography” (p.55). Their findings suggested that the children who were exposed to symbols appeared to have improved attitudes towards reading as a result. Trudeau et al. (2003) also found that the use of adapted storybooks with PCS symbols improved attitudes to reading, and participation in reading, of disabled (one with physical difficulties and one with Down Syndrome) and non-disabled children aged between three and five.

The opposing view is also represented in the literature; “symbols are not a stepping stone to print, they are an alternative and different system and most children do not need to learn them” (Buckley and Bird, 1993, p.39). Buckley and Bird (1993) explored the use of symbols to support children with Down Syndrome in learning to read and theorised that symbols were useful for children who had a stronger ‘visual memory’ than ‘auditory’. They also suggested that the opposite was true of ‘ordinary children’, who’s ‘auditory memory’ was typically stronger than their ‘visual memory’ (p.37).

Becoming literate involves the development of an inherent understanding of the grammar of the language used. Researchers (Trudeau et al., 2007, Sutton et al., 2002) have begun to question the implications for understanding and use of grammar if symbols are a part of an individual’s communication system or transition to becoming literate.

Trudeau et al. (2007) explored the grammatical characteristics of symbol sequences constructed by three groups of non-disabled participants to describe photographs they were shown by researchers. Participants were divided into children (mean age seven years), teenagers (mean age 13 years) and adults (mean age 27 years). Having analysed the symbol sequences produced by participants they argued that the grammatical features of the symbol utterances were based on grammatical features of written language. The findings demonstrated that as the language required to describe the photographs increased

in complexity, children were less able to transpose descriptive language into symbol sequences. Trudeau et al. (2007) concluded that, although children of seven years were able to comprehend and produce complex sentences, they were not always able to translate these into symbol sequences.

The findings of this research suggested that there were 'linguistic abilities' involved in the production of symbol-utterances, other than those 'transferred' from development of production and comprehension of spoken language. Valiquette et al. (2006) experimented with using symbols to support an eleven year old with learning difficulties to produce simple sentences by using symbols to represented syntactic components, as well as colour-coding these components. An increase in production of correct sentence structures was found. Valiquette et al. (2006) concluded that the use of symbols facilitated the child in recognising and using syntactic components correctly.

In research surrounding the literacy development of those using symbols for communication purposes, McNaughton and Lindsay (1995) considered the interaction between literacy development and the use of symbol-supported AAC systems. In a review of the surrounding literature and related concepts, McNaughton and Lindsay (1995) emphasised the importance of considering the developmental process and 'unique language pathway' of each individual. Their conclusion was that the development of literacy skills in AAC users may be complex and worthy of attention in research. In a handbook about the use of AAC,

De Coste (1997) also argued; “One consideration that should not be overlooked when symbol systems are selected for children is the effect of the symbol systems on literacy and other language related skills” (p.137).

It is not clear what kind of effect symbols could have on the development of literacy skills. Carpenter and Detheridge (1994) referred to the potential for the use of symbols to enable literacy in children who require support as well as a general aid to those who are developing typically. They documented a series of case studies of the use of symbols to support children with learning difficulties in learning to read. The view that symbols may support literacy development increases awareness of the possibility of using symbols with all children but this is not represented elsewhere in the existing literature.

Symbol use can be positioned within wider social debates around the concept of literacy and the accessibility of written English (Abbott et al., 2006). For those individuals who use symbols as an integral part of their communication systems (including AAC-users), the existing definition of literacy may be too narrow and there are some emergent terms for possible ‘alternative literacies’ appearing in some information sources, for example, visual literacy. Stokes (2001) reviewed a number of studies surrounding the concept of ‘visual literacy’, which was defined as the ability to interpret images and use these for communication purposes. This area of research is still developing at present. As the potential link between symbols and literacy is referred to more research is needed to explore this area.

The use of symbols to support literacy has implications for the use of symbols in schools by educational practitioners.

Symbols and children's needs

The existing research identified in the literature search suggested that symbols are used by a diverse range of individuals with a variety of needs. This was demonstrated by Abbott et al. (2006) in the description of a wide range of international case studies. Existing research identified in relation to specific types of symbol-users, explored below, was often related to specific needs or difficulties experienced by the individual. Among the diverse population of symbol-users, areas of need are often over-lapping and complex. Discussion of the following areas of literature is not an attempt to categorise symbol-users by disability or type of impairment but reflects the literature identified.

In some cases, the individuals using symbols require support with expressive communication skills, some of whom have a range of physical difficulties. Symbol users with physical difficulties frequently become AAC users with a communication system which is supported by symbols to touch, point to, or select with eye gaze. Schlosser and Sigafoos (2002) demonstrated that there are a range of factors to consider when using symbols with children with physical needs. They discussed their findings surrounding the complexities of selecting symbols to provide individuals with an 'initial request lexicon'. This would facilitate functional communication by providing the user with the language needed to make requests.

In some cases, symbols are used to support individuals with learning difficulties as an alternative to comprehending and producing speech. Nigam et al. (2006) considered the language development of children with cognitive difficulties using symbols to communicate. Working with three participants aged seven to eleven, they experimented with using a 'mand model' approach to encourage children to create multiple word combinations with symbols. Instructors used a combination of instructions and modelling to support children. The findings demonstrated that two of the three children were supported by the instruction and modelling technique and created 'action-object combinations' successfully, reflecting an improvement in their linguistic abilities in this area. However, one child failed to make any significant progress, the researchers were unsure of the reasons for this.

As discussed, Valiquette et al. (2006) also documented the improvement in producing symbol sentence structures when using symbols to demonstrate linguistic components with a child with learning difficulties. Similarly, Sheehy (2005, 2002) and Sheehy and Howe (2001) demonstrated that the picture cueing and mnemonic handle technique of using symbols to support word recognition was effective with children with learning difficulties. Porter and Ashdown (2002) discussed the use of visual materials with children with learning difficulties and supported the claim that development in understanding symbols was related to the progression of understanding from objects through to print.

There is some literature surrounding the use of symbols with children with autism. Connor (1999) described the inability of individuals with autism to “hold two conflicting ideas simultaneously” (p.83) and referred to this as ‘meta-representational deficit’. When providing guidelines for supporting these individuals in mainstream school settings, Connor (1999) suggested this ‘deficit’ was a reason to support autistic individuals with ‘visuals’. Children with autism have been referred to as ‘a good match for AAC’ because of their visual strengths. Schlosser and Wendt (2008) conducted a literature review of research surrounding the use of symbols and AAC with individuals with autism and found this to be a growing area.

There are growing numbers of children in schools in England for whom English is an additional language (EAL), although there is no ‘detailed breakdown’ currently widely available (in one in twenty schools, native English speakers are a minority; Literacy Trust, 2009). The children with EAL needs may be accessing and interpreting so-called ‘transparent’ symbols differently because of cultural and language differences. Cooper (2002) investigated the ways that children with English as an additional language interpreted symbols produced in countries other than their own and assessed their ‘cross-cultural preferences’. Cooper (2002) concluded that practitioners should be aware of potential confusion and assess whether the symbols are helpful or detrimental to the language leaning and well being of these children.

Symbol use in schools must be explored to consider the implications for the general population of children in education, this is an area should be explored further.

Ways of using symbols: Visual timetables and PECS

Anecdotal evidence suggests that symbols are used for a number of specific purposes in school settings, including visual timetables and the Picture Exchange Communication System (PECS). In the researcher's experience, there is evidence to suggest that symbol-supported visual timetables are commonplace in a great number of schools across mainstream and special provision. However, the use of visual timetables remains under-researched.

Abbott and Lucey (2003) discussed the use of symbols in special schools and suggested that symbol-supported visual timetables are used widely in special schools. They also suggested that this use was being encouraged in mainstream schools as well. Beaney and Kershaw (2003) provided recommendations for a range of materials that could be used in schools to support the inclusion of individuals with autism. Visual timetables were among their suggestions.

Visual timetables are commonly presented as a linear representation of a day/session's activities with symbols representing each activity (National Autistic Society, 2008). Symbols are usually displayed in a horizontal line working left to right to show the passing of time. When used in schools, these timetables are

believed to provide ‘a continual point of reference’ (Beaney and Kershaw, 2003). Symbols represent the main sections of time within a session or day and are often removed as each activity is completed. Visual timetables of this kind are believed to reduce children’s anxiety (Beaney and Kershaw, 2003).

Visual timetables are an example of a specific way in which symbols can be incorporated into a system or resource for children to use and access in school settings. PECS is another specific way of using symbols which may be relevant to Foundation Stage school settings. Developed by Bondy and Frost, (1994), PECS focuses on teaching individuals to develop interaction skills through progressively facilitating the exchange symbols. PECS involves; “teaching students … to exchange picture symbols to request and comment on items” (Marckel et al., 2006). Having successfully encouraged two children with autism to make requests using PECS, Marckel et al. (2006) confirmed that this approach is particularly useful for use with children having difficulties with interaction and ‘spontaneous communication’.

The long term effectiveness of PECS has been explored by Howlin et al. (2007) who conducted a randomised controlled trial to explore the effect of PECS training on the amount of child-initiated communication and speech attempts made by children with autism in a selection of special schools in England. Teachers from two classes (84 children, mean age 6.8) attended workshops about the use of PECS and experts provided training in the school setting. A third class was

recruited as a control group. After analysing video recordings of each of the three classes, Howlin et al. (2007) concluded that PECS training led to a significant increase in child-initiated communication attempts and use of PECS by the children. There was no improvement in the amount of speech produced by the children. However, the findings suggested that the increase in communication attempts and use of PECS by the children was not sustained after intervention had been withdrawn.

The findings of this research suggest that the effectiveness of PECS and factors supporting the long term implementation of symbol-supported systems should be explored further. The existing literature base surrounding visual timetables and PECS, as examples of ways to use symbols, demonstrates that little is currently known about how to use these tools or about their effectiveness and practical application in school settings.

The use of symbols by practitioners in schools

SLTs are introduced to concepts surrounding symbolic development in their training (Clarke et al., 2001). They also have some guidance from their professional body (RCSLT, 2000) about the use of symbols in intervention with individuals using AAC systems and those with ASD. It was not clear whether educational practitioners had any similar training.

Educational provision for children aged three to five years is the focus of this research. As a population with diverse needs, in the midst of the systems of assessment and identification, children in the early years have a high dependency on the practitioners and curriculum they encounter. As previously mentioned, practitioners working with children aged three to five years are now expected to follow the EYFS framework. The implementation of the new EYFS (DfES, 2007a), proposed a concentrated effort to ensure "quality and consistency across settings" (DfES, 2007a). The implications for symbol use are not clear. Symbols are not mentioned in the Statutory Guidance accompanying the EYFS framework (DfES, 2007a) but they are mentioned twice in the Practice Guidance accompanying the framework (and a further three times in reference to numerical symbols and cultural symbols) (DfES, 2007a).

The previous Curriculum Guidance for the Foundation Stage (QCA/DfES, 2000) mentioned symbols seven times in 130 pages. Similarly, the former Foundation Stage Profile (QCA/DfES, 2002) mentioned symbols nine times in 136 pages. Most of these examples were in reference to children with additional communication needs and the expressive function of symbols.

Special schools are traditionally more likely to be familiar with symbols because children using AAC systems would have been more frequently attending specialist provision in the past and using symbols for communication and other purposes. As a result, it is probable that staff in special schools would be more likely to develop

skills in using symbols and interacting with symbol-users through exposure and access to training. Access to training in the use of symbols was not covered in the existing research identified.

Symbol use in special schools has been explored by Abbott and Lucey (2005) and Jones, Reid and Kiernan (Jones et al., 1982; Kiernan et al., 1982; 1979). However, as more children are educated in mainstream settings and the benefits of using symbols are explored, symbol use may not be confined to special provision. As the 'drive for inclusion' continues, more children traditionally thought of as symbol-users will be attending mainstream placements. Research that focuses on the special provision neglects the wider population of school children or practitioners accessing and using symbols.

2.2.3 Practitioners working in schools: Collaborative working

As a result of the emphasis on children's services coming together, schools are now frequently the location for educational practitioners working with other practitioners, including SLTs. Research on the use of symbols in schools must be positioned in this context. Attention must be given to research around the working relationships of practitioners in schools using symbols, the factors supporting and challenging collaborative working when using symbols, and, the coming together of the separate agendas of Health and Education when symbols are used by practitioners from each. The overlap of speech and language therapy and

education is not new and the working relationships of SLTs and teachers have been explored in depth. Some of the most relevant examples of existing research relating to collaborative working in schools are explored below.

Within the literature in the area of 'inter-professional working and learning', there is a; "confusing variety of terms used to convey a similar intent and meaning" (Stone, 2009). This may mean that practitioners in education and speech and language therapy services encounter challenges in interpreting terms used to describe 'working together'. It may also be challenging to understand the demands made of them when the terminology is unclear. Differences in terminology and 'professional vocabulary' may produce implications for bringing practitioners together from different professional groups to work in school settings.

In order for practitioners to be able to work together effectively there may be an expectation that they understand shared and/or specialist terminology and language. Easen et al. (2000) indicated that conceptualisations of collaborative working were an important factor in its effectiveness. Data collected from interviews with managers from education, health and social work community services indicated that conceptualisations of collaboration varied and, as a result, benefits that appeared to be arising from proposed collaborative working were not permanent and were often inconsistent. This finding may be related to professional differences and inconsistent terminology.

Kersner (1996) collected questionnaire data from teachers and SLTs working in special schools surrounding their experiences of collaboration. The findings demonstrated that practitioners believed that a shared understanding of roles leads to more effective ways of working together. Wright (1996) interviewed teachers and SLTs in order to identify ways in which they worked together. Wright (1996) found that when collaboration was considered effective this often led to an important exchange of information. This may lead to an increase in the knowledge base of all parties, which Wright (1996) referred to as 'cognitive gain'.

In research carried out by Graham and Wright (1999), interpretations of inter-professional collaboration were explored among practitioners working with children with physical difficulties. Practitioners were asked to rate items as good or poor examples of collaboration and a 'collaboration scale' measure was developed as a result. The scale was designed to be used to assess current levels of collaboration and plan improvements where needed. This indicated recognition of the importance of collaboration between practitioners when working with children with special needs. Perceptions of collaborative working were also explored by Hartas (2004) who collected data from questionnaires and group interviews with teachers and SLTs. Accounts given by these practitioners led Hartas (2004) to conclude that lack of time was a hindering factor in collaborative working, while willingness, mutual contribution, professional beliefs and support were factors in support of collaboration.

McCartney (2000, 1999) demonstrated that the ways practitioners from speech and language therapy and education work together are influenced by issues surrounding; prioritisation, allocation of resources, territory and confusion about roles. McCartney (1999) examined possible 'barriers to collaboration' and defined these as 'functional', 'structural' and 'systems-environment'. Within these groupings of potential barriers to collaboration, McCartney (1999) identified difficulties relating to the goals of the services involved and the ways in which the services interacted with each other, including; timing, location and management of resources. McCartney (1999) advised services seeking to collaborate to attempt to 'foster mutual understanding' of roles and objectives.

In an exploration of the ways in which SLTs and teachers work together, Tollerfield (2003) considered the resolution of the barriers to collaboration outlined by McCartney (1999). Having collected data from practitioner diary notes, audio and video recordings of interactions between practitioners, Tollerfield (2003) drew a number of conclusions about the reality of addressing these barriers to collaboration in schools. Tollerfield (2003) concluded that barriers to collaboration can be overcome when knowledge and skills are shared and practitioners gain in these areas as a result of working together. Tollerfield's (2003) findings suggest that differences in professional role have a positive influence on professional relationships when practitioners recognise collaborative working as an opportunity to contribute and gain in skills and knowledge.

In her later work, McCartney (2000) discussed the issue of contrasting approaches to prioritisation of services in schools. The conclusion of this discussion was that speech and language therapy procedures do not comfortably fit with educational approaches and systems. McCartney (2000) highlighted that SLTs are expected to "select appropriate children for services" by "differentiation from the normal population" (p. 166). Educational practitioners, in contrast, are required to deliver a service to which all children have a 'right'. As a result, SLTs providing services in school settings may encounter situational and practical difficulties when delivering services to clients within their very specific 'caseload'. A proposed solution for this was the ongoing development of joint approaches which draw on the input of educational and therapy practitioners. This research reflects the difficulties faced by therapists who are employed by the NHS, but are expected to adopt ways of working more closely associated with education.

Expectations of teachers are equally high. Initial teacher education does not give much emphasis to SEN or speech and language difficulties, but teachers are expected to know about and understand "the typical development of early language acquisition; and the specific aspects of different learning, sensory or motor difficulties on the acquisition of language (and literacy) skills" (Mroz, 2006, p. 166). Mroz (2006, 2006a) demonstrated that knowledge, understanding and training of educational practitioners was a factor influencing working with other practitioners in schools. This research indicated that training for educational practitioners in the area of speech and language development and difficulties was

lacking and not always accessible. As a result some educational practitioners felt that they lacked knowledge in this area of children's development and this affected their interaction with other practitioners.

In a discussion of collaboration between teachers and SLTs, Forbes (2001) analysed and drew attention to 'changing notions of professionalism'. Forbes (2001) suggested that specialist knowledge may no longer be as essential as the ability to work collaboratively with practitioners from other backgrounds. It was argued that professional values have changed and that; "understanding and accountability replace autonomy, knowledge and responsibility" (p.202). This supports the findings of other research in this area.

In the context of teachers working with SLTs, Hartas defined collaboration as a; "dynamic system … which endorses collegial, interdependent and co-equal styles of interaction between teachers and speech and language therapists" (2004, p.33). This definition of collaboration implies working together rather than just working simultaneously, incorporating joint input and mutual objectives. Tollerfield (2003) also demonstrated that teachers and SLTs have shared, as well as profession-specific, skills and knowledge and that these will have an effect on deciding on objectives and priorities in schools.

There are increasing numbers of children with complex needs attending mainstream settings, in some cases bringing alternative learning and

communication systems with them, many incorporating the use of symbols. These children and their families are usually at the centre of networks of practitioners contributing simultaneously to the child's development. As a result, regular multi-disciplinary collaborative working, which may have traditionally been associated with special provision, is now also frequently a requirement of everyday working in mainstream schools.

The findings of the studies outlined thus far are useful for developing an understanding of the factors supporting and challenging collaborative working. However, they are not applied to specific circumstances, such as, using a particular 'tool' or resource in schools, for example, symbols. The use of AAC and assistive technology has, however, been the focus of investigation in relation to collaborative working.

Calculator and Jorgensen (1991), when reviewing the factors and processes in integrating symbol-supported AAC systems in school settings, stressed the importance of collaborative working. They argued that; "the area of AAC demands inter-disciplinary collaboration" (p.210). Calculator and Jorgensen (1991) suggested that at the time of their research collaborative working was rarely a part of the university curriculum for undergraduate courses. There have, however, been some developments in degree level courses since this work. For example, De Montfort University now offer modules in inter-professional education to under-

graduate students on the Human Communication – Speech and Language Therapy degree course (DMU, 2009).

Wright et al. (2008) demonstrated that a number of institutions in England are now offering students opportunities to learn and work with other groups of professionals in their initial training. Wright et al. (2008) discussed the importance of these experiences for students training to work with children in their evaluation of an interdisciplinary training course for early years practitioners. The findings of this evaluation indicated that practitioners attending the course gained in confidence, as well as professional knowledge, and gave positive feedback about the opportunity to have contact with practitioners from other professional groups.

Hunt et al. (2002) explored 'collaborative teaming' among teachers, instructional assistants and speech and language therapists when working with children with symbol-supported AAC needs in mainstream school settings. 'Collaborative teaming' was defined as; "a group of individuals with diverse expertise working together and achieve mutually defined goals" (Hunt et al., 2002, p.20). Three groups of practitioners jointly contributed to the development of Unified Plans of Support (UPS) for three children, aged three, six and ten with severe physical and speech difficulties. Data were collected from observations of the children, as well as from team interviews with the practitioners involved. All three of the children made improvements in engagement and interaction with classmates. Practitioners reported that 'collaborative teaming' increased their opportunities to share

perspectives, provide support for other members, increase accountability, expand professional roles, and, increase understanding of inclusion and objectives for individual children. Hunt et al. (2002) concluded that 'collaborative teaming' contributed to improving outcomes for the children involved.

In interviews with teachers, McLaren et al. (2007) questioned participants about the ways they worked collaboratively with other practitioners when using assistive technology in schools. The findings suggested that teachers were aware of a number of factors supporting collaborative working, including; participation of all parties, meetings, effective communication and collaborative planning. They reported finding that teachers sometimes referred to feeling less connected to practitioners with whom they lacked a shared knowledge base.

The EYFS delivered the message that; "multi-agency working is an integral part of early years work" and practitioners are now encouraged to develop a "culture of collaboration" (DfES, 2007a, p.01). The EYFS framework was not formally introduced until September 2008, therefore, there was no known published research, at the time of this research, evaluating the patterns of practice resulting from these demands.

After analysing the literature in this area and informally observing the use of symbols in schools, three groups of practitioners have been identified as the most likely to be using symbols. These groups are; teachers, SLTs and a range of other

practitioners including; TAs and nursery nurses. This is supported by the finding of Jones et al. (1982) that; “in the majority of (special) schools teachers, teaching assistants and speech therapists … used the (sign or symbol) system chosen” (p.36). Despite the time lapsed since this publication, informal observations in schools suggest the same practitioners are involved in symbol use in the present day. Expectations placed on practitioners working in schools may provide valuable insight into the reasons behind their use of symbols and the ways in which their background and training contribute to this, particularly when symbol use involves more than one practitioner. The real consequences of bringing services together in schools can only be established by allowing practitioners to vocalise their own experiences.

2.2.4 Informing and improving symbol use

The literature covered so far has represented a changing, contentious area of research with implications for the education of children and the working life of practitioners. The research developed as a result of this literature review will centre upon an exploration of the use of symbols in schools. The literature review led to the conclusion that it is necessary to investigate the practicalities of meeting Government demands for working ‘collaboratively’ when practitioners use symbols. Practitioners’ experiences of using symbols in schools should be considered in the context of the key current political agenda outlined in the Introduction.

The ‘drive for inclusion’ represents a shift in concepts of disability which are reflected in the way education and health services operate. This shift is an important part of the context of this research. The ‘social model of disability’ (Oliver, 1990) encourages individuals to consider the accessibility of information, services and the environment for all people in a community. It is the assumption of this model that impairments are not inherently part of the individual but are imposed by a disabling society.

According to the ‘social model’ (Oliver, 1990), disablement can and should be challenged by creating enabling and accessible environments and making information and learning opportunities comprehensible to the wider population. In accepting the ‘social model’ (Oliver, 1990) as a doctrine for future practice, practitioners must consider the implications of finding ways of teaching that *enable* all children to develop and learn (De Coste, 1997). Symbols may play an important role in *enabling* individuals to communicate, learn and participate and their use in schools should be investigated in the context of this social-political era.

There is no doubt that the increase in awareness of the ‘social model’ of disability (Oliver, 1990) and the ongoing ‘drive for inclusion’ have been influential developments in the ways that FS school settings are organised. The reality of how these perspectives on disability and education influence practice, however, appears to be complex. The ‘social model’ (Oliver, 1990) was developed as an alternative philosophy to the ‘medical model’ which focused on impairment and

finding a ‘cure’. Advocates of the ‘social model’ argued that the ‘medical model’ was reductionist and patronising and, in some cases, led to ‘labelling’ (Oliver, 1990). However, there has been some recent debate about the concept of ‘labelling’ in research surrounding ‘dilemmas of difference’ (Norwich, 2002). Norwich (2002) and Norwich and Lewis (2007, 2001) have drawn attention to the need for a balance between addressing individual differences between learners by providing specialist differentiation, while avoiding a focus on ‘impairment’ and still “accommodating a full diversity” (Norwich, 2002, p.482).

The literature surrounding the use of symbols with children with specific needs (cognitive difficulties, Nigam et al., 2006; physical difficulties, Schlosser and Sigafoos; autism, Connor, 1999) demonstrated that some researchers and practitioners have had a tendency to focus on specific types of disability when exploring the use of symbols. This finding may reflect the wider reality of interpretation of the ‘medical’ and ‘social’ models when working with children, whether in schools or other settings. The existing literature suggests that for many researchers and practitioners there is some value in drawing on the perspectives of both of these models.

Rather than avoiding acknowledging specific types of disability, practitioners may feel it is necessary to identify and understand something about the nature of the individual child’s needs, which may, or may not, come with a ‘label’ or ‘diagnosis’. Norwich and Lewis (2007) argue that these ‘labels’ could simply provide a

‘signalling effect’. When exploring the use of symbols, which are sometimes used as an enabling tool for children with specific needs, this area of debate is an important factor to consider in the context of this research.

The research identified so far in the literature review demonstrated the use of a range of methods for collecting and analysing data in the research topics related to symbol use and collaborative working. Closer evaluation of the research identified revealed that, as a whole, research that generated in-depth responses about this research topic from practitioners was limited. Research that used an in-depth qualitative method to explore symbol use in schools with teachers, EYPs and SLTs was not identified in the literature search.

The symbol–related studies identified in this review appear to be borne out of various conceptualisations of the purpose of symbols. These perspectives on the use of symbols are not essentially contrasting but are a product of different disciplinary orientations and are necessarily tied to the native discipline of the researcher(s), for example, speech and language therapy or cognitive psychology. This was reflected in the experience of conducting a cohesive literature review on this topic and could indicate a challenge for practitioners searching for information about using symbols in schools.

This literature review has demonstrated that although the most dominant residence of symbol-related research is in the literature surrounding the field of AAC, this is

not the only area of research and theory in which symbols are discussed. In addition to the research which is closely related to AAC, several other areas of research were identified in the existing literature. As discussed, some of the other areas of research are linked with topics surrounding communication but are not necessarily always depicting the ways in which symbols might be used in schools by teachers, EYPs and SLTs. As there was, to date, only one identified example of research exploring symbol use in schools within the last five years (Abbott and Lucey, 2005), it is difficult to postulate how diverse the use of symbols in school actually is. Similarly, it is challenging to draw research-based conclusions about collaborative working when practitioners use symbols.

The researcher's experience in schools suggests that in the context of current FS school settings, it is naïve to restrict symbol-related research to the field of AAC. Existing research contributions do present varying perspectives on the extent to which symbols can enable and enhance learning and communication experiences but there is still a great deal that is unknown about this area. The implications of symbol use for the entire population of school children have not been explored. There is a lack of documented evidence that school-based symbol use is advantageous, detrimental, or has any effect at all.

Although symbol developers recognise their diverse potential uses, the research literature has not been broadly summarised or categorised. Existing research is scattered across various research areas. This finding must now be addressed.

Abbott (2000) has made clear that; “there is a need for some focused and rigorous research into key issues on symbol practice. There is also a continuing need to exchange ideas through formal and informal means, to identify even more practice, and to develop practical guidelines and training” (p.95).

Research that is representative of small groups of children is limited in its application for inclusive education (for example, just special schools; Abbott and Lucey, 2005; Jones et al., 1982; Kiernan et al., 1982; 1979). Children in the full range of FS school settings (including mainstream, as well as special schools) in England are under-represented in the research literature in this area. There was no research identified exploring symbol use in schools with children with no known difficulty or delay in schools and it has been suggested that there could be; “children who could benefit who are not being exposed to symbols” (Jones et al., 1982).

Practitioners working in schools may use symbols with children at a variety of stages in development. In order to support practitioners in using symbols, research is needed in which practitioners are given the opportunity to share experiences of working in schools with these children first-hand. Qualitative in-depth methods such as interviews would allow the investigation of practitioners’ understanding of symbolic development and how this can be enhanced. This is the kind of research that would provide practitioners in schools with documentation of the experiences of others in a similar role. Researchers must now explore with

practitioners how symbols are currently being used, in order to explore how symbols can be put to best use for all children.

2.3 Summary

This chapter introduced and discussed the findings of a review of the literature surrounding the research topic. The literature identified was categorised and discussed systematically, in terms of the research topics covered and bodies of existing knowledge on these topics. Existing literature was explored in terms of its methodology, findings and contribution to an understanding of symbol use in schools. The literature review enabled the researcher to confirm that symbol use in schools is an area suitable for exploratory research.

2.4 Developing research questions

Research questions were developed from an understanding and evaluation of existing literature in the research topics surrounding symbol use in schools.

The main research question may be expressed as follows:

1. **What are the experiences and attitudes of practitioners working in Foundation Stage school settings around the use of symbols?**

Secondary research questions addressed in this research include:

2. How consistent is symbol use across the Foundation Stage, what are practitioners' thoughts about this?
3. What is guiding/governing current symbol use?
4. What are practitioners' experiences of educational practitioners and speech and language therapists working together when using symbols in Foundation Stage settings?

All research questions were designed to address the experiences of three groups of practitioners seen as the most frequent practitioner-users of symbols in schools; teachers, EYPs and SLTs. Research questions were designed to address the range of ways symbols were used and encompass the ways in which practitioners worked with each other when they were using symbols.

One of the underlying objectives of this research was to investigate and explore how symbols were being used in schools at the time the research was underway by asking the practitioners who had experience of using them. For example, the researcher was concerned with; how symbols were being used and by whom, how practitioners were guided and trained in the use of symbols, and what experiences these practitioners have had of their use. This was a suitable objective in an exploratory research project because this area had not been explored before and, hence, provided a starting point for future research. The research objectives were introduced in the Introduction.

The following chapter introduces the philosophical, strategic and methodological frameworks and provides a step-by-step account of the methodology employed in the research.

Chapter 3 - Research Methodology

3.1 Introduction

This chapter provides an in depth explanation of the research methodology. The chapter begins by introducing the philosophical, strategic and methodological frameworks. The researcher discusses the epistemological position of the research and explains the influence of a phenomenological approach. The decision to adopt a qualitative exploratory research strategy is discussed and the sampling strategy is also introduced. The methodological framework introduces the research design and explains how the research methodology fits together.

The later part of the chapter documents precisely the processes of sampling, ethics and collection of data in interviews. The pilot study and outcomes of this study are discussed before the participants, procedure and materials for the main study are explained in detail. Where possible, the researcher has explained how the philosophical framework influenced the conduct of the research.

3.2 Philosophical, strategic and methodological frameworks

The outline of the philosophical framework provides details of the type of knowledge sought in the research and explains how this influenced the collection

and analysis of data. The strategic framework will explore the nature of exploratory research as a strategy for addressing a research topic. This framework also encompasses the ways in which quality is ensured when using this approach. The methodological framework introduces the research methods and tools. Later in the chapter, the researcher explains how these frameworks were applied in the conduct of the research.

3.2.1 Philosophical and epistemological position

"When you say that you are undertaking a research study to find out answers to a question, you are implying that the process … is being undertaken within a framework of a set of philosophies …" (Kumar, 1996, p.4).

The development of the methodology for this research began with an exploration of the philosophical framework. An implied objective of all research is to generate new knowledge of some kind (Yates, 1998; Kumar, 1996). This is particularly important in the provision of statutory public services (including education and health) where the actions of practitioners affect others and where there are often vulnerable service users (children and vulnerable adults). This research was driven by a belief that an exploration of current symbol use in schools could lead to a better understanding of the experiences of practitioners using symbols and ultimately the implications of these for the children they come into contact with.

The design of this research was influenced by certain assumptions about the research topic(s), potentially available research methodologies and the skills of the researcher. At the philosophical level pivotal decisions and choices were made that characterised the research and nature of the knowledge pursued through the research questions. Having identified a lack of current literature surrounding the use of symbols in schools, the researcher began considering and evaluating avenues of inquiry and possible research designs.

The philosophy of the research was influenced by a desire to empower the research population by documenting their experiences rather than learning from them and giving nothing back (Denscombe, 1998). The ways in which findings were disseminated and information was sent directly to the research sample are discussed later in the thesis (Chapter 7).

The new knowledge generated by this research was organised in the form of the recorded findings in the thesis; a framework of themes and theoretical constructs with an explanatory framework, illustrated by quotations from the raw data. The findings, conclusions and responses to the research questions contributed the 'new knowledge' generated by this research and extended what was currently 'known' about symbol use in schools. This knowledge is suitable for dissemination, which is explained in Chapter 7, and aspects of the findings may be transferable to alternative conditions and circumstances in future research.

New knowledge developed in this research is largely developed from the researcher's exploration of related literature and interpretation of data collected. Repeating ideas were explored and themes were established where suitable evidence could be demonstrated. Due to the subjective nature of this process, the findings provide; "one of many possible interpretations of a phenomenon" (Yardley, 2000, p.218). Although the researcher's interpretation was subjective, the research processes were conducted and documented in such a way that it would be evident to a third party how conclusions were developed. This was supported by constructing and maintaining a comprehensive and explicit audit trail (Porter, 2007), which is explained in detail later in the chapter.

An interpretivist approach to the generation of knowledge is based on the assumption that our understanding of the world is based on perceptions and interpretations that are always in a state of flux and influenced by context. Collecting data in interviews with practitioners, the researcher is able to explore, analyse and make sense of practitioners' unique interpretations of the phenomenon.

Given that the process of analysing the interview data was extremely subjective, key decisions have been documented and examples have been included in the Appendix (Appendices 17-19), contributing to an audit trail of the overall interpretive process. The audit trail provides insight into the interpretive process so that the reader can follow the researcher's analytical journey from data collection to

theory generation (Porter, 2007). For this reason the entire research process has been documented and every key decision was recorded. Examples of this are included throughout the thesis, as well as in the Appendix (Appendices 17-19, 21 and 22).

To document interpretations at every stage of the research, the researcher kept a research journal throughout the process of conducting the research. This was a log of any observations, ideas and decisions starting from preparing for the research, experiences when sampling, collecting and analysing data, and, reflecting upon the research process in general. For example, observations specifically about the interviews included; questions participants asked, participants' apparent disposition, time spent on specific questions, topics they appeared to avoid, body language and other non-verbal cues, gestures and movements.

Examples from the research journal are provided throughout the thesis in the format below. The research journal was written in the first person by the researcher and excerpts have been copied word for word. The following two examples are notes made immediately after two of the interviews were carried out and demonstrate the kind of reflective notes the researcher was making.

> Research Journal Entry (11/04/08)
> She (the participant) expressed an interest in my psychology background and asked me what I wanted to do in the long term.

Research Journal Entry (02/09/08)
SLT 4's job role was complicated and I found it hard to memorise every aspect without writing it down. I found this with the other SLT interviews as well. The interview didn't cover all the questions on the framework although I didn't feel this was detrimental to the data collected.

Observations about the setting were also recorded including; how the researcher was introduced, who greeted the researcher, the school location and environment.

Research Journal Entry (07/02/08)
I was greeted by the Head Teacher. She was quite blunt and didn't seem to have much time.

Research Journal Entry (01/04/08)
I waited in the foyer for a few minutes, a lady (I don't know her role) asked if I needed help. She took me to the Foundation area of the school, through the Hall. She didn't make conversation.

The researcher also made notes on the general research environment and noted if there were any symbols in the surroundings.

Research Journal Entry (13/03/08)
We went into a private room which was large, untidy and cold.

Research Journal Entry (24/04/08)
There were symbols on A5 paper in the room which were hand-drawn line drawings. I was told they were used for children choosing their 'jobs' (activities to do).

3.2.1.1 Phenomenology

The philosophical framework was based on the discipline of 'phenomenology' and was primarily influenced by the ideas of phenomenologists; Heidegger, Van Manen and Smith. For Heidegger, the 'lived experience' is itself an interpretive process and it is the understanding of the 'lived experience' that the phenomenologist must focus on. Heidegger argued that the aim of the researcher should be to "share more fully in the human experience" (Dowling, 2007, p.134). For Heidegger, understanding is always a reciprocal process (links to reflexivity). He termed this approach 'hermeneutic' (Heidegger, 1988).

Van Manen is known for his contribution to the phenomenological movement, combining aspects of Husserl's descriptive phenomenology, as well as the practice of interpretation (Dowling, 2007). Van Manen advocated the exploration of human experience to identify 'themes' (Van Manen, 2002, online; 1990). Van Manen strongly believed that the interpretation of these meanings is a complex process which should not be 'rule-bound'. Smith has driven the development of Interpretive Phenomenological Analysis (IPA) as a method for the analysis of qualitative data (initially in psychology). For Smith, IPA is a method which encourages the researcher to explore the lived experiences of the participant and interpret these experiences (Smith et al., 1999; Smith, 1996).

When an individual experiences a phenomenon, in most cases, they are able to recall and talk about this experience at a later point in time. Together, the researcher and participant explore the participant's experiences of a particular phenomenon. This process may be conducted in interview conditions with the full informed consent of the participant. The data is later analysed adopting a phenomenological approach.

The following two subsections demonstrate the influence of a phenomenological approach to the collection and analysis of data.

3.2.1.1.1 Phenomenological approach to data collection

When using an interview method to encourage a participant to recall and recount specific experiences, the researcher is making several assumptions. These assumptions are; one, that the participant can accurately recall relevant event(s); two, that the participant will feel comfortable sharing their true experience(s) of the phenomenon; and three, that the researcher will be able to develop an interpretation of what the participant is sharing, during the interview, and later when they analyse the recorded and transcribed dialogue.

In successful interviews, participants will give an account of the experience as they recall it. It will be not be possible for the researcher to determine how accurately the account reflects what actually happened as the moment in time has passed.

This is not a limitation of this approach, however, because the researcher is interested in the participant's experience of the event and how they recall it. The researcher can, however, be aware of other factors that may affect the participant's version of events, for example, social desirability, or, perceptions of the objective of the research. For example, a participant may not wish to reveal that they feel under-trained as they may perceive this to be socially undesirable.

By adopting a phenomenological perspective the researcher is expressing an interest in the following; the deep level meanings embedded in what the participant is saying, the true nature of an experience in that individual's life-world (through their eyes), and the ways in which the individual makes sense of the experiences they are discussing (Grbich, 2007; Langdridge, 2007; Hitzler and Eberle, 2004).

When the phenomenologist uses the term 'meanings', they are referring to not only the literal meaning of the words and language that the individual intends with each utterance, but also the contextual, personal and emotional, unique and subjective meanings in what they are saying. This constitutes the 'lived meaning'. The 'lived meaning' describes the unique way an individual experiences their reality and can be uncovered by asking them to revisit and describe aspects of the experience(s) of interest. This can be addressed by asking questions in the interview like; could you describe that experience please?

How this approach was applied

The researcher explored with participants the meaning of certain experiences and a shared understanding of the participant's experience was able to develop. It was essential that these 'negotiated meanings' were represented in the analysis (Phenomenology Online, 2008). To ensure this, the researcher attempted to identify parts of the data where critical aspects of participants' 'experiences' were discussed and recognise the points in the interviews at which meanings were clarified with participants, for example:

> SLT 14 - … if they've (children) got ... a choice of activities … by having symbols as well ... again, it's visual, helps them to make a choice of what they want to do and makes them aware of what activities are actually around for them to choose, there isn't just the bricks or cars ... so I find that useful.
>
> Int - So does it, did the actual environment then become labelled in a way so that they are choosing between ... an area and what's happening in that area and ... or how does it relate from the symbol to the activity?
>
> SLT 14 - They'd probably have a symbol, they'd have the symbol kind of on the box of bricks, have the symbol there and they'd have the symbol on the card <um>, if bricks was out that day then they might have 'bricks' and 'dressing up', or whatever, so yeah, so ... it would correspond.
> (Paragraph 165-171)

Participants also clarified meaning with the researcher, for example:

> NN4 - You know when you say symbols, do you mean, can it be pictures or symbols?
> (Paragraph 178)

Transparency during the analytical process will also reassure the reader that the researcher has represented the 'lived meanings', revealed in participants' accounts, accurately.

Drawing upon a hermeneutic (interpretive) approach to phenomenology, the researcher exercised interpretive skills at every stage of the data collection and analysis. The researcher subtly observed and mentally and manually made notes about the non-verbal cues given by the participant's body language, facial expressions, pauses and silences. Body language of participants was observed closely and an attempt was made to mirror body language and develop 'body empathy', which is seen as an important skill in drawing as much detail from an interview as possible (Langdridge, 2007). For example, if the participant turned their chair towards the researcher and sat directly facing her, the researcher did the same. In contrast, if the participant turned away and leaned towards the desk, the researcher did the same. In being aware of body language, the researcher hoped to engage with participants more completely and explore their 'lived experiences' in more depth.

The occurrence of pauses in the participant's verbal accounts was seen as indicative of an attempt to recall information and provide valuable insight into the way the participant's thoughts and memories of their experiences are organised. Pauses during participants' verbal accounts were seen to indicate something about the participant's belief and value systems about the topic. The researcher

recognised the importance of allowing silences or pauses to continue in the interview situation more than would be typical of normal social conversation (Denscombe, 1998). Silences were seen as an opportunity for the researcher to allow the participant more time to consider and recall valuable information which would otherwise be missed. This was critical in allowing the researcher to be appropriately responsive and encouraging participants to explore their experiences more deeply. The following example demonstrates that, given time to pause and think, the participant extended her response:

> SLT 8 - <Um> What else ....(long pause) ... <Um> ... (long pause) ... What things would I use symbols for? ... Symbols to identify people's personal ... <um> possessions, so they might have things for themselves. <Um> Symbols for ... rules for places.
> Paragraph 86

It would have been more challenging to develop a loyal interpretation without the additional information observed in the interview which was recorded as field notes in the research journal (Denscombe, 1998). These notes are referred to throughout the thesis.

It was important to the researcher that the practitioners who were interviewed were sensitively but astutely questioned in such a way that they began to explore and question their deeper assumptions and personal experiences linked to the use of symbols in their work. This was achieved by asking questions like; "could you tell me a little bit more about why you used symbols in that way with that child?" This

was necessary in order to uncover the ‘essence’ of the experiences practitioners had had of using symbols and to begin to understand the use of symbols in schools (Phenomenology Online, 2008; Grbich, 2007).

The style of questioning used was designed to guide the participant, and researcher, in mutually uncovering; “the essence of an experience” (Grbich, 2007, p.84), the objective of phenomenological research. The questions posed were designed to encourage participants to explore what ‘came to mind’ when they were asked about how and when they had used symbols. The researcher then continued questioning with the aim of taking this further and guiding participants towards unpicking the reasons behind this. By attempting to explore experiences on a ‘deeper level’, the researcher aimed to develop phenomenological insight and encourage participants to identify ‘hidden meanings’ in their experiences.

The researcher applied insights of a phenomenological perspective to explore and gradually uncover information about the following during the interviews; the practitioners’ experiences of using symbols, their explicit and implicit reasons for introducing symbols to children, their attitudes and beliefs about the ‘needs’ of the children they used symbols with, and their own perceptions and attitudes about symbols. The interview framework topic guide is presented later in the chapter (Figure 4, page 148).

Participants were encouraged to engage in a reflective process of recalling and revisiting professional practices and exploring their professional reasoning and decision-making. In doing this, the researcher attempted to gain access to the participants 'life world', explore the ambiguities and contradictions within their experiences of the world, and, commit to trying to be 'true to the phenomenon' (Hitzler and Eberle, 2004). Each participant was involved in one interview and was not approached to discuss interpretations after the analysis. Phenomenologists are critical of 'member checking' due to the recognition that this process may influence the interpretations of the researcher. The researcher may change or limit natural interpretations if they are apprehensive about how their interpretations may be received. The judgements of the participants themselves may also be affected by social desirability effect and caution about who the audience of the research may be (Finlay, 2008; Nederhof, 1985).

3.2.1.1.2 Phenomenological approach to data analysis

The researcher's exploration of the data must be conducted in such a way that an interpretation of the 'lived experience' of the participants develops, based on the 'units of meaning' identified in participant accounts of the phenomenon (Dowling, 2007). Van Manen (2002) identified thematic analysis as a method for uncovering 'structures of meaning' in transcribed interview data. Through the organising of data into themes, the researcher creates a way of depicting or 'making sense' of the phenomenon. He referred to themes as; "a means to 'get at' the data" (Van

Manen, 2002, online; 1990). Van Manen views this method of analysis as a creative and unrestricted process.

For Smith, the objective of the analysis of data was to; “explore in detail the participants’ view of the topic under investigation” (Smith et al., 1999). Later, the researcher should look for connections between the transcripts and develop themes. This process would lead the researcher to; “establish connections of predominant themes within and across cases” (Grigoriou, 2004, p. 8). Although this research was influenced by the work of Smith and the researcher has followed an interpretive phenomenological approach, the research did not adopt a pure IPA method. The methods used were influenced by a number of other sources and the method of analysis was predominantly influenced by Braun and Clarke’s (2006) guide to thematic analysis.

How this approach was applied

During the interviews the researcher attempted to discover the ‘meanings’ inherent in the participants’ experiences of the phenomenon. When the researcher was satisfied that participant and researcher had a degree of shared understanding of these meanings, they become known as ‘shared meanings’. In the analysis of data the researcher attempted to identify and further interpret these as ‘units of meaning’ in individual transcripts, as well as those occurring across the data set as a whole (Hycner, 1985, in Cohen et al. 2007). Dowling (2007) described this process as the gathering of ‘descriptions’ into ‘units’, ‘units’ are developed into

‘meanings’, and these ‘meanings’ are brought together to “create a general description of the experience” (Dowling, 2007, p.135).

It was essential that the researcher had some awareness of how the data would be analysed, before and during its collection. However, the researcher also acknowledged that the actual process was determined by engaging with the data and considering what was discovered and what the researcher felt was necessary and logical at each stage. The researcher ensured the data was suitable for engaging with the research questions and that the method of analysis was also appropriate for addressing these questions. The main objective was to collect data which the researcher could engage with and explore, in order to develop an interpretation of the experiences the participants shared. The uniqueness of each interview and the characteristics of the data set as a whole were equally important in the interpretation of the data and their relationship to the research questions.

In encouraging participants to recall and give accounts of their experiences, the researcher was able to access deep level meanings within these accounts and form an interpretation of ‘the true nature of an experience in that individual’s life-world’ (Grbich, 2007). In analysing the data, the researcher was endeavouring to identify ‘deep level meanings’ by engaging with the transcripts and scrutinising to a very fine level to enable an interpretation to develop. Hitzler and Eberle (2004) advised the researcher to analyse the ways in which participants ‘created’ meanings in their accounts of the phenomenon.

During the early stages of the analysis the researcher was seeking to identify passages of data that provided insight and indicated possible ‘repeating ideas’ or patterns in relation to these specific topics in using symbols. These ‘repeating ideas’ reflected the researcher’s interpretation of ‘units of meaning’ (Hycner, 1985, in, Cohen et al., 2007). The transcripts represented a text-format version of the participants’ accounts of their experiences (transcribed verbatim from the audio recordings) and the researcher became submerged in these accounts, by reading and rereading them systematically. The objective of this process was to begin to interpret deeper, and often abstract, meanings in the reflective language used by the participants (Dyson and Brown, 2005).

At later stages of the analysis the researcher was searching for ‘shared’ meanings, as well as contradictions in the data set as a whole. These similarities and differences contributed to an understanding of the uniqueness of participants’ experiences of using symbols, as well as recognising more common or frequently mentioned aspects of their experiences that appeared as ‘repeating ideas’ or ‘units of meaning’ (Hycner, 1985, in Cohen et al., 2007). The researcher was seeking to develop themes and identify hierarchical relationships between thematic ideas in order to determine ways in which they might be interpreted as inter-related.

The researcher sought to consolidate these ideas and develop a theoretical framework which was ‘true to (participants’ accounts of) the phenomenon’, in

adherence with a phenomenological approach. This framework was developed to capture the; “hidden meanings and the essence of an experience together with how participants make sense of these” (Grbich, 2007, p.37). In line with this approach, the research findings are firmly grounded in the data (Smith, 1998).

3.2.2.2 Bracketing and Phenomenological Reduction

The concepts of bracketing and phenomenological reduction are introduced in this subsection and examples of how these concepts were put into practice are explained in the second part of this chapter and in the following chapter.

Researchers are not a homogenous group, but are positioned in a number of cultural groupings (Dyson and Brown, 2006) which may affect their conduct and assumptions. Within some schools of phenomenological thought, but not all, researchers are expected to find a means of addressing or “suspending one’s various beliefs” (Groenewald, 2004, p.18; Gearing, 2004). This is referred to as ‘bracketing’ in the field of phenomenology.

Throughout the research, the researcher reflected upon the social and cultural groupings to which she belonged and could be associated with. This also involved reflection on personal values and belief systems (Ahern, 1999). The researcher reflected upon the influence of these on her ability to; “study the essential structures” of the participants’ lived experiences (Groenewald, 2004, p.18).

‘Bracketing’ involved the researcher identifying her own assumptions and presuppositions relating to the research topic and attempting to control the influence of these in the interpretation of data, reducing ‘bias’ (Gearing, 2004). An approach to bracketing referred to as ‘reflexive bracketing’ was employed in this research and is discussed below (Gearing, 2004).

When preparing for the research, the researcher was required to; “make transparent, overt, and apparent ... personal values, background, and cultural suppositions” (Gearing, 2004, p.1445). By acknowledging the influence these may have had on the conduct of research before, during and after it was conducted, the researcher remained ‘reflexive’ about her interpretations and sought to identify the impact of personal assumptions on the conduct, analysis and findings of the research. This process was documented as part of the research procedure in the second part of this chapter.

The purpose of using ‘reflexive bracketing’ was to improve the clarity with which the researcher was able to access and explore the participants’ experiences of the phenomenon. Phenomenologists describe this undistorted view of the phenomenon as; “direct and primitive contact” (Groenewald, 2004, p.18). The researcher attempted to address the phenomenon of using symbols in schools in this way. By remaining reflexive throughout the research process, the researcher attempted to gain insight into practitioners’ use of symbols in schools as it was

experienced at the time and avoid being led and influenced by her own personal influences and assumptions.

Addressing the phenomenon deeply and directly is referred to as phenomenological reduction. 'Reduction' was interpreted as a way of approaching and exploring the phenomenon having minimised and acknowledged the influence that the researcher's presuppositions may have on the researcher's perception of it. This was a way of gaining access to the 'primordial experience' of the phenomenon (the experience in its original state).

3.2.2.3 Reflexive bracketing

In order to be 'reflexive' it was necessary to acknowledge, before, during and after conducting the research, the factors that may have influenced the researcher and confound the conduct and interpretation of the data. The attributes of the researcher and research situation that may have influenced the participants were also considered. In this section, the researcher has reflected upon the extent to which her own involvement may have acted upon and informed the research (Nightingale and Cromby, 1999). The researcher has attempted to achieve this by declaring her own motivations and background. This was facilitated by the researcher's commitment to critical 'self evaluation', identifying interests, personal values and beliefs (Ahern, 1999).

Acknowledging the researcher's affiliation

All participants were told that the researcher was a PhD student and that the findings of the interviews carried out would form part of the thesis and any related publications associated with this award. Participants were given information about the funding of the research and told that the research is based within the Division of Speech and Language Therapy at De Montfort University. Participants were told that the researcher had approximately four years previous experience of working in schools as a student and as a TA. As a result, the researcher had first-hand experience of working in schools and carrying out the job role duties of a TA.

This information could influence the research in a number of ways. There is a possibility that the participants employed as TAs could form a belief that they could relate to the researcher due to a shared experience. The participants may or may not have experienced a feeling of relating to the researcher due the alignment with the discipline of speech and language therapy. It was explained in all cases that the researcher was not, by profession, a current member of any of the professional groups being interviewed. The following passage from the research journal demonstrates that some participants had similar experiences to the researcher which may have caused them to identify with the researcher in some way.

> Research Journal Entry (09/05/08)
> T11 … had done a similar career progression to me, a psychology degree and worked as a TA.

While employed as a TA in an inner-city mainstream school the researcher used symbols as part of a daily job role with children in the Foundation Stage. The researcher had first-hand experience of using symbols in schools with children in the FS (age three to five). These experiences may have influenced the researcher's perception of symbol use and developed a belief system about their use.

The researcher had the following experiences:

- The purpose of using symbols was not explained to practitioners in the school where the researcher had worked
- Practitioners working in the school were not informed of the reasons for using symbols
- These practitioners would have been able to use symbols more effectively if they had been offered training
- Symbols were presented to children with little explanation and children were exposed to symbols but did not always access them in their play or learning
- Practitioners working in the school were not given the opportunity to discuss the use of symbols with other professionals

These experiences have contributed to the researcher's personal involvement in the research and can provide insight into how the researcher may identify with the

research population (Denscombe, 1998). The researcher's own experiences and attitudes about using symbols have been considered in designing and conducting this research.

Acknowledging the influence of the literature

In Chapter 2 details of the literature review were provided. Exploring the literature surrounding the research topic influenced the researcher's conceptualisation of the topic and approach to conducting research in this area. The literature drawn upon to support the design and conduct of the research may have contributed to a number of presuppositions about the use of symbols in schools.

The researcher did not have a body of literature in mind prior to commencing the literature search but had some idea of key search terms (Appendix 1). The researcher did not base the research on testing or applying any pre-determined theoretical models or frameworks known to exist prior to the conduct of this research. It was acknowledged that the approach taken to searching the literature, as well as the literature identified, was influential during the entire research process. Literature identified in the initial review will be drawn upon in Chapter 7 when the theoretical framework developed in this research is related to the research questions (Auerbach and Silverstein, 2003).

The researcher's appearance and presentation

The researcher was aware of and documented aspects of her personal identity and self presentation, in order to consider the possibility of 'interviewer effect' on the collection of data (Denscombe, 1998). The researcher was always professionally presented, punctual and organised, was in her mid-twenties and white British.

3.2.2 Research Strategy and Design

A research design was formulated from within the qualitative paradigm to allow the researcher to meet the following objectives:

- Collect data that was non-numerical / non-quantifiable
- Recognise the uniqueness of each individual's experience, developing an account which is idiographic; "a detailed description of particular circumstances" (Yates, 1998, p.135)
- Recognise that accounts are value-laden and influenced by a number of factors (and acknowledge that this is always the case in the social and human sciences)
- "Focus on the meanings inherent in social life" (Yates, 1998, p.134)

An objective of the research was to explore and attempt to interpret something about the experiences practitioners have had of symbol use. After a period of engagement with existing literature, the researcher developed an understanding of the area of 'symbol use in schools', as a research topic in its infancy. As very little

is currently known about the use of symbols in schools, it was not possible or desirable to work towards testing a hypothesis by way of a deductive design. As a result, this approach does not involve testing new data against existing hypotheses or principles. A qualitative, in-depth design was needed to examine the research topic in more depth than statistical analysis alone could provide.

Yardley explained that; “qualitative methodologies (are) especially well-suited to research that is exploratory and empathic”, and that involves a; “detailed exploration of the interwoven aspects of the topics or processes studied” (Yardley, 2000, p.215). The use of symbols in schools is an area in need of exploratory inquiry which constructs a theoretical contribution by way of inductive research. Ideas and concepts that are generated should be grounded in the data (Smith, 1998; Yates, 1998; Kumar, 1996). As a result the design that was developed involved a small-scale pilot study followed by a main study which was comprised of one-off semi-structured interviews with three groups of practitioners working in FS school settings.

Research of this kind is based on the assumption that the collection of appropriately rich data from a suitable sample population can be followed by rigorous analytical interpretation by the researcher. The theoretical framework that results from the analysis can be seen as a detailed explanation of the patterns, relationships and inconsistencies that occur within the data set(s), starting from a clear understanding of the unique detail of every individual interview. This

framework will remain an interpretation of the data collected in these studies only and will not be suitable for statistical testing. However, the methodology and findings may be 'transferable', this is explored in Chapters 4 and 7.

A qualitative research design takes into account the complexity of human action and experience. Researchers who are interested in the subjective experiences and attitudes of human beings must acknowledge that human experience occurs in the 'social world' which is open to the influence of many variables difficult to control or measure. This is described as an 'open system' (Smith, 1998). Smith (1998) suggested that within the open-systems in everyday life, objects and individuals have 'complex multiple relations with other things' (p.348). For example, in this research, participant responses may be affected by their prior experiences, mood or judgments of the researcher. The researcher took this into account and worked with a small sample, ideal for qualitative research, gathering rich and detailed information about experiences and attitudes. There was no attempt to control variables and quantify change, but a carefully and deliberately identified sample was selected with the aim of increasing understanding of the individual accounts and interpreting trends among them.

Having identified a research topic with very little surrounding literature, an exploratory design was both appropriate and necessary. The research strategy was based on the need to conduct research that would enable the researcher to 'explore' the phenomenon, using symbols in schools. In order to explore this

phenomenon, it was necessary to define the specific research topic and concepts within which to investigate. In exploratory research the process of operationalising concepts and defining clear research questions requires acknowledgement of anecdotal evidence and exploring meanings within the research area. For example, the researcher was particularly careful to ensure the participants interviewed understood the intended meaning of the term 'symbol use' and the types of symbols that were being referred to were discussed before the interview. The researcher also looked for these kinds of symbols in the school environment, as the following excerpts from the research journal illustrate:

> (When asked to discuss experiences of using symbols)
> T8 - … it depends how far you go with symbols, doesn't it?
> (Paragraph 158)

> (When discussing the symbolised rules in the classroom)
> TA16 - And then I don't really know if you'd class it as a symbol.
> (Paragraph 118)

Any ambiguities and inconsistencies between participant interpretations of this term were of great interest to the researcher as part of the exploration of the research topic. However, it was essential that the researcher was clear about the phenomenon being investigated and was prepared for variation between settings and participants' experiences.

When participants referred to other types of 'symbols' (those that were not part of a recognised symbol set) and questioned which 'symbols' they could refer to in the

interviews, the researcher explored these interpretations with the participants. The differences in participants' understanding of 'symbols' was often used as a springboard for further discussion to explore participants' experiences further. 'Interpretation of symbols' and 'confusion over terminology' both became 'nodes' for 'coding' the data during the analysis. The process of coding will be explored in the next chapter.

3.2.3 Methodological Framework

Having adopted a framework of philosophical ideas and applied these to develop a research strategy, it was possible to identify the most suitable methodology for data collection and analysis. An overview of the methodological framework is provided below. The research procedures are described in detail later in the chapter (page 123-153).

These questions were introduced and discussed in the Literature Review and are summarised below:

The main research question may be expressed as follows:

1. **What are the experiences and attitudes of practitioners working in Foundation Stage school settings around the use of symbols?**

Secondary research questions addressed in this research include:

2. How consistent is symbol use across the foundation stage, what are practitioners' thoughts about this?
3. What is guiding/governing current symbol use?
4. What are practitioners' experiences of educational practitioners and speech and language therapists working together in Foundation Stage settings?

The aim was to explore the experiences and attitudes of practitioners in a small sample of the identified research population, develop a theoretical framework and generate further lines of inquiry.

In the UK, the FS is a particularly important period of schooling for all children. Practitioners working with this age group (three to five year olds) have been identified as the research population for the pilot and main studies. It is important that the first hand experiences of these practitioners are explored and documented as this will produce an interpretation of current symbol use in this geographical region, elucidating consistencies (and discrepancies), and areas causing concern for practitioners.

3.2.3.1 Approach to the collection of data and development of the research tool

The main research tool used in the collection of data was a framework of questions to be administered by the researcher during the interviews (Appendices 14, 14a, 15 and 15a). The construction of the framework of questions was influenced by the philosophical and strategic underpinnings of the research which were introduced earlier in the chapter.

The series of questions was designed to encourage participants to do each of the following (sample questions are provided as examples):

• recall their experiences of using symbols in schools	If I asked you how and when do you use symbols, what comes to mind?
• explore these experiences in depth and consider the meanings of these experiences	Why did you choose to use symbols in that way?
• discuss their attitudes and beliefs about their own use of symbols and the use of symbols more generally	In what ways do you think symbols can be a useful tool to use with children?
• consider how these experiences had influenced the ways they now work with symbols	What have you learned about using symbols in that way?
• consider how they interacted with other practitioners when they used symbols	In what ways have you worked with other practitioners when using symbols? (questions are examples and were not used with every participant)

Construction of questions for the interview framework was guided by Finlay's (2008) guide to interviewing using a phenomenological approach, which states that, when conducting interviews, questions should be designed to explore concrete details of the participant's lived experiences. Finlay argued that the researcher should adopt a style of questioning which allows them to 'empathise' and 'open dialogue' with the participant. For example, the following questions from the interview frameworks were suggested by Finlay:

- Could you describe a typical day working in school?
- Could you describe that particular incidence of using symbols / working with other practitioners in more detail? (Figure 4, page 148)

Finlay suggested that using a combination of open questions, like these, followed by prompts was most appropriate for a phenomenological approach.

As the main tool the researcher used in eliciting and exploring participant accounts of their experiences and attitudes, the researcher designed the framework of questions with care. Questions were developed by considering the objectives of the interview. The researcher constructed questions that would encourage the participant to consider their experiences of using symbols. Additional questions were constructed which were based on particular aspects of the topic that the researcher wished to explore in more detail. All of the questions were constructed by the researcher and were based on her understanding of the topic.

The questions were piloted (see Pilot Study, page 123) and amended where necessary and scrutinised for their usefulness in gaining rich and insightful data. From a phenomenological perspective, the use of open-ended questions was particularly important in encouraging participants to give detailed responses. The researcher also maintained an active role during the interviews and extended the questioning and probing moving away from the interview framework where necessary. The participants were each interviewed once because the framework of questions and manner in which the interviews were conducted allowed the researcher to collect appropriate, relevant, rich data surrounding the research questions. In addition, ethical approval had been granted to interview each participant one time only and this reflected the time constraints and availability issues affecting this research population.

Semi-structured interviews provided conditions which allowed; consistency and flexibility in questioning participants, the development of rapport, and, conceptual organisation of questions (Langdridge, 2007). In this research, semi-structured interviews also allowed the researcher to:

- Give practitioners in schools a ‘voice’ in the research
- Construct a detailed picture of symbol use in a small geographical region
- Gain rich insights into the experiences of a small number of practitioners from various professional roles

- Allow the researcher to ask questions and explore certain topics in more detail.

3.2.3.2 Sampling Strategy

The research region was a geographical area within the East Midlands. The main objective guiding the sampling strategy was to recruit a sample of teachers, EYPs and SLTs who had experience of using symbols in schools in the research region. The practitioners to be included in the research sample were either teachers or EYPs permanently located in schools, or SLTs located in, or visiting, schools for some or all of their working week.

The size of this sample was based on the number of practitioners in the research region, manageability, response rates and the amount of data needed for qualitative research. The sample was not designed to be large enough to be statistically representative but was of a suitable size to allow in-depth analysis (Yardley, 2000). The initial aim was to recruit a sample of up to sixty practitioners with each professional group represented by a third of the sample. For example, twenty teachers, twenty EYPs and twenty SLTs, with a small proportion of these recruited for the pilot study. The actual size of the samples for each study was representative of response rates.

The shared experience of using symbols in schools was the key attribute that identified potential participants because symbol use was the focus of the research. Finding practitioners who were willing and able to discuss their experiences of using symbols was the first step in allowing the researcher to gain access to participant experiences of the phenomenon. These experiences were integral to addressing the research questions. For this reason a purposive sampling method was selected; “the researcher only goes to those people who in his/her opinion are likely to have the required information and be willing to share it” (Kumar, 1996, p.162).

Purposive sampling was identified as a method suitably aligned with a phenomenological perspective, in which the researcher explores the experiences discussed by participants in an attempt to discover the meanings revealed within the dialogue (Langdridge, 2007). Purposive sampling was appropriate to address the objectives of the research, focusing on exploring the common experience of using symbols among a group of practitioners.

The sampling strategy was also influenced by the ‘logic of maximum variation’ as suggested by Glogowska and Campbell (2000). Participants were; ‘purposively chosen’ based on their shared experience of using symbols in schools but were representative of different professional roles, variation in places of work (special and mainstream schools, SLT children’s services), and, location of the school(s) in which they worked. This was ensured by extending the population widely enough

to encompass schools and SLT services in urban and rural parts of the East Midlands research region. However, participation in the research was entirely voluntary so the location of the schools and services that participated was governed by the range of schools and services that responded and gave consent.

The sampling strategy was significantly influenced by the identification of access issues and formal or informal 'gatekeepers', "those through whom entry is gained", including; school Office Managers, Service Managers and administrators in SLT services (Groenewald, 2004, p.9). As a result of their position of employment, access to potential participants had to be facilitated by employers with organisational permission in place. Copies of the approval received from the NHS are included in the Appendix (Appendices 4-6). In all cases participants were approached via the Head teacher or Service Manager they were responsible to. These were the official channels approved in the ethical application(s) undertaken.

In many cases the first point of contact within schools was the school secretary or Office staff. In these cases this member of school staff was perceived as a 'gatekeeper', responsible for distributing information and facilitating or restricting access to the research population. It was acknowledged that these gatekeepers did; "to some extent influence the course of the research unfolding" (Groenewald, 2004, p.10). The researcher was unable to observe or control the way information was distributed to practitioners working within the schools. As a result, an approximated response rate has been provided (Table 4).

Table 4 – Approximated response rates

Schools approached	Approx 500
Average number of practitioners receiving information in each school: Teachers EYPs	 Approx 1 Approx 1
Total number of practitioners receiving information: Teachers EYPs	 Approx 500 Approx 500
Total number recruited: Teachers EYPs	 15 22
Approximated response rate: **Teachers** **EYPs**	 **3%** **4.4%**
SLT Services approached	2
Number of SLTs receiving information	Approx 75 in each service = 150
Total number recruited: SLTs	 16
Approximated response rate: **SLTs**	 **10.6%**

In order to ensure that the 'distributors' circulated the information to all practitioners who could potentially participate, it was critical to provide a set of concise sampling criteria. The criteria were based on the shared experience of using symbols in schools, as well as, job title and place of work. The criteria were presented as follows:

'Participants should be ….'

(For Head teachers)

- Currently employed as teachers or TAs/nursery nurses

(For SLT Service Managers)

- Currently employed as SLTs and working in school for part or all of the working week

(For all)

- Working with children in the FS (age three to five years)
- Have some experience of using symbols, this could be one-off or regular use and can be recognised symbol sets or symbols made in school

The criteria did not explicitly request that participants must be willing and able to reflect and discuss their experiences but this was implied. It was also implied that practitioners and their employers must also be willing and able to give the identified amount of time to take part in the interview (30 minutes plus brief and debrief). Full information about the requirements of the research was also given (Appendices 7-9, 12 and 13). It was also important that the practitioners themselves felt they had the relevant experience and that this was not imposed on them by colleagues or managers. This was ensured by checking during briefing before the interviews. The selection procedure was largely determined by the number of potential participants that made contact directly with the researcher, or, via their manager/employer. All of the practitioners that expressed an interest in taking part

were interviewed after giving their full informed consent. Each individual participant recruited for the research met the sampling criteria.

Extra care was taken during sampling to ensure that all participants understood the ethical considerations of taking part, as well as, the importance of giving consent. Full ethical considerations are discussed later in the chapter. It was emphasised that participation was voluntary and that they could withdraw at any time. The researcher endeavoured to develop rapport and put the participant at ease while recruiting the sample and during the interviews by giving participants time to ask questions and consider information, as well as using non-technical language and adopting an approachable manner.

The sampling process raised issues with job titles among EYPs and those who were currently in temporary or substitute roles (TTA1 and TA/SENCO1). TTA1 was a Higher Level TA working temporarily as an 'unqualified teacher' in a Foundation and Key Stage One setting in a special school. TA/SENCO1 was a TA working as a SENCO in a mainstream primary school while the permanent SENCO was on maternity leave. These unique job titles did not adversely affect the collection or analysis of data but, instead, provided an interesting aspect of 'job role' to discuss in the interviews and consider in the analysis.

3.2.4 Quality in qualitative research

The researcher endeavoured to carry out a piece of research which would be of a high quality, both in terms of the way the research was conducted and the resulting findings and contribution. Several examples of 'standards' in qualitative research were referred to (Yardley, 2000; Lincoln and Guba, 1985).

Lincoln and Guba (1985) suggested that qualitative research should be 'credible', 'transferable', 'dependable' and 'confirmable' (audit trail, clear explanation). The researcher ensured the research was credible by clearly justifying interpretations of data that were represented in the findings. The process of interpretation of the data was clearly outlined, documented and reflected upon throughout the analysis (see Chapter 4).

The researcher intended to carry out the research using a methodology that was transferable and may be used by future researchers. The methodology has been clearly outlined and loyally represented to ensure that the process is transparently recorded (see the second part of this chapter and Chapter 4). The theoretical contribution of the research may also be transferable to future research and testable under other conditions and circumstances, also supporting the dependability of the research.

The confirmability of the research was supported by ensuring that a detailed and thorough audit trail was maintained during every stage of the research. The research journal provided a means of recording thoughts and interpretations and the data collection and analysis processes were documented and are provided in the Chapter 4 and in the Appendix (Appendices 17-19, 21 and 22).

Yardley (2000) argued that researchers should ensure quality in their qualitative research by maintaining all of the following; sensitivity to context, commitment and rigour, transparency and coherence, and, impact and importance. The researcher began the research by considering and exploring the political context of the research topic relating to the use of symbols in schools by three groups of practitioners from education and speech and language therapy services. The research process was conducted with strict adherence to the philosophy and methodology outlined in this chapter, and commitment to conducting the research systematically was maintained.

The methodology and findings are presented clearly and explained in detail and arguments and conclusions have been presented logically to ensure the research process is easy to follow and logical. The researcher explored the existing literature to define a research topic that was timely and relevant and would be potentially influential to practitioners. The increasing use of symbols and demands made of practitioners from the Government surrounding working collaboratively,

suggested that this research would be useful and could have impact on policy and practice.

The extent to which these standards of quality have been met is explored in Chapter 7.

3.3 Pilot Study

This section of the chapter provides a detailed account of the methods used to conduct the pilot study and the main data collection. The procedures for recruiting the sample, conducting the research ethically, and, collecting data are described. A pilot study was conducted as a preparatory exercise to evaluate the value of the methodology designed for the main period of data collection.

3.3.1. Design for the pilot study

The methodology for the pilot study was qualitative and aimed to produce detailed accounts from a small number of participants (n=9). Interviews were conducted with the practitioners working as; teachers, EYPs and SLTs in school settings. The interviews were designed to be semi-structured with the intention of allowing participant responses to influence the direction of the dialogue and topics discussed to a certain extent.

The aim of the pilot study was to highlight any logistical problems, including the use of equipment and technology and to explore the style of questioning and questions used.

3.3.2 Procedure for the pilot study

Sampling

Schools which were identified from a list of schools providing education for the FS in the research region were initially approached via publicly available email addresses and were sent a generic introductory email giving detailed information about the research (n= 653) (Appendix 7). Emails were addressed to Head teachers who were invited to respond by email, phone or in writing if they were interested in participating in the research. Informed consent was received from individual practitioners at the start of each interview. The first two schools which responded were selected to form the pilot study.

Arrangements were made with the teacher of the FS in both schools by phone call. It was requested that the introductory email was distributed by the main contact to members of the FS team. Recipients were also advised to contact the researcher with any questions and given contact details. The main contact at each school confirmed the number of staff willing to participate in a follow up phone call, in which dates were also agreed at the convenience of the schools.

Potential participants received information sheets (Appendices 12 and 13) on the day of the interview and were given time to read these. Consent forms (see Appendix 10) were given to participants after reading the information sheets and being given the opportunity to ask questions. Informed consent was received from all participants before interviews began.

Sampling of SLTs involved an application for NHS ethical approval. This process is outlined in the main study sampling procedure later in the chapter but preceded the recruitment of participants for the pilot study as well.

Data collection

All interviews took place in comfortable and private surroundings. The researcher explained the procedure to participants and reminded them of the ethical considerations and participant rights. Confidentiality and management of data were also discussed with arrangements for confidentiality and the security of data made explicit.

Interviews were recorded with the participant's knowledge and consent. Interviews took place at schools (n=2) and Health Centres (n=3) in private rooms. The interviews were led by the researcher following the pilot study semi-structured interview framework (Appendix 14 and 14a). The interviews were thirty minutes in length. Interviews were later transcribed verbatim.

3.3.3 Participants

Table 5 – Details of the participants in pilot study

Participant	Gender	Type or provision
T1	F	MS
T2	F	Sp
TA1	F	Sp
TA2	F	Sp
TA3	F	Sp
TA4	F	Sp
SLT 1	F	Range of settings
SLT 2	F	Range of settings
SLT 3	F	Range of settings
		Ms = Mainstream Sp = Special

3.3.4 Materials

Materials used in the pilot study were; a fresh copy of the interview framework for each interview (Appendices 14 and 14a), Olympus VN-3100 Digital Voice Recorder with microphone and two chairs.

3.3.5 Ethical issues

Ethical issues are discussed in detail in the description of the main study.

3.3.6 Methodological outcomes of the pilot study

The original interview framework used in the pilot study can be found in the Appendix (Appendices 14, 14a). After analysis of the transcripts from the pilot interviews it became apparent that questions 11, 13, 16 and 17 (as well question 2 for SLTs) on the interview framework were unnecessary and did not facilitate the collection of data relevant to the research questions. As a result these questions were removed and question 14 was amended on the SLT interview framework.

The following questions were removed or amended:

Questions that were removed from educational practitioner interviews:

11) Is there a school policy about symbols? How much input do you feel you have into this and other school policies?

13) How much opportunity do you have for training and professional development?

16) Tell me about the experiences you have had of SLTs working with teachers and TAs.

17) Can you tell me if your teaching qualification covered; graphic symbols, or skills for working with other professionals at all?

Questions that were removed from SLT interviews:

2) How long have you been working in your current school(s)? (Where did you work previously?)

13) Would you be interested in training alongside education practitioners, what would be the benefits/challenges?

<u>Amendments to questions for SLTs:</u>

(Question removed) 14) Have you had any training around the Curriculum for the Foundation Stage? Are you ever required to plan your work with symbols to tie in with the Curriculum?

(Replacement question) Does your work with symbols have any links with the Foundation Stage Curriculum?

This task was essential to allow the pursuit of participant responses to questions which were precisely relevant to the research questions. This increased effective time management by removing transcription of irrelevant interview data.

The experience of carrying out the interviews demonstrated that the interviewer's skill in pursuing topics of interest by responding to the participant's responses was more effective in collecting relevant data than rigidly following the interview framework. As a result, the framework of questions was followed more flexibly in later interviews.

The order of questions on the main study interview framework was also amended to be more cohesive as a result of the pilot study. A concern emerged that the

interview framework was organised conceptually in a manner that caused responses to become disjointed. For example, dialogue about the use of symbols would suddenly jump to dialogue about working with SLTs without any kind of connecting dialogue.

The solution to this was to reorder some of the questions on the framework and introduce the use of statements between questions which linked the inter-connected research areas. For example, the researcher linked questions about symbols to those about working with other practitioners by saying; 'I'd like to explore your experiences of working with other practitioners who may also be using symbols…' This was followed by the questions surrounding collaborative working.

During the pilot study it was recognised that some of the participants displayed signs of nervousness. This judgement was based on visual observations of body language, speech and language used, that were perceived as indications of nervousness. For example, the following observations were noted in the research journal:

> Research Journal Entry (29/01/08)
> One of the participants was very nervous and I wasn't sure whether to continue with the interview. I wasn't sure whether she wanted to take part. She did settle down and we did get some discussion.

This observation led to the researcher using more reassurance and sensitivity to the emotional well-being of the participant and making an effort to ensure the

interview conditions were as comfortable and non-intimidating as possible. The use of straightforward questions at the beginning of the interview seemed to increase ease in the participant and researcher.

Example questions:

How long have you been working at your current school?

Could you describe the school(s) you currently work at?

A critical evaluation of the conduct of the interviews after they were carried out revealed a number of points to address in relation to interviewer style. The interview recordings revealed that despite efforts to include open questions on the framework, a number of closed questions were asked which failed to encourage rich and detailed responses. It became apparent that more open-ended questions were needed to encourage the participant to give more detailed responses.

The researcher reflected that sensitivity to silences was not always ensured in the pilot study and this was seen as an area for improvement when conducting later interviews. Transcription of pilot study interviews revealed that the researcher and participant were often speaking at the same time. This was prevented in later interviews by allowing the participant more time to complete utterances and deliberately giving them time to think and add to an utterance after a pause. The researcher began to recognise the importance of being sensitive to ‘word-seeking pauses’ during the main study interviews (Langdridge, 2007).

The main observations from interviewing SLTs in the pilot study were concerned with timing and pacing during the interviews. It was challenging to cover all the research topics in sufficient detail in the time allocated for the interviews. This was largely due to several factors; job roles of SLTs were complicated and unique in every case, ways of working in schools appeared to vary greatly, SLTs appeared to possess a breadth of knowledge about symbols and it was difficult to explore specific aspects in detail. Participants in the pilot study gave detailed and lengthy responses to questions surrounding these topics.

As the researcher did not make notes during the interviews, it was challenging to memorise and recall all the aspects of the responses that were of interest and in need of further exploration. This put a strain on the researcher's short term memory and ability to remember to address all of the important points raised by the participant in long accounts covering more than one topic or sub-topic, for example:

> Research Journal Entry (11/08/08)
> Explaining her job role, SLT 2 took quite a long time and I had to move on to ensure we covered symbols.

To address these issues it was decided that questioning about job role needed to be more specific and have a smaller time allocation in future interviews. The most important aspects of the SLT job role needed to be addressed directly, including; specialism and responsibility for managing or liaising with other practitioners. This

would allow the researcher to reach the questions about symbols earlier in the interviews and explore participant responses related to the main research questions in more detail.

The SLTs interviewed in the pilot study all worked in schools for all or part of the working week. The experiences they had of working in schools were central to the interviews. However, in some cases the SLTs visited more than one school in a week and their experiences varied greatly. This was related to experiences of being a 'visitor' and working with different practitioners and different models of working in each school. This made it challenging for the SLTs in the pilot study to be specific about their experiences of using symbols. As a result the researcher considered addressing this issue in the main study and encouraged participants to focus on the experiences they felt they could recall most accurately and were most relevant to the questions posed by the researcher.

Due to the timing and pacing limitations observed when interviewing SLTs in the pilot study, the researcher made the necessary amendments to the conduct of the later interviews. During the pilot study, two of the SLT participants gave information about their experiences after the interview had finished. This was recorded in the research journal as anecdotal informal evidence. The conduct of further interviews was changed to specifically allow and encourage participants to add further comments after the interview if they wanted to do so.

> Research Journal Entry (08/08/08)
> The interview passed very quickly … we both said we could have continued talking and I made a few notes off the recording.

Having conducted the pilot study, the researcher decided to emphasise the research topics that would be covered before each main study interview began so that participants were aware of the scale of information that the researcher would like to cover in the time allocated. In general, the interviews were conducted professionally and useful data was recorded and analysed.

3.4 Main Study

After the pilot study, the main period of data collection began. The design and procedures involved in the main study are described and explained in this section.

3.4.1 Design

As an exploratory research area, in which no previous studies had been identified, it was preferable to collect data from a relatively small sample within a designated East Midlands research region. Conclusions were not expected to be statistically generalisable and the interviews were treated as unique, although cross-comparisons were conducted to identify key themes.

The methodology for the main study was adapted after the evaluation of the pilot study. The aim was to record detailed accounts from a sample of participants. Interviews were conducted with the practitioners working as; teachers, EYPs and SLTs in school settings. The interviews were designed to be semi-structured with the intention of allowing participant responses to influence the direction to a certain extent. A combination of open and closed-ended questions was used based on the practical amendments needed after the pilot study.

Open-ended questions were designed to encourage extensive and detailed responses and to lead the researcher 'in the direction of the participant's experiences' (Grbich, 2007, p.88). A topic guide of questions was used as a basis for ensuring the transcripts were comparable to a certain extent, and that the main topics were covered (Appendices 15 and 15a). Issues that were raised were used to direct the interviews as they arose and explore relevant matters further, resulting in the encapsulation of the unique experiences and attitudes of each practitioner.

3.4.2 Procedure

Sampling – Educational Practitioners

The population of educational practitioners was identified as a range of practitioners currently working in schools with children in the FS. These practitioners were required to have experience of using symbols in these school settings.

The five LEAs in the research region were approached using publicly available contact channels (phone and email) and asked for permission to approach schools within their Authority. The researcher was advised to contact schools directly and make arrangements with them independently via Head teachers. Schools were identified by acquiring lists of all schools, mainstream and special, in the geographical region as providing education for children aged three to five (the Foundation Stage). These were available from the LEA and were provided by post or via the public website.

The researcher divided a list of schools providing education for children in the FS within the geographical region (n = 653) into batches of approximately 130. Each batch contained a percentage of schools within each LEA and included mainstream and special schools. Five batches were created and the email addresses for each of the schools were recorded. Schools were then approached in batches with an introductory email containing a covering letter (Appendix 7). Electronic correspondence was judged to be more reliable than the postal service due to a series of postal strikes.

Individuals receiving the information from within schools were directed to make contact with the researcher via email or telephone, via their manager in most cases, and were advised to ask questions at any time. All schools were approached within a period of four months. A number of emails ‘bounced back’

because of incorrect addresses. In these cases, the correct email address was located and the message resent. In some cases no further email address could be found so the message was not resent. This reduced the total number of schools approached to approximately 500. The number of schools who regularly checked email accounts and received the information may have been lower.

During the main study, contact with the researcher was initiated by various members of school staff teams including; Head teachers, Heads of FS and class teachers. The member of staff who made initial contact varied, as did team structure and job title(s). Individuals contacting the researcher frequently asked for more information via email, telephone conversation, and in one case, in an invitation to attend a meeting in school.

At this stage, school staff expressing an interest in taking part were sent a formal introductory letter containing more extensive details of the requirements of the study (Appendix 9). These were often distributed by the lead contact at each school. A follow up phone call was arranged two weeks after the information was received and interviews were arranged with all members of staff who were willing to participate.

Although the response rate was low when compared to number of schools approached (approx 3%), the resultant sample size was appropriate to meet research objectives.

The observation that more EYPs were recruited than teachers may indicate differences in ease and willingness of releasing certain members of staff in schools. Some of the participants mentioned in informal discussions that it was more difficult to provide 'cover' for teachers and this may have meant they were less able to participate. These observations are explored in the Discussion (Chapter 12).

There were several occasions on which the researcher decided extra care was needed to ensure that participants currently in an EYP role were completely informed about what the researcher's purpose was. On more than one occasion, on arriving at schools the researcher witnessed the key contact (Head or teacher in most cases) briefing the EYPs who were due to participate in interviews, suggesting they may not have been aware that the researcher was coming.

> Research Journal Entry (01/04/08)
> I wasn't sure whether TA9 knew I was coming … I heard her asking what I was doing there … she didn't seem to know anything about the research.

This indicated that these EYPs had not been briefed previously and had not given their consent at this stage. In these cases the researcher gave a thorough brief and debrief and ensured participants gave ***informed*** consent.

During the course of the research it became apparent that the job titles for practitioners (other than teachers) working in 'supportive roles' in the school settings were variable. As a result a number of job titles have been included in the definition of 'EYPs', representing those practitioners in an assisting role using symbols and working with children in the Foundation Stage. Job titles encompassed in the 'EYP' group of participants in the main study were; 'teaching assistant' (n=13), 'nursery nurse' (n=4) and 'TA acting as special needs coordinator / SENCO' (n=1).

Sampling – SLTs: Application for NHS Ethical Approval

The involvement of SLTs employed by the NHS involved an additional application to the NHS Patient Safety Agency and a large scale request for ethical approval was required before sampling and data collection could begin.

Following the receipt of ethical approval from the Faculty of Health and Life Sciences Ethics Committee, De Montfort University (ethics ref. 243, 13/08/2007), the research was subject to further intensive ethical scrutiny by an NHS Ethics Committee and Research and Development Departments (R&Ds) of relevant PCTs (PCTs will not be identified). Approval from the NHS was received before sampling involving SLTs was able to begin (PCT1 18/04/2008, PCT2 27/05/2008; NHS Ethics Reference Number 08/H0407/5).

The researcher was asked to attend a meeting of an NHS Ethics Committee and was questioned about aspects of the research protocol and supporting documents and a list of minor amendments were agreed. The requests of the Ethics Committee were:

1. Copies of all information sheets and consent forms should be provided in the application
2. Information sheets must include details of complaints procedures
3. Information sheets must give details of storage of data
4. Name and title of Chief Investigator must be provided on all documentation
5. The pilot study participants should be given separate information sheets and consent forms
6. All covering letters should be provided in the application
7. Information sheets should inform participants that supervisors may have access to raw data

The amendments were later approved by Chair's Action (14/04/2008) (Appendix 4).

Prior to the submission of the ethical application it was required that initial contact was made with the R&Ds at some of the PCTs which were considered for the study. It was necessary to identify which PCTs employed SLTs whose role involved working in school settings with children aged three to five years. Initial

contact was made with the R&Ds of each of the relevant PCTs by telephoning and introducing the research and researcher.

Each of the three PCTs required one/all of the following:

- Internal/external peer review
- Confidentiality letter/honorary contract
- Written agreement in principle from the manager of relevant services

Approval was received in writing from an NHS Ethics Committee and both of the PCTs within which SLTs involved in the research were employed (PCT1 18/04/2008, PCT2 27/05/2008) (Appendices 4-6).

When ethical approval was received, the managers of the two SLT services were approached by email and the research and researcher were introduced. Following their agreement to allow employees within the service to take part, arrangements were made to distribute information about the research to potential participants. In both cases the Service Managers agreed to distribute the introductory letter to those SLTs who met the recruitment criteria (identified earlier in the chapter). It was agreed that the researcher would invite SLTs to make contact through the manager or directly, by email. A suitable timeframe was given with a proposed deadline of four weeks. Individuals receiving the information about the research

were informed that they could make contact with the researcher via email or telephone and ask questions at any time.

The researcher contacted both Service Managers after a period of approximately two to four weeks and recorded the number of SLTs who had expressed an interest in taking part. Interviews were arranged with SLTs directly or through service managers. The researcher suggested a number of dates and SLTs or service managers selected the most convenient. In all cases the SLTs suggested a location and booked a room.

Sampling of SLTs was purposive and homogenous based on the criteria that participants shared a common experience of using symbols and shared the same job title (SLT). Two Paediatric SLT Services were involved in the research. These will not be identified. Paediatric SLT Services within the PCTs in the research region were identified using the same procedure as the pilot study. The same two PCTs were involved in the pilot and main studies. Information about the research was distributed to potential participants in the same way as the pilot study.

Service Managers recorded the number of SLTs who expressed an interest in taking part (n=13 in total). Service Managers and the researcher agreed on dates for the interviews to take place. Rooms were arranged and booked by the participant and/or Service Managers.

The researcher was unable to observe the distribution of research information to SLTs within the two services approached so the exact number of SLTs receiving the information is unknown. However, the response rate resulted in a sample size which was appropriate to meet research objectives.

The following two tables demonstrate the distribution of participants across the pilot and main study for each of the three professional groups (Tables 6 and 7).

Table 6 – Number and distribution of participants

	Number of participants	**Number of schools**	**Number of SLT services**
Pilot Study	9	2	2
Main Study	44	12	2
Total	53	14	2

Table 7 – Number of participants in professional groups

	Teachers	**EYPs**	**SLTs**
Pilot Study	2	4	3
Main Study	13	18	13
Total	15	22	16

Data Collection

Interviews took place at various times of the day based on the preference of the individual and their employer (interviews were conducted in the morning, during lunch time, and in the afternoon). When interviewing in schools, the researcher

was sometimes required to be available all day and interviewees were released when cover became available. In some schools the researcher arrived at the start of the school day and was able to carry out interviews immediately.

When conducting interviews in schools, the researcher entered via the school office and in most cases was asked to sign in the visitor's book. The researcher was taken to the relevant area of school by the Office Manager and in some cases waited for staff to come to the office to introduce themselves.

A full introduction was given at this point and full details of the research were reiterated to all potential participants. When interviewing SLTs in Health Centres or Service offices, the researcher entered via Reception and was greeted by the SLT when they became available. The researcher ensured that participants understood the ethical considerations and that their participation was voluntary. Interviews were conducted in private rooms within the school in all but one case, in which the interview was conducted in a busy staffroom at the participant's preference (T6). All of these details were noted in the research journal.

When in the interview location, the researcher ensured that the participant was comfortably seated and the recording device was positioned on a flat surface no more than one metre from the researcher and participant. Participants were reassured that the recording device would not be turned on until the researcher informed them and this would be after they had signed the consent form and

understood the procedure. Participants were then given background information about the research and the researcher, as well as the full details of the ethical considerations and assurance of confidentiality. In all cases, participants were notified of the true purpose of the research and intended outcomes, publication of the thesis and other presentations of findings.

Participants were then given a detailed information sheet (Appendix 13) and given several minutes to read it. Participants were encouraged to ask questions and the researcher ensured they were comfortable with the information given. Participants did not ask questions about the research but several asked about the researcher's long term career plans, to which the researcher explained that an academic career was likely. Participants were then given a consent form (see Appendix 11) and directed to read the statements listed and record their initials next to each one if they agreed with its content. They were also asked to sign and date the form. When the consent form had been signed the researcher asked the participant if they were ready to begin the interview.

The interviews were led by the researcher who followed a carefully constructed framework of questions. However, the researcher was largely influenced by the responses given and issues raised by the participant. As each topic was discussed the researcher allowed the interview dialogue to change course and pursue points of interest in the participants' accounts. For example, asking participants; "could you describe that particular experience in more detail?" This

facilitated the exploration of ‘meanings’ and demonstrated to the participant that the researcher was really ‘listening’.

Questioning was used to ensure meaning was understood, repeat and summarise key points, probe and prompt for more detail and seek firm confirmation of the researcher’s understanding. These interview skills were essential to remain loyal to a phenomenological approach which required the interviewer to access participants’ lived experiences by asking a particular style of questions encouraging the participants to describe this experience (Finlay, 2008); for example, asking participants to describe a typical day or incident in more detail.

The researcher conducted the interview, including brief and debrief, with sensitivity, recognising that participants could respond to questions and the unfamiliarity of the interview situation in a number of ways. A non-judgmental demeanour was maintained and the researcher remained attentive to the participant’s values and beliefs without imposing her own. The researcher also demonstrated that she was actively listening by summarising what she had heard. Participants were made to feel respected by the assurance that their accounts and personal information would be kept confidential and anonymised when transcribed. The researcher maintained a professional role and expressed gratitude to participants for consenting to take part.

The researcher used prompts (to trigger thoughts and memories), checks (to repeat and summarise back to the participant and ensure clarity of meaning) and probes (to explore an account in more detail).

> **Example prompt:**
> Perhaps you could tell about the children you have used symbols with…
> **Example check:**
> So, you were saying you used symbols in visual timetables, is that right?
> **Example probe:**
> Could you describe that experience in more detail…

Probes were particularly important when encouraging participants to provide detailed responses, in order to explore deeper level meanings and experiences. However, the researcher ensured that probes were used sensitively and were non-obtrusive. The researcher was responsive to the participant's reaction to questioning at all times and used a combination of open- and closed-ended questions where appropriate.

Questions were organised conceptually, as suggested by Langdridge (2007), but the framework was followed flexibly allowing interview dialogue to evolve as issues were raised. The researcher initiated prompts where necessary and directed the dialogue to ensure that as much of the framework was covered in the time available. However, in several cases responses given to earlier questions took more time than expected and it was decided that the value in these responses warranted adapting the order of questioning in order to record the full response.

An example of script and interview topic guide framework is provided below (Figure 4).

The time available for interviews was limited in all interviews because participants were either needed in their role in the classroom, had other duties to attend to, or were staying after school and wanted to go home. This meant that interviews had to be conducted within the thirty minutes allocated. However, the interviews naturally came to a close around this duration and the researcher did not have to interrupt participants to conclude the interview.

The researcher closed the interviews by giving the participant the opportunity to make any final comments. In several cases the interviews appeared likely to continue so the researcher intercepted at an appropriate point, around thirty minutes, and closed the interview. Interview length ranged from fifteen to thirty five minutes. At the end of the interview the recording device was switched off and participants debriefed. Ethical considerations were repeated and participants were advised that an executive summary of findings (Appendix 26) would be sent to the schools involved at an appropriate point of the research. They were advised that this would be after the thesis had been submitted.

Figure 4 – Sample interview topic guide framework for educational practitioners

SCRIPT: In a moment I am going to begin the interview by following the interview framework which contains a list of questions which will guide us through the topics of interest. I anticipate that we will move away from the questions in places and this is absolutely fine. I would like to encourage you to give as much detail as you feel comfortable sharing. If you do not wish to answer a question simply tell me and we will move on.

QUESTION GUIDE:

1. What is your job title?

2. How long have you been working in your current school? (Where did you work previously?)

3. Could you describe the school(s) and/or setting that you work in?
   - age range of children, type of setting; Foundation Unit, Nursery
   - mainstream or special school

4. Could you briefly summarise what your job entails?
5. Could you describe a typical day working in school?

6. Could you explain how and when you use graphic symbols?
7. Probe: Could you describe that particular incidence of using symbols in more detail?

8. How do you decide which children you are going to introduce graphic symbols to?

9. Can you tell me whether you think there are any prerequisite skills children require when working with graphic symbols?

10. Could you explain how you *plan for* and *use* symbols; when you work alone with the children, and when you work with other professionals?

11. Do you think professionals use graphic symbols consistently in your setting?

Speech and language therapists also use symbols …..

12. If you have had the opportunity to witness speech and language therapists/teachers/TAs using graphic symbols, could you tell me about what you have seen?

13. What training, if any, have you had in the use of graphic symbols? What training would you find most useful?

14. Would you be interested in training alongside speech and language professionals, what would be the benefits/challenges?

15. How informed do you feel about the role of the speech and language therapist in school and their objectives?

The electronic recordings of interviews were transferred onto a personal computer and locked with a security code known only to the researcher. Consent forms were filed in a locked cabinet to which the researcher possessed the only key. Interviews were later transcribed verbatim by the researcher.

As previously mentioned, a research journal was also maintained during the data collection period. These notes were not analysed as raw data but referred to as 'memos' during the analysis to remind the researcher of the contextual information and provide a fuller 'picture' of each interview. Examples from the research journal are provided throughout the thesis and in the Appendix (Appendices 17-19, 21 and 22).

3.4.3 Participants

The size of the final sample for the main study was n=44, which included; teachers (n=13, including a TA acting as an unqualified teacher, n=1), EYPs (n=18; including teaching assistants n=13, nursery nurses n=4, a TA acting as a SENCO n=1) and SLTs (n=13). These numbers reflected the response rate from practitioners and sampling was complete when a suitable sample size had been recruited.

The SLTs taking part in the main study were all working for one of two large PCTs in the East Midlands region. The SLTs worked in schools for some or all of their

working week and worked with children in the FS (three to five years old). Forty three participants were female and one was male. Table 8 shows the gender, and type of provision each participant in the main study was working in at the time.

3.4.4 Ethical Issues

Access

The workload and timetable of practitioners was considered and the interviews were carried out at their convenience (interviews occurred at various times of the day, including mornings, over lunch breaks and afternoons). Minimum disruption to the daily routine of the children was also be ensured (this was based on the guidance of the main contact at schools and SLT services).

Informed consent

On expressing an interest in taking part in the research, the practitioners were provided with full explanatory information sheets (Appendix 13) covering the objectives of the study and the proposed use of the transcripts, before the interview began. Information sheets contained details of anonymity and confidentiality, secured storage and destruction of data, contact details if they wished to make a complaint and other ethical issues in full. Participants were asked to read and sign a main study consent form (Appendix 11) to indicate that they gave their informed consent to take part.

Table 8 – Details of the participants in the main study

Participant	Gender	Type of provision
T3	F	MS
T4	F	MS
T5	F	MS
T6	F	MS
T7	F	MS
T8	F	MS
T9	F	MS
T10	F	MS
T11	F	Sp
T12	F	MS
T13	F	MS
T14	F	MS
TTA1	F	Sp
TA5	F	MS
TA6	F	MS
TA7	F	MS
TA8	F	MS
TA9	F	MS
TA10	F	Sp
TA11	F	Sp
TA12	F	Sp
TA13	F	MS
TA14	F	MS
TA15	F	Sp
TA16	F	MS
TA17	F	MS
TASENCO1	F	MS
NN1	F	MS
NN2	F	MS
NN3	F	MS
NN4	F	MS
SLT4	F	Range of settings
SLT5	F	Range of settings
SLT6	F	Range of settings
SLT7	F	Range of settings
SLT8	F	Range of settings
SLT9	F	Range of settings
SLT10	M	Range of settings
SLT11	F	Range of settings
SLT12	F	Range of settings
SLT13	F	Range of settings
SLT14	F	Range of settings
SLT15	F	Range of settings
SLT16	F	Range of settings
		MS = Mainstream Sp = Special

Right to withdraw

Participants were made aware of the right to withdraw at any point and were given the opportunity to decline to answer questions if they wished. They were informed of what would happen to their data should they wish to withdraw and were reassured that if they decided to withdraw after the interview they would be able to do so without any negative consequences.

Confidentiality

Participant details were not shared with anyone, however, it was recognised that close colleagues were aware of the interview taking place due to the proximity of working relationships and need to cover for each other during the school day. No participants expressed a concern over this fact.

Names and personal details were omitted from the transcripts and original recordings were (and will remain) kept in a locked cabinet and not divulged. Supervisors were only given access to anonymised/coded transcripts, however, participants were informed that supervisors would have access to recordings in the event that monitoring was required, although this was not necessary. Any details that may have made participants identifiable were removed.

Data will be stored for the duration of the full PhD research project and then securely destroyed. Participants were also informed that transcripts may be stored

at De Montfort University for the archiving period as required by the sponsor, De Montfort University.

3.5 Summary

This chapter introduced and explained the philosophical, strategic and methodological frameworks applied in this research. The researcher discussed the influence of a phenomenological approach to the research and justified the use of a qualitative exploratory design. The chapter later provided a detailed account of the pilot study and the procedures for sampling, ethical approval and data collection in the main study.

The following chapter discusses the analysis of data. The chapter introduces the analytical framework, use of software to manage data, and, documents the process of analysis and interpretation.

Chapter 4 - Analysis

4.1 Introduction

This chapter contains a detailed description of the processes of data management, analysis and interpretation undertaken in this research. The researcher demonstrates how the philosophical framework influenced the analysis of data and the aims of the analysis are provided. Later in the chapter the use of qualitative data management software is discussed and the analytical framework and process are introduced.

The process of thematic analysis is documented and illustrated with examples of the different stages of the analysis. Transparent documentation of the analytical process is provided and every attempt has been made to include evidence of the stages involved. Screen prints are provided to demonstrate the use of software and the reader is signposted to memos and notes in the Appendix (Appendices 17-19, 21 and 22). The progression from data collection to data management and analysis is outlined sequentially, although some of the stages were recursive. The analysis process was highly personal and was carried out with the research objectives and research questions firmly at the heart (research questions were outlined in Chapter 2).

4.2 Analytical Framework

The process of data analysis was influenced by the guidelines for phenomenological analysis suggested by Grbich (2007), as well as Braun and Clarke's (2006) guidance for conducting thematic analysis (and other sources referred to throughout the thesis). Grbich (2007) argued that the optimum outcome of this kind of analysis was an 'interpretation' of the subjective accounts, expressed by the participants, of their unique perceptions and social experiences. This approach is known for its focus on the "speaker's perspective" (Yates, 2004), and indicates an orientation towards idiographic, qualitative, in depth research methodology (Smith, 1998).

4.2.1 Aims of the analysis

- To interpret meanings inherent in the data
- To engage with the data
- To explore the transcripts individually
- To build an understanding of conceptual linking between the data set as a whole
- To recognise trends and patterns in the data set as a whole
- To define and refine themes in the data set
- To build a thematic framework representing the patterns and relationships in the data

- To develop and explain abstract theoretical concepts
- To generate a coherent theoretical narrative explaining the theoretical and thematic frameworks
- To provide an explanation of the phenomenon as represented in the data set as a whole

4.2.2 Being reflexive during the analysis

During the analysis the researcher attempted to fully engage with the transcripts and relive the interview experience with each reading. In doing this, the researcher attempted to become "drawn in" to the data (Grbich, 2007, p.87). This engagement with the data facilitated the researcher in accessing the phenomenon directly and attempting to interpret how it was 'actually experienced' (Van Manen, 2002). When practicing phenomenological reduction, the researcher 'reconfronted' the data at various intervals to adjust perspective (Grbich, 2007, p.87). The researcher spent time away from the data before re-engaging to avoid becoming 'too close'.

The extent to which the researcher was able to prevent pre-conceived ideas, attitudes and assumptions from interfering with the process of engaging with the text was difficult to determine and the implications of this were considered (Grbich, 2007; Crotty, 1996). When reflecting on her role and influence in the analysis, the researcher acknowledged that it was not possible to completely remove the impact

of her own ‘theoretical and epistemological commitments’ (Braun and Clarke, 2006).

As previously explained, ‘reflexive bracketing’ was seen as the most appropriate and achievable type of bracketing for use in this research (Gearing, 2004). Reflexive bracketing does not require the researcher to completely eradicate the influence of his/her own pre-conceptions and experiences of the topic, but requires that the researcher acknowledges and reflects on these. Reflexive bracketing was an integral part of the analysis of data and was essential to demonstrate a ‘phenomenological influence’ in the analysis of data (Dowling, 2007, p.136).

Bracketing was particularly important during the analysis when the researcher engaged with the data for sustained periods of time and began to formulate a subjective interpretation of the data. In Chapter 3, the researcher attempted to identify the social, cultural and personal factors and characteristics that may have had some effect on the design and conduct of the research. The researcher emphasised the importance of acknowledging and reflecting on these characteristics and factors and their potential influence on her own attitude and approach, as well as relationships with the research population and sample.

In this chapter it was necessary to consider the reflexive process in the context of the analysis of data by the researcher, giving focus to the ways in which the researcher maintained a reflexive approach at critical points in the analysis

(Gearing, 2004). Therefore, the researcher has considered; the ways in which non-verbal cues could influence the analysis, the interpretive process and loyalty to the participants' original accounts.

The interpretation of non-verbal cues in interviews

This research was principally concerned with the experiences and attitudes of the participants interviewed. The transcripts and audio recordings were permanent evidence of the verbal accounts given by the participants about their experiences and attitudes surrounding the research questions. However, the communicative value of non-verbal cues, which were non-permanent due to the fact the interviews were not video recorded, was also recognised.

The researcher's observations and interpretations of non-verbal cues were recorded in a research journal along with memos about the experience of visiting the schools and conducting the interviews. This additional data played an important role in the reflexivity involved in the research by providing a permanent reminder of the body language and apparent disposition of participants observed during the interview.

> Research Journal Entry (02/09/08)
> SLT 7 seemed a bit apprehensive and did not know what to expect. She referred to her own notes to illustrate her responses and give examples.

> Research Journal Entry (02/09/08)
> SLT 8 was a bit late and appeared flustered (red face, nervous movements, out of breath).

The researcher revisited and reflected upon these observations when conducting the analysis.

Reflecting on interpretations

The process of data analysis is described in detail later in the chapter. However, to demonstrate the practice of reflexivity, the reflective processes during the analysis are described here. The researcher was continuously reflective, reflexive and critical of interpretations of the data and reengaged with transcripts and notes after time had passed scrutinising for growing evidence of themes or possible alternative interpretations. This was part of the very close scale analysis. At a later stage the researcher drew on the ability to move away from the texts and construct an overview of the themes. The researcher attempted to recognise 'feelings that (were) lacking in neutrality' and consider what the source of these feelings might be and what their implications for the analysis might be (Ahern, 1999). The researcher attempted to identify and reconsider interpretations that were not completely grounded in the data. This was informed by ongoing acknowledgement of the researcher's previous experiences in relation to the research topic.

The reflexive process continued as conceptual linking began to take place and interpretations of dominant themes were substantiated. The researcher attempted

to be mindful of these interpretations by observing and recording the thought processes as they occurred (Appendices 17-19). At this stage, the researcher moved backwards and forwards between recording thoughts and ideas and collating evidence. The researcher increased and decreased distance from the data a number of times, looking closely at individual transcripts (close analysis) before moving to look at the data set as whole (analysing from a distance).

When analysing data from a distance, the researcher worked away from the computer and made notes and observations about the data set as a whole on paper. This process was repeated adjusting distance from the data at various stages. This movement and change of perspective became a natural part of the research process and facilitated the process of reflexive bracketing. Having 'distance' from the data and working on paper allowed the researcher to identify areas of the data that required further exploration and deeper interpretation, reducing the impact of the researcher's own beliefs and presuppositions. The analysis continued until the researcher was satisfied with the interpretations, grounded in data, which had arisen and was able to present these as findings. Analysis and reflexive bracketing continued during the consolidation of themes and the theoretical framework and the composition of the entire thesis.

Incorporating participant 'voice' – remaining loyal

In keeping with a phenomenological approach, it was intended that the main outcome of the analysis of data would be; "a description of the structures of

consciousness of everyday experiences as experienced firsthand" (Grbich, 2007, p. 39). To ensure this the researcher attempted to incorporate the 'voices' of those interviewed by developing findings that were grounded in the data and illustrating these with quotations from the raw data (Schratz, 1993). This required a well-documented, transparent process of interpretation of the participants' accounts. The researcher demonstrated that it was the participants' 'voices' that were being represented by; recording the process of interpreting their accounts explicitly, as well as supporting all themes and constructs with quotations from the data.

For the duration of the research the skill of accurate interpretation was put into practice to ensure fair and truthful conclusions about what the participants were trying to express, while acknowledging that the product of this would be just one possible interpretation. As interpretations developed, the researcher returned to the raw data and reread the coded passages in context a number of times to ensure the interpretation was grounded in the participants' original accounts. The analysis continued until the researcher felt confident that the explanation of the data in the findings reflected a loyal interpretation, which was the result of a transparent, systematic, reflexive process. The prevalence of ideas and themes was also explored using QSR NVivo2 to search the data for substantial evidence.

4.2.3 Ensuring transparency

To ensure that the entire practical and intellectual research processes were documented, the researcher maintained a habitual system of recording key thoughts in the form of field notes and memos, including; all major and minor decisions, feelings and ideas, reflections, observations and critical interpretations. Field notes were not analysed as raw data but were an evolving record of thought processes and served as a valuable reminder of the trajectory of interpretations from the beginning of the research process.

> Research journal entry (13/10/08)
> I … realised that I have coded very finely and what may happen next is that I delete these very very specific codes and will code at the parent node for that excerpt. The data coded to the very specific nodes will then become a passage coded to the parent node. This will eliminate a great number of codes but the process has been extremely useful in starting the tree structures.
>
> Research journal entry (07/11/08)
> I have realised that many nodes … are not relevant to the research questions but serve more of a background, context or rapport purpose. I am placing research questions at the centre of the analysis.

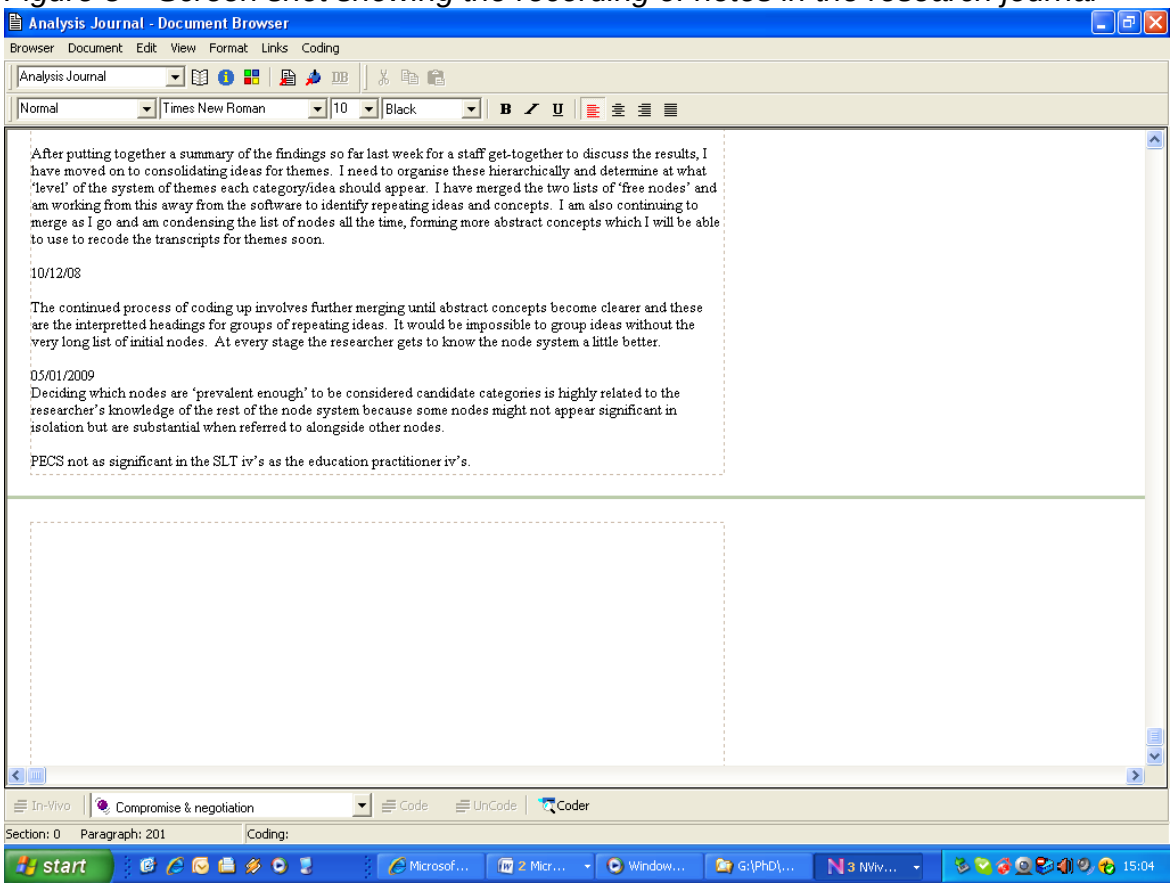
Appropriate sections of the field notes and memos have been selected and included in the Appendix (Appendices 17-19) to provide a chronological audit trail. This evidence of the progression of the research provides transparency of the parts of the process that were particularly subjective and difficult to document.

4.3 Use of QSR NVivo2 for Computer-Assisted Qualitative Data Analysis (CAQDAS)

QSR NVivo2 software was used to facilitate; “the intelligent management of data, incorporating facilities for the storage and retrieval of information” (Kelle, 1995, p.3). The use of computer software during this analysis facilitated the management of raw data and organisation of ideas and concepts that were discovered in the data. The decision to use QSR NVivo2 was guided by it’s suitability for the management of data of this kind. The decision was also influenced by the availability of the software at the institution sponsoring the research and the opportunity to attend training in the use of this software.

QSR NVivo2 software was used to plan and journal the analysis process, as advised by Johnstone (2006). Examples of using the journal to plan and reflect are provided throughout the thesis. Figure 5 shows a screen shot of the research journal being edited.

Figure 5 – Screen shot showing the recording of notes in the research journal



Using the software to document the process also supported reflexive bracketing processes and transparency. The way the software was used was influenced by the aims of the research and the philosophical and methodological frameworks. The philosophical underpinnings and design of the research were seen as intrinsically linked to the use of software in the analysis (Johnstone, 2006). Table 9 demonstrates the role of the software in each stage and aspect of the analysis.

Table 9 – Use of QSR NVivo2 to support the proposed philosophical framework, methodology and analysis

Stages of the research process	The role of NVivo software
Interpretive phenomenological approach to data collection and analysis	Managing and interrogating data with NVivo2 supported the interpretation of the data and identification of 'meanings'.
Semi-structured interview data	NVivo2 allowed the management of data in interview transcripts as documents which were organised in sets. Transcripts were retrieved, coded and interrogated easily.
Thematic analysis	NVivo2 facilitated the coding of interview data and lists of free and tree nodes were generated. These lists were scrutinised and condensed to reflect groups of ideas in the node list. These were then developed and tested as themes.
Formulation of theoretical constructs	NVivo2 supported the identification of abstract concepts reflected in the node system. These were developed and refined as theoretical constructs were identified.
Formulation of the explanatory narrative	NVivo2 facilitated the interrogation of the data as interpretations developed. This allowed the researcher to develop an understanding of the relationships between themes and constructs and to understand the context of each theme.

Care was taken, when using the software, to avoid potential pitfalls outlined below, for example, inappropriate use of tree nodes (Johnstone, 2006). When initially using the software to 'code' data, the tree node system was seen as a legitimate means of organising nodes for later searching and scrutiny. However, tree nodes were designed as a means of developing an 'index system' and should not be used; "as a way of modelling theory" (Johnston, 2006, p.388). Tree nodes were

used as advised and provided an organisational tool for grouping nodes early in the coding process.

Potential pitfall 1 - Mechanical coding: 'Getting too close'

The researcher attempted to conduct the analysis by working with the data closely, as well as increasing 'distance' from it. The researcher referred to this as 'zooming in', as well as 'achieving a wide angle view' (Richards, 1998, in, Gilbert, 2002, p. 216). There were points during the analysis when the researcher worked away from the software and engaged with lists of nodes and coded passages on paper (Gilbert, 2002).

> Research journal entry (07/11/08)
> I am noticing that many of the parent nodes and groups of nodes in the tree structures can be applied to more than one research question. I think some of the most frequently recurring ones could become categories or maybe even themes because they are so prevalent and relevant across research questions, for example, 'children's understanding of symbols'.

Regular breaks from coding prevented coding becoming overly 'mechanical', lacking reflection, interpretation and critical evaluation (Gilbert, 2002). Creating distance from the data in this way also improved the researcher's ability to recognise possible hierarchical structures within the node list. This change in perspective occurred when the researcher felt it was necessary to move away from the node list in order to ensure scrutiny of the node list had not become 'mechanical' and lost purpose.

Any interpretive activity that took place away from the software was recorded in the analysis journal. Maintaining distance from the software at appropriate points ensured it was used appropriately and reflectively and allowed the analysis to become more abstract.

Potential pitfall 2 - Failing to provide evidence for an audit trail

The analysis was a subjective process that was driven by the interpretations of the researcher, which were accurately and transparently recorded in various documents (journal, memos and notes). The analysis was facilitated by the data management and interrogation capabilities of the QSR NVivo2 software. The analytical process was recorded in the research journal within the software to ensure that all stages of the interpretation of the data were documented and made transparent. Passages from the research journal are provided throughout the thesis and other memos and notes are included in the Appendix (Appendices 17-19).

Potential pitfall 3 - Too many or too few nodes

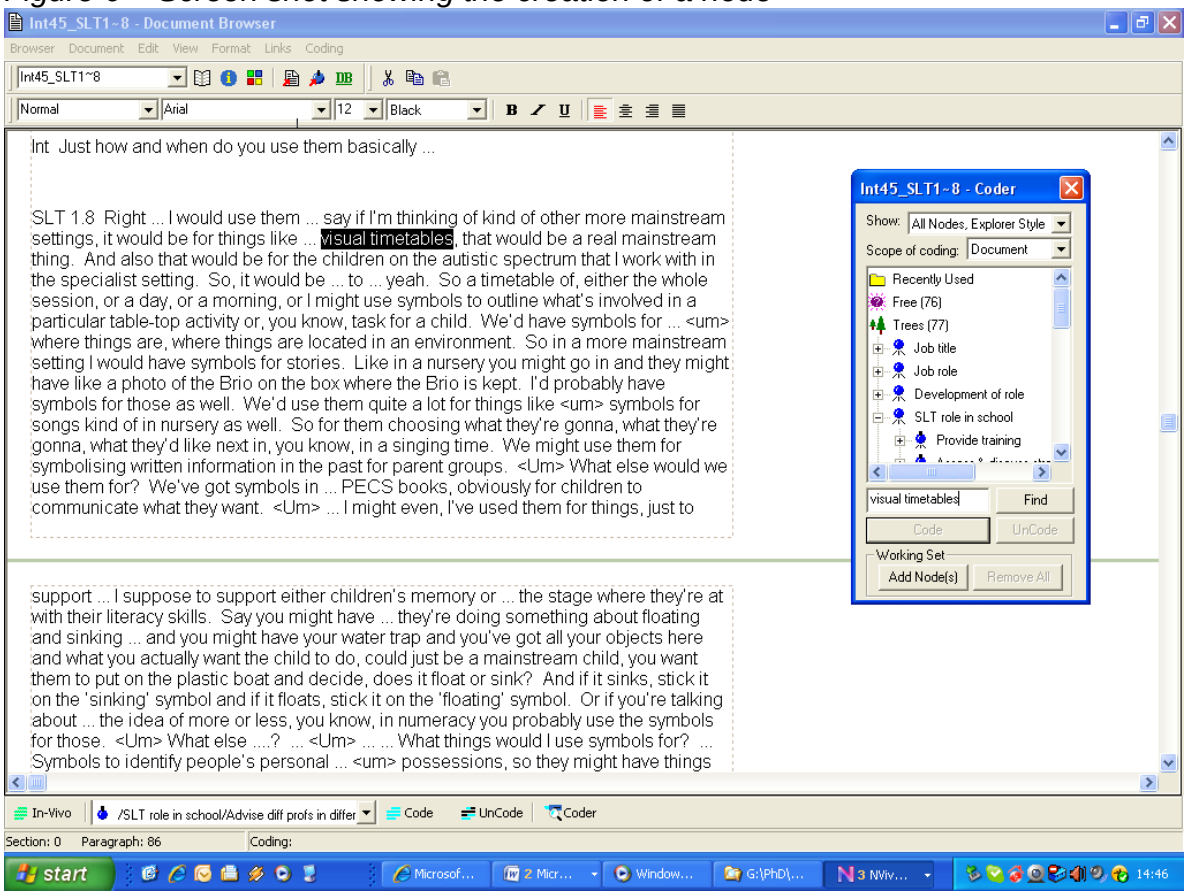
During the initial stages of the analysis the researcher 'coded' each individual transcript, tagging meanings, ideas, concepts and key points of interest with a 'node'. The coding process is described in detail later in the chapter. During the initial descriptive coding the researcher generated a very high number of nodes (approximately 6000). However, these nodes were later merged and grouped and the number of nodes reduced. Although, the initial number of nodes generated

appeared very high, this part of the process was fundamental to reflect the detail and insight in every transcript and to ensure that every participant was represented in the findings.

4.3.1 Managing and organising data with NVivo2

NVivo2 was primarily used to manage and organise data and to facilitate the interrogation of data through coding. Interview transcripts were saved in rich text format (rtf) and were transported into the 'project' set up in the software, the system containing all the transcripts, nodes, memos and notes. Transcripts were sorted into groups according to professional groups or job titles; teachers, TAs, nursery nurses, SLTs. A separate set was created with the title; 'other job titles', to include participants with unusual job titles, e.g. TTA1 (TA acting at a teacher), and SENCO/TA1 (TA acting as a SENCO). Each transcript was given 'attributes', which contained details of type and location of the school/service where the interview was held and other observations. Transcripts were then coded. These processes are explained later. Figure 6 shows the creation of node in NVivo2.

Figure 6 – Screen shot showing the creation of a node



Once a node had been created it was then attached to any further passages of text which appeared to refer to the same concept, idea or experience (in the same document, and later in additional documents). Nodes and coded passages of data were retrieved easily within the software and reports were also created showing coded passages of data across all documents for one node (Appendices 20 and 20a). The final result of initial coding was a set of nodes for each transcript, some of which applied to more than one transcript and others which were unique to one interview.

Throughout the analysis process, 'memos' were also created as documents containing thoughts and ideas ranging from a specific memory of the interview or an idea for a node, to a possible theoretical link (Appendices 17-19). Memos were attached to passages of text where applicable, as well as stored in the metadata for certain transcripts. Further to this memos and documents were linked where applicable. Figure 7 shows the creation of a memo in NVivo2. Figure shows the insertion of a memo into a document which links the memo to an individual transcript.

Figure 7 – Screen shot showing the creation of a memo

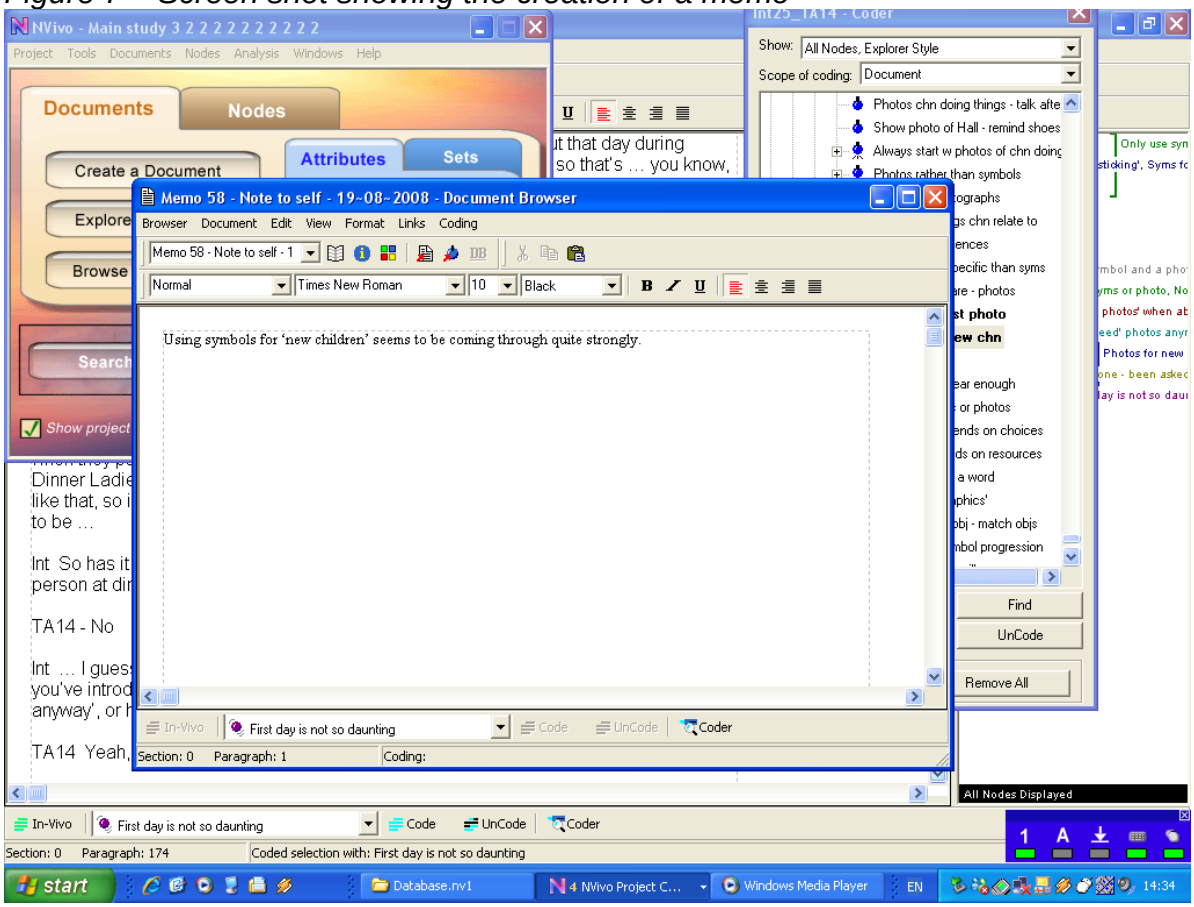
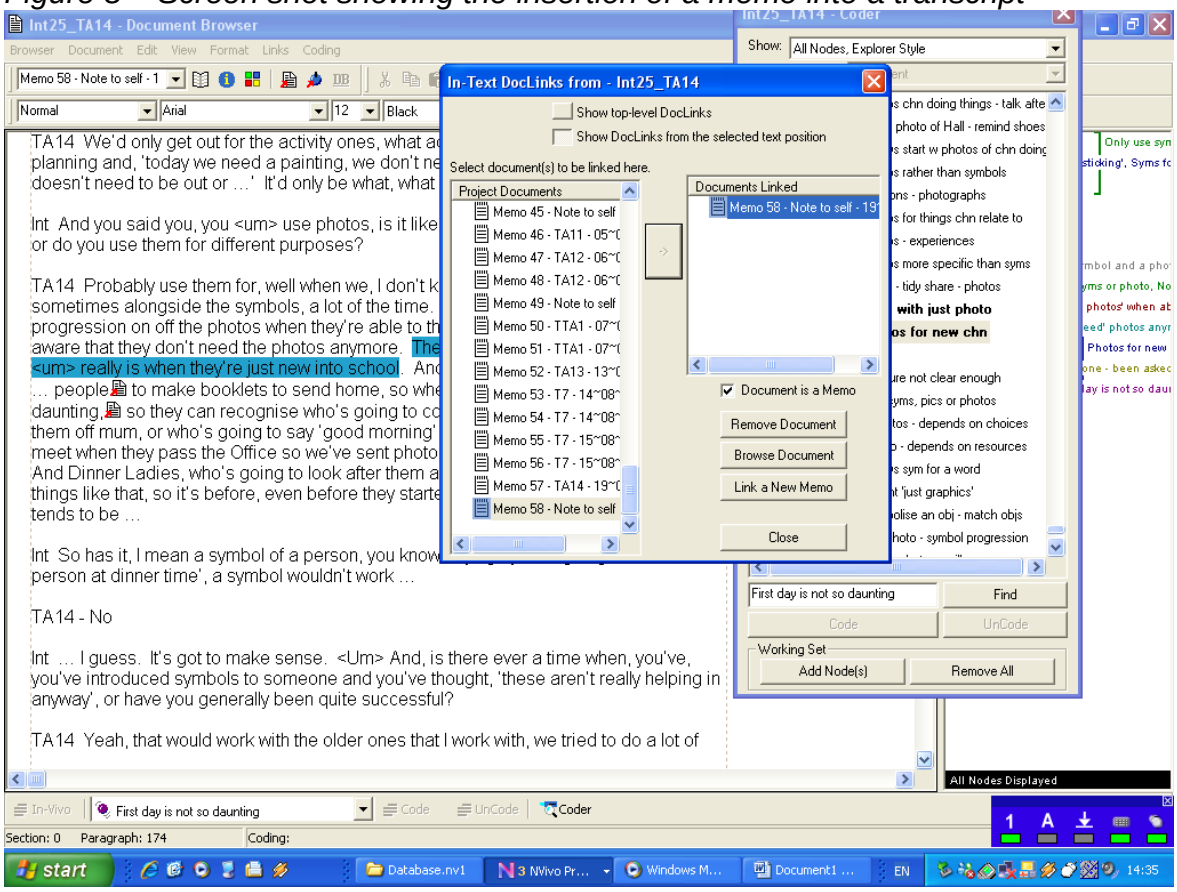


Figure 8 – Screen shot showing the insertion of a memo into a transcript



At the end of the initial coding process in QSR NVivo2, the researcher printed lists of all free nodes and used the merge function to manage this list, as explained later. The researcher used the software to organise documents and nodes into sets during the analysis to test ideas. Throughout the analysis the 'model' tool was used to test ideas and create graphic diagrams of ideas and structures within the research. For example; to map a set of tree nodes, to model candidate categories and themes, to provide a visual representation of research questions and their links to various nodes and/or themes (Appendix 23 and 24). These were particularly useful for demonstrating the 'cognitive work' involved in the analysis (the

researcher's processes of identifying and interpreting repeating ideas, patterns and meanings. Interpreting how these ideas relate to each other and could be depicted as a hierarchical system, determining how abstract the concepts appeared to be) (Marshall, 2006).

4.4 Data Analysis Process

4.4.1 Thematic Analysis

Thematic analysis is a method that is widely applicable to a number of philosophical and methodological perspectives within qualitative research, including those outlined as the basis for this research (Braun and Clarke, 2006). Thematic analysis was used as a method of 'making sense' of the interview data (Braun and Clarke, 2006). The researcher engaged in a process of uncovering 'repeating ideas' or 'units of meaning' in the data and developing these into themes. Themes were seen as a product of the researcher's interpretive processes. Themes were grounded in 'repeating ideas' identified within the data but were defined and refined by the active researcher (Braun and Clarke, 2006).

The themes that were developed in this way acted as a 'means to get at' the phenomenon, in the continuous attempt to uncover meanings in the data (Van Manen, 2002). Interpretation of the data and the development of themes was seen as a creative and personal activity (Braun and Clarke, 2006), and the researcher

recognised the need for transparency in this process. Themes were intended to, "capture something important about the data in relation to the research questions, and represent some level of patterned response or meaning within the data set" (Braun and Clarke, p.82). Subthemes are essentially themes within themes (Braun and Clarke, 2006).

In this research, data has been analysed using a form of thematic analysis outlined by Braun and Clarke (2006). This form of thematic analysis was influenced by an interpretive phenomenological approach and was facilitated by the use of QSR NVivo2 software.

4.4.2 Summary of the process of data analysis

A summary of the process of analysis of qualitative data is introduced below. The full process is explained in the following sections of the chapter.

The researcher began to form interpretive ideas during the **collection of data**. At this stage the commitment to recording the analysis process began with the use of a research journal in which initial impressions and observations were recorded about every encounter with the phenomenon, the research population and the research context (examples from the journal are provided throughout the thesis).

The researcher had the opportunity to develop and extend this early interpretation as soon as the process of engagement with the interview data began during its **transcription**. The researcher made notes of ideas, recorded as 'memos', as they occurred and the researcher heard the recorded interviews several times during this stage (Appendices 17-19).

The **initial stage in the analysis** of the interview data (conducted with the assistance of QSR NVivo2 software) was a period of **descriptive coding**. This process is also referred to as **'coding down'** and involved scrutiny of the transcripts in intricate detail, remaining loyal to the discrete qualities of each transcript. At this stage the researcher was beginning to organise the text and discover patterns, focussing on what the data seemed to be 'saying'.

The following stages of the analysis centred upon the search for categories of ideas also referred to as **'coding up'**. Repeating ideas that the researcher interpreted as having some 'meaning' in relation to the research questions were tentatively referred to as **'candidate categories'**, which represented potential ways of grouping concepts in the data (Auerbach and Silverstein, 2003). From looking 'down' into the intricate detail in the data, the researcher adjusted the focus to looking 'upwards' and beginning to recognise more abstract headings for groupings or categories of ideas.

The ‘coding down’ and ‘coding up’ principle was repeated as **candidate categories (ways of clustering repeating ideas, experimental groupings) were explored and tested** by recoding the raw data with the candidate category in mind (‘topic coding’ or ‘categorical coding’). As evidence was identified in support of the candidate categories they were confirmed as headings for groups of ideas in the data, which were a basis for developing themes.

The themes and subthemes illustrated the researcher’s interpretation of the dominant ideas in the data. **Themes were gradually defined, refined and named**. Hierarchical structures of themes were suggested, manipulated, tested and modified. Themes and subthemes were developed as ways of identifying units of meaning. These units were brought together as an inter-connected, hierarchical framework, which had at the most abstract level the theoretical constructs. The researcher’s interpretation of the data developed beyond these unitary themes and attempted to provide an explanation of the relationships and conceptual links between themes and subthemes.

This research was inductive, or ‘theory-generating’. The development of theoretical constructs occurred as the thematic framework was formulated. The **theoretical constructs** were conceptualised at an abstract level and served as headings for groupings of ideas (based on categories identified earlier) running through the themes and subthemes and encapsulating the essence of the data as a whole.

The explanatory network of connections and relationships between themes and theoretical constructs was referred to as the **'theoretical narrative'** (Auerbach and Silverstein, 2003). The narrative demonstrates the ways in which the researcher explored and identified the links between the themes, subthemes, abstract theoretical constructs and concrete examples in the data.

In summary, the analysis process involved the development of an interpretation of the raw data moving from patterns, seen as themes within the data, to abstract concepts and explanatory narrative providing a possible explanation for these themes. This process will now be explained in detail.

4.4.3 Detailed description of each stage of analysis

There were several stages in the recursive process of analysing the interview data. Several stages of the process were conducted more than once and revisited as new interpretations were tested and refined. During these stages the researcher was moving backwards and forwards between dual perspectives on the data, working closely with individual transcripts, moving away and looking at the data set as a whole (Cohen, 2007).

The researcher identified 'units' of meaning (Denscombe, 1998). 'Units' of meaning ranged from very unique and specific; containing just one passage of

data, to more abstract and general; encompassing groups of passages of data with common or related meaning(s) identified by the researcher. The researcher attempted to recognise ideas in the data that could be interpreted as recurring 'units of meaning' (Cohen et al., 2007). It was the researcher's own interpretive activity that determined what constituted a 'unit of meaning' and at what theoretical level it should occur.

The analysis process was cyclical and movement between stages of the process was fluid and influenced by interpretations as they developed, strengthened and adapted. The stages of the analysis are outlined in turn below.

Initial Coding: Closeness - coding down

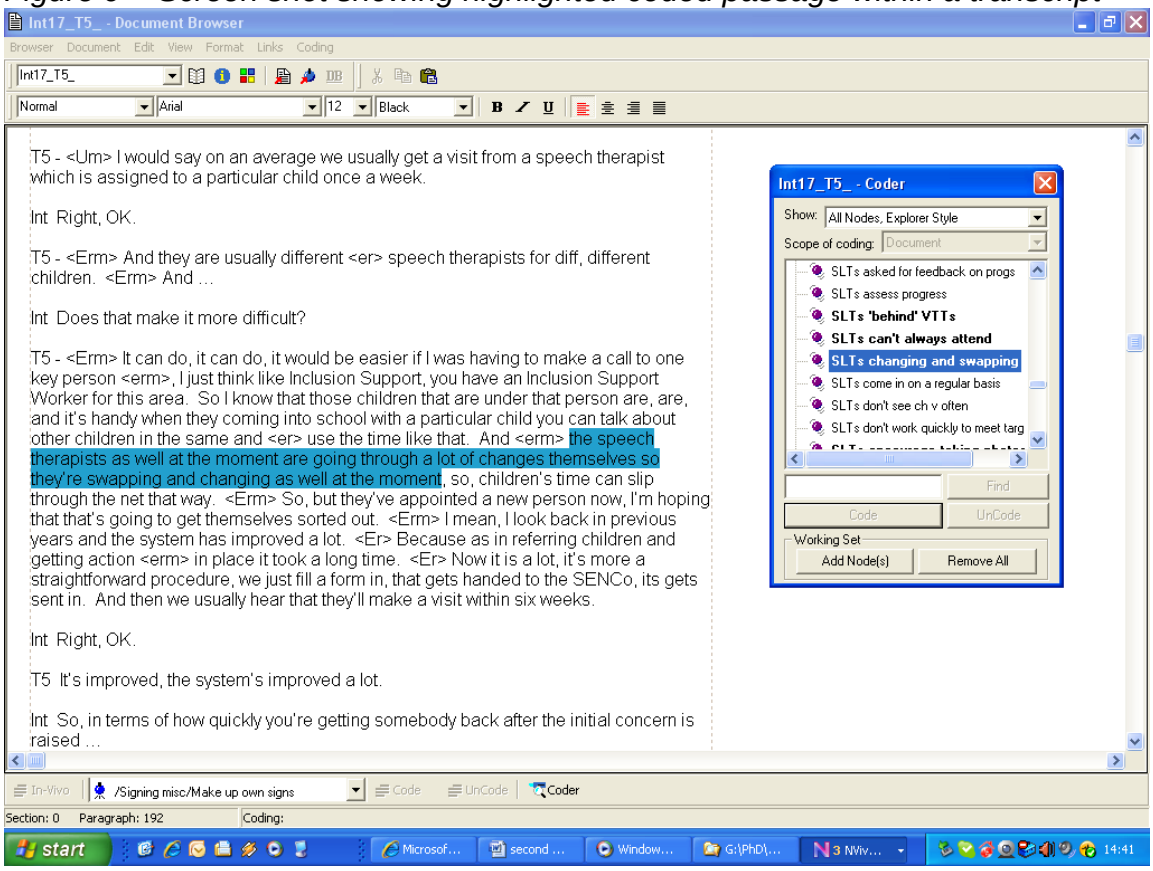
The first stage of the analysis involved concentrated engagement with the transcripts individually. Engagement increased as the transcripts were read more and explored thoroughly. As a result, the researcher became familiar with each transcript and coding became more instinctive while remaining reflexive and recording thoughts, ideas and reflections in the research journal regularly.

As each transcript received concentrated and repeated examination in turn, passages of data were identified as having 'meaning' in relation to the research questions. This led to identifying passages of interest and highlighting these in a growing record of key ideas emerging from the data. The use of QSR NVivo2

greatly facilitated this process and served as a permanent record of interpretive ideas which was constantly updated and extended.

Passages of data were ‘tagged’ (highlighted) and given a name, referred to as a code, or ‘node’ within NVivo2. These nodes operated as tags or labels indicating the researcher’s initial interpretation of the meaning of the sentence, phrase or word. This process is referred to as coding and the initial process of coding in very fine detail, down to individual sentences in individual transcripts, is known as ‘coding down’ because the researcher was working ‘down’ to the most intricate detail of the data (Gilbert, 2002). By ‘coding’ passages of data, the researcher selected sections of the data for further attention. This was a means of making the quantity of text for analysis more manageable (Grbich, 2007). Figure 9 shows the use of the ‘coder’ function in NVivo2.

Figure 9 – Screen shot showing highlighted coded passage within a transcript



This was an important stage of the process and the unique detail within every transcript was seen as central to the interpretation of the data as a whole. The researcher developed a flexible approach to coding and journaling ideas during the initial period of close engagement with the data. This process was fluid and personal and the researcher was guided by interpretation of the data as it occurred, rather than “using pre-defined rules for coding” (Yardley, 2000, p.218).

Distance: Coding up (refining the node system and coded data)

During the analysis, the researcher attempted to 'listen' for meaning and sense-making in the participants' accounts of the phenomenon (Grbich, 2007). After the initial period of close-scale descriptive coding, the researcher 'drew back' from the data and began to; "think about the total picture" (Lofland and Lofland, 1995, in, Gilbert, 2002, p.219). Gilbert (2002) described this stage of concentration on the data set as a whole as a process of; "expanding ... analytic horizons" (p.219).

The researcher began to analyse the data by 'abstracting' meaning from the raw data. At this stage of the analysis, rather than focusing 'down' on the fine detail in the transcripts, the researcher began 'looking up' and considering ways of grouping ideas (Gilbert, 2002).

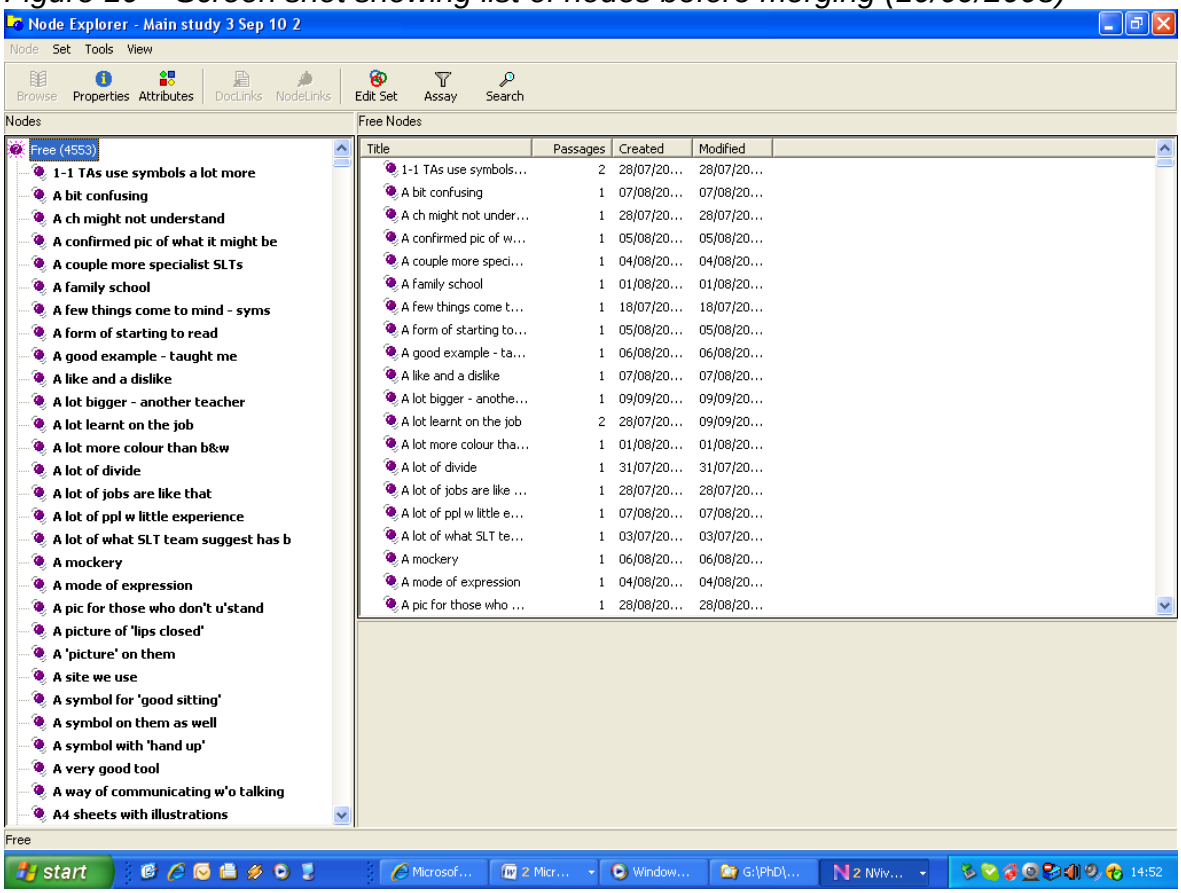
> Research journal entry (13/10/08)
> I have been conducting the first round of coding for about three months and have started exploring these nodes … I enjoyed this and found that by just browsing the content of nodes the researcher can see where most of the data is grouped.

This initial node system contained more than 6000 individual nodes and reflected the intricate detail of each interview. At this stage many (but not all) nodes only contained data from one transcript.

Research journal entry (13/10/08)
Many of the nodes only apply to one participant at this stage but I wanted to be loyal to the rich detail of each transcript to begin with.

Figure 10 shows an early list of free nodes before the node system was condensed and many nodes were merged.

Figure 10 – Screen shot showing list of nodes before merging (10/09/2008)



Having developed an understanding of each transcript individually, the researcher began a lengthy process of working with the node system to identify groups of ideas and possible headings which would become candidate categories of ideas

and patterns across the data set. At this stage it was important that the researcher engaged with the node system and coded passages of data, reducing the amount of data to scrutinise further.

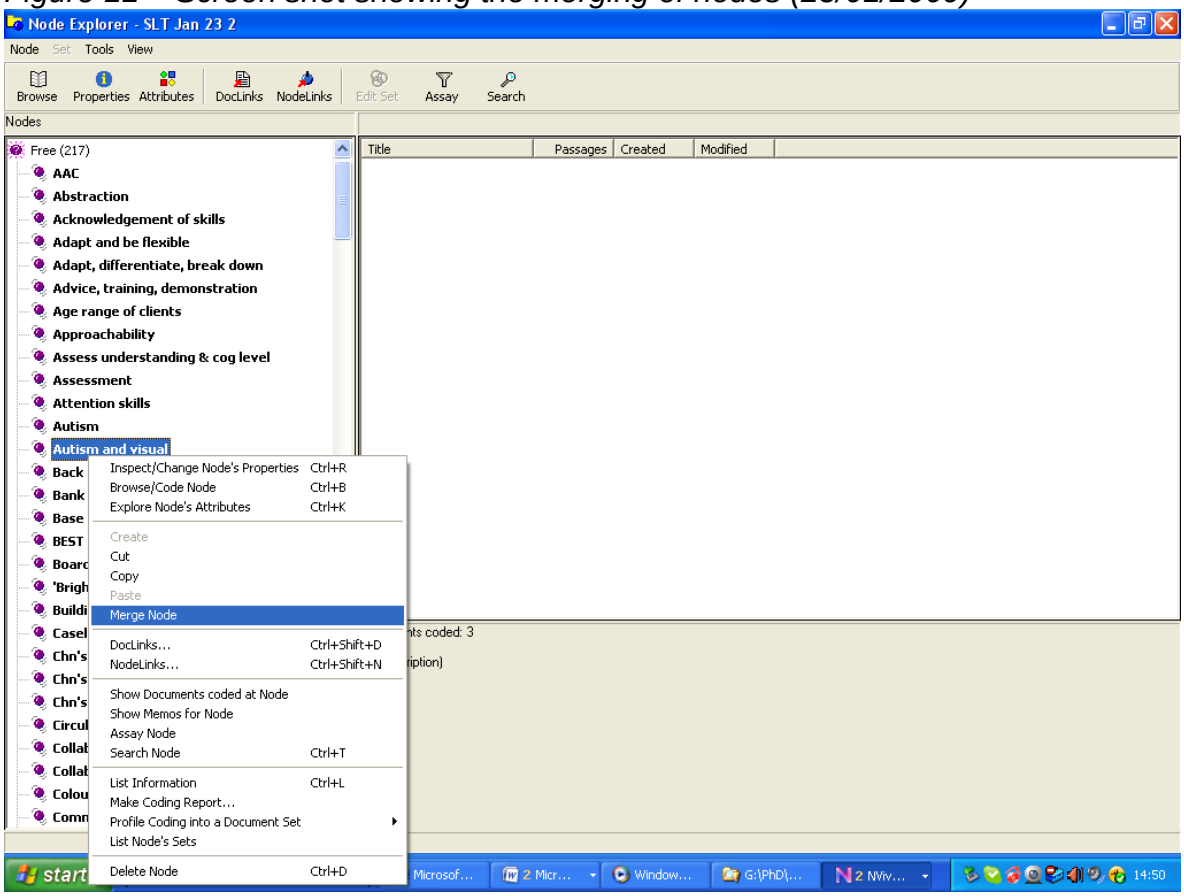
This stage of the process involved intensive reviewing of the node system and retrieving and revisiting coded passages of data in an attempt to merge nodes with similar meaning. The node list was essentially 'pruned' and consolidated. By closely examining the existing lists of nodes, collections of coded data were grouped with other collections of data which were believed to have some overlap or similarity. Nodes and coded data seeming to share meaning or reflect related ideas or experiences were brought together. When a collection of nodes was identified which could be merged into one (or more) over-arching node, the original node(s) was selected and copied into the over-arching (replacement) node. This resulted in the removal many of the original nodes, which had been copied/merged into the more general node. Below is an example of one set of nodes that were merged into several remaining nodes used to group the related passages of data.

<u>Examples of existing nodes that were merged:</u>

'PECS and autism'
'PECS course'
'PECS doesn't work with this community'
'PECS home and school improves ability'
'PECS not always appropriate'
'PECS reward – crisp'
<u>MERGED INTO:</u>
'PECS'
'PECS training'
'PECS implementation and outcomes'

Figure 11 shows the merging of nodes during the process of condensing the node system.

Figure 11 – Screen shot showing the merging of nodes (23/01/2009)



During this process of refining the node system, the researcher continued to interpret; patterns and commonalities, relationships and differences among these passages of coded data (Denscombe, 1998).

Research journal entry (10/11/08)
Merging has been a process of pruning the list of free nodes and it has been possible to get ideas for core categories from this close engagement with the nodes.

As understanding of the data developed, the researcher was able to delete nodes that were unsubstantiated, or unrelated to research questions, producing a node system which represented the most significant repeating ideas in the data organised into groups (Grbich, 2007). This process entailed the reduction of nodes and coded data represent repeating ideas and patterns that were prevalent across the data set (Cohen et al., 2007).

<u>Examples of nodes that were deleted:</u>
'Dysphagia' – deleted because only referred to by 2 participants
'Educational psychologist' – deleted because only referred to by 2 participants
'Play skills' – deleted because only referred to by 1 participant

Research journal entry (14/11/08)
I realise how much of the data is not relevant to the research questions.

As the node system was scrutinised and refined it was possible to see groups of ideas and patterns within the data and to suggest headings for these groups. The headings proposed were indicative of the essential nature of the ideas and experiences grouped under the headings and were often abstract concepts. For example, a number of nodes relating to autism were merged into one node; 'autism'. The researcher recorded prevalent nodes and abstract concepts in the

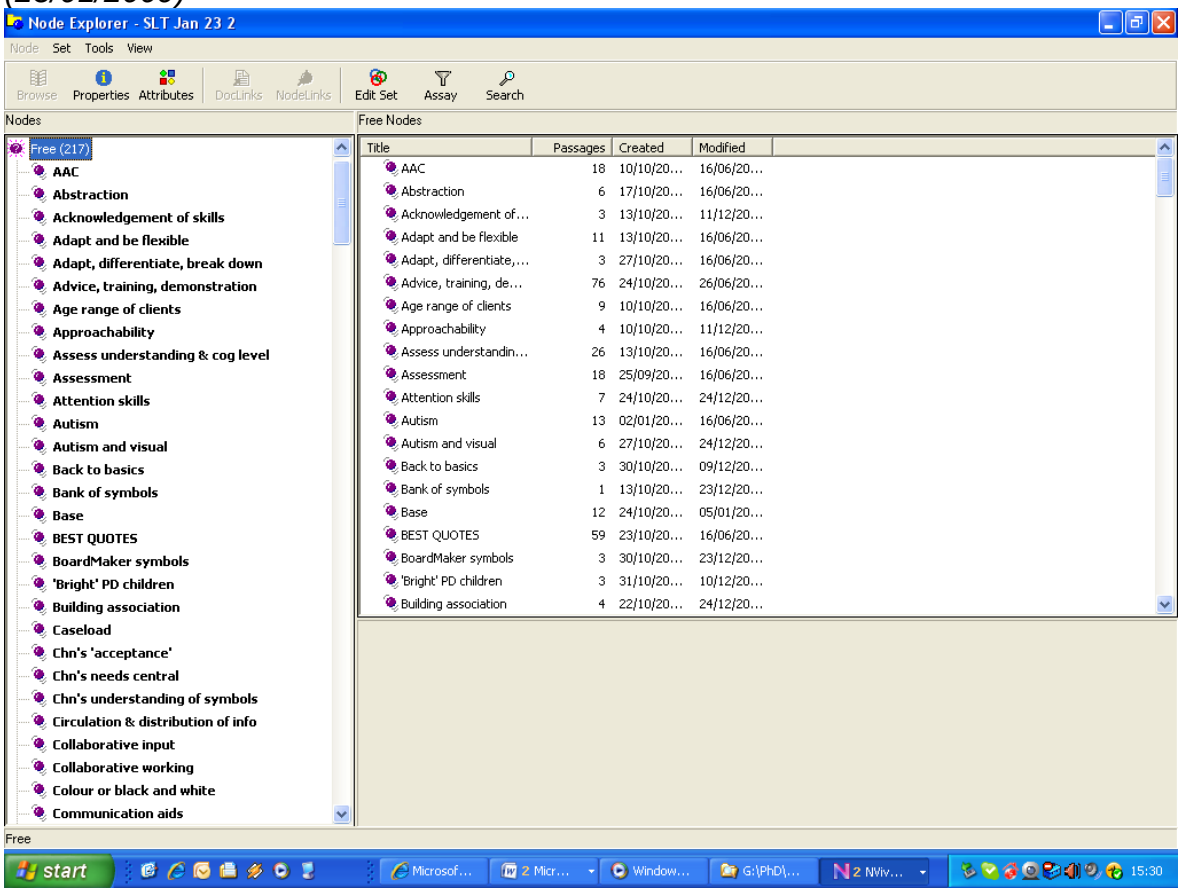
research journal and annotated these with notes about avenues of inquiry to pursue in the analysis.

> Research journal entry (16/12/08)
> Concentrated coding up has involved an ongoing process of merging … … it is has been possible to see more abstract group headings and I have merged the vast majority of very specific nodes under these headings.

When the node system was consolidated to a list of approximately 600 nodes (which were more abstract in nature) the researcher recommenced the process of scrutinising the data coded at each node and critically evaluating the appropriateness of the headings (or node title) suggested. Node titles were reviewed and adapted until they described adequately all the data coded, or individual passages of data were recoded at other more appropriate nodes. The exploration of data coded at each refined node was the second stage of coding down because this involved analysing the passages of data in fine detail again. Figure 12 shows the node list after condensing.

The objective for condensing and refining the node system in this way was to reduce the number of nodes and increase the level of abstraction of the nodes that remained (Cohen et al., 2007). When the researcher was satisfied that the remaining nodes were suitably prevalent across the data set, abstract and relevant to the research questions, the condensing of the list was complete although the refinement of the node system continued at a far slower pace during the rest of the analysis.

Figure 12 – Screen shot showing condensed list of nodes after merging (23/01/2009)



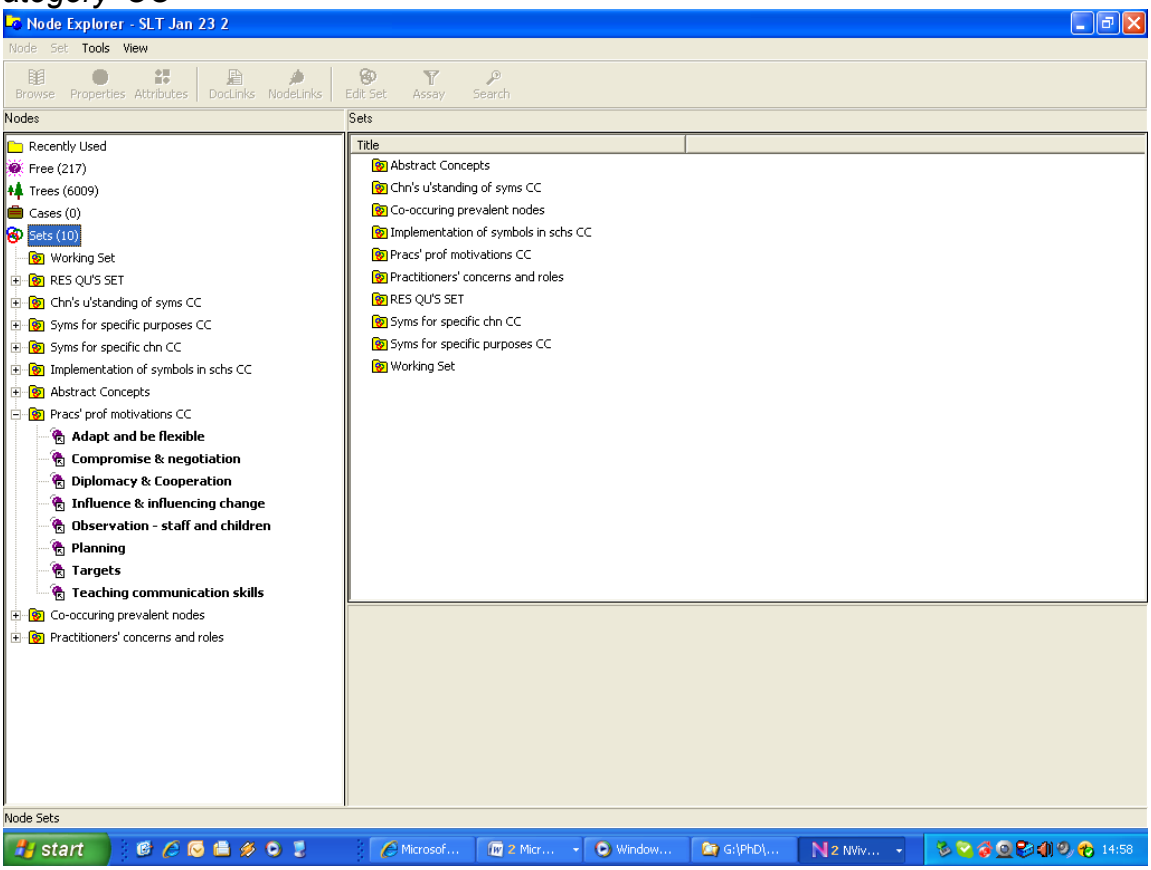
Title	Passages	Created	Modified
AAC	18	10/10/20…	16/06/20…
Abstraction	6	17/10/20…	16/06/20…
Acknowledgement of…	3	13/10/20…	11/12/20…
Adapt and be flexible	11	13/10/20…	16/06/20…
Adapt, differentiate,…	3	27/10/20…	16/06/20…
Advice, training, de…	76	24/10/20…	26/06/20…
Age range of clients	9	10/10/20…	16/06/20…
Approachability	4	10/10/20…	11/12/20…
Assess understandin…	26	13/10/20…	16/06/20…
Assessment	18	25/09/20…	16/06/20…
Attention skills	7	24/10/20…	24/12/20…
Autism	13	02/01/20…	16/06/20…
Autism and visual	6	27/10/20…	24/12/20…
Back to basics	3	30/10/20…	09/12/20…
Bank of symbols	1	13/10/20…	23/12/20…
Base	12	24/10/20…	05/01/20…
BEST QUOTES	59	23/10/20…	16/06/20…
BoardMaker symbols	3	30/10/20…	23/12/20…
'Bright' PD children	3	31/10/20…	10/12/20…
Building association	4	22/10/20…	24/12/20…

The development of themes, subthemes and theoretical constructs and establishing hierarchical systems within the data

The refinement of the node system generated a much shortened list of nodes. At this stage, the resulting nodes were considered to be indicative of loose groupings of 'candidate categories' (clusters of repeating ideas) used for grouping passages of data which were related in some way. 'Candidate categories' were then

scrutinised by examining the evidence in the data to develop themes and subthemes to represent repeating ideas and concepts within categories. Figure 13 shows the grouping of nodes into sets representing 'candidate categories'.

Figure 13 – Screen shot showing sets in NVivo2 grouping nodes by candidate category 'CC'



Using the refined node system, the researcher worked with the software to review the prevalence of each node by scrutinising the passages of coded data and selecting nodes which were coded to more than ten transcripts. These nodes were then compiled to form a new list of the most prevalent nodes across all of the three

professional groups. Nodes which were prevalent to some professional groups and not others were also noted. The result was a list of nodes which were prevalent to all professional groups and lists of nodes that were uniquely prevalent to one or two professional groups.

> Research journal entry (05/01/09)
> (I am discovering that) deciding which nodes are 'prevalent enough' to be considered in relation to 'candidate categories' is highly related to the researcher's knowledge of the rest of the node system because some nodes might not appear significant in isolation but are substantiated when referred to alongside other nodes.

The most prevalent nodes across the three professional groups were compiled as a new list. The researcher then engaged with this list and experimented with grouping the nodes, noticing potential 'categories' and organising them hierarchically on the basis of inter-relationships and apparent inter-dependencies. This was a further process of grouping the much shortened list of nodes and proposing groups of nodes as candidate themes (Kelle, 1995). 'Candidate categories' were closely examined and broken down by attempting to recognise groups of ideas within each category, for example, the category which contained all nodes about 'ways of working' was broken down into; 'collaborative working', 'implementation of symbols' and 'consistency when using symbols'. These groupings of nodes were tentatively proposed as themes and evidence for these themes was evaluated.

At this stage the nodes that were selected as potential themes were:

Children's understanding of symbols
Collaborative working
Consistency of symbol use
Expressive difficulties
Introduction of symbols
Visual, multi-modality and multi-channel
Objects of reference
Preparation of symbols
Progression through levels (developmental progression)
SLTs in schools
Support for children in schools
Symbol software
Symbols and all or lots of children
Symbols and specific children
Symbols and training
Time is limited
Visual timetables

Not all of the candidate themes were defined into final themes. Transcripts were reread and recoded, where applicable, using the refined node system. During this engagement with the transcripts the proposed themes were evaluated and their applicability and loyalty to the raw data was considered. In some cases themes were rejected, combined or redefined until the final set of themes was confirmed.

> Research journal entry (08/01/09)
> I have found myself exploring the coded passages for each category and theme and examining the fine detail of the data again. I realise that I am now coding down again. These processes feel quite natural … once you let the data guide you.

Table 10 (page 191) shows the development of Theme 2a from initial nodes and ideas, through to candidate category and finally as a theme. It also provides examples of journal entries and memos which show how the theme developed.

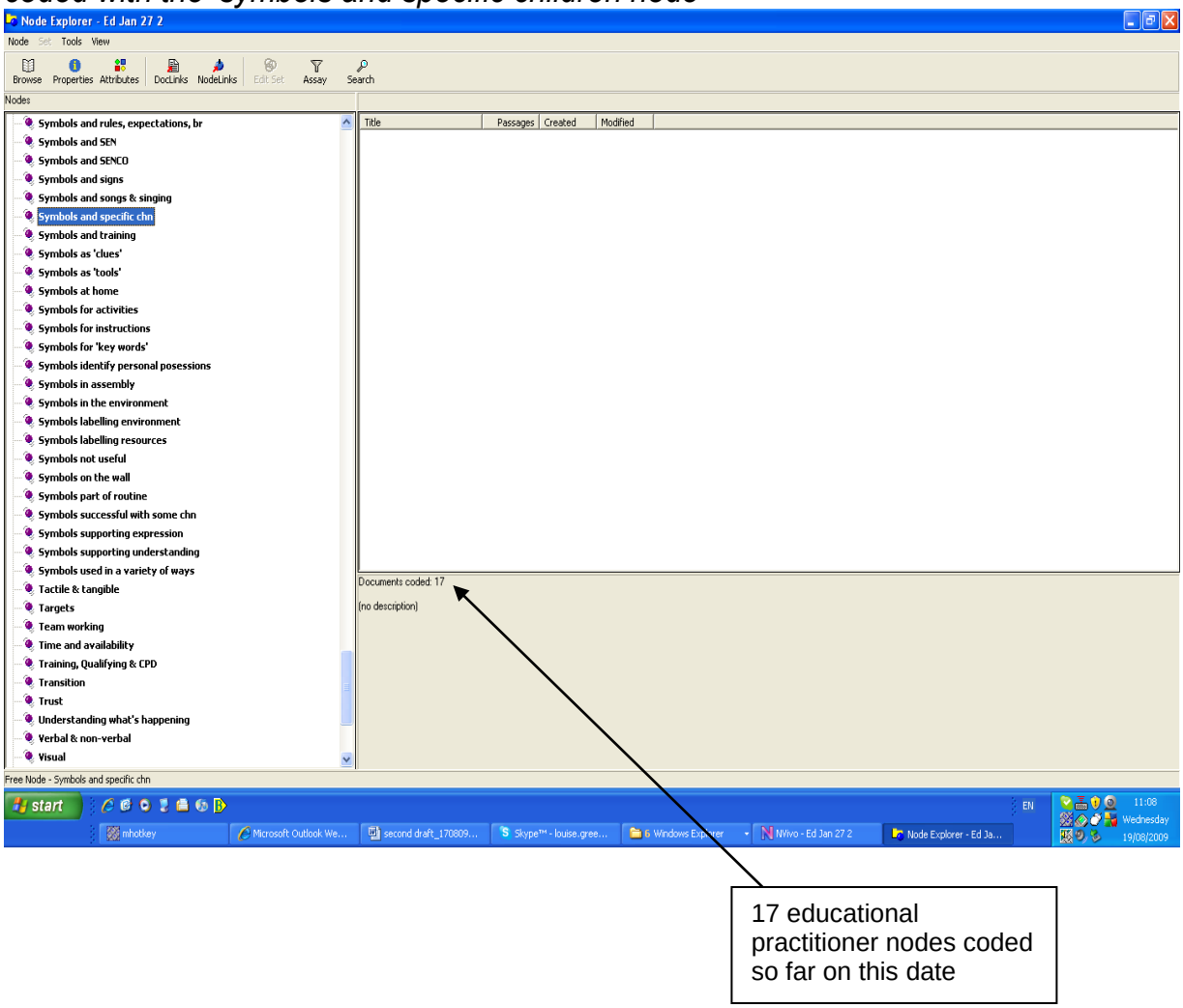
Prevalence of themes and subthemes was explored by determining the number of participants who referred to the most common topics and concepts in the data, for example, concepts were only considered for integration into themes if they were referred to by ten or more participants. Prevalence was tested by referring back to the data and looking at the number of transcripts coded to certain nodes. In some cases, the researcher acknowledged that candidate themes were not as prevalent as first thought and the development of themes continued as the findings were consolidated. Observations about the data that applied to fewer than ten participants were sometimes related to other aspects of themes but were usually not considered to be prevalent enough to reflect the data set. Figure 14 (page 192) shows the number of educational practitioner transcripts coded with the 'symbols and specific children' node was 17 on the 27th January 2009.

Using pen and large sheets of paper, the researcher experimented with organising the proposed themes hierarchically. A framework of themes was developed showing connections and relationships between themes and subthemes. Candidate themes were evaluated on their relevance to research questions and amount of evidence in the data, as well as their position in an over-arching framework of inter-connected ideas and concepts, which became the thematic framework (Braun and Clarke, 2006; Kelle, 1995).

Table 10 – Example of the development of a theme

Development of subtheme 2a	Relevant excerpts from research journal	Relevant memos
Emergence of nodes in initial coding : Children's understanding of symbols Comprehension difficulties Comprehension on (visible) child's face 'Coping' with symbols Prerequisites Progression through levels 'Readiness' (not an exhaustive list)	Research journal entry – 07/11/08 *'List of possible candidate categories included: Children's understanding of symbols'* Research journal entry - 20/11/08 *'Listed as a concept that 'came to mind' when merging nodes: Progression (in children's development) – stages/steps'* Research journal entry – 05/01/09 *'The 'children's understanding of symbols' node is very prevalent for all professional groups'*	Relevant memos: Node Memo 3 – 06/11/08 *'Children's understanding of symbols could be a theme, it is key to the data'*
Refined final theme and subthemes: Theme 2 – Practitioners' thoughts about children's understanding of symbols and representation Subthemes: 2a - Developmental progression 2b - Modality		Memo 2.34 / SLT 13 – 27/10/08 *The symbolic hierarchy, developmental progression idea seems to be conceptualised as either a 'backwards' and 'forwards' progression, or an 'up' or 'down'. There is evidence of both in the specific language the SLTs use when talking about it*

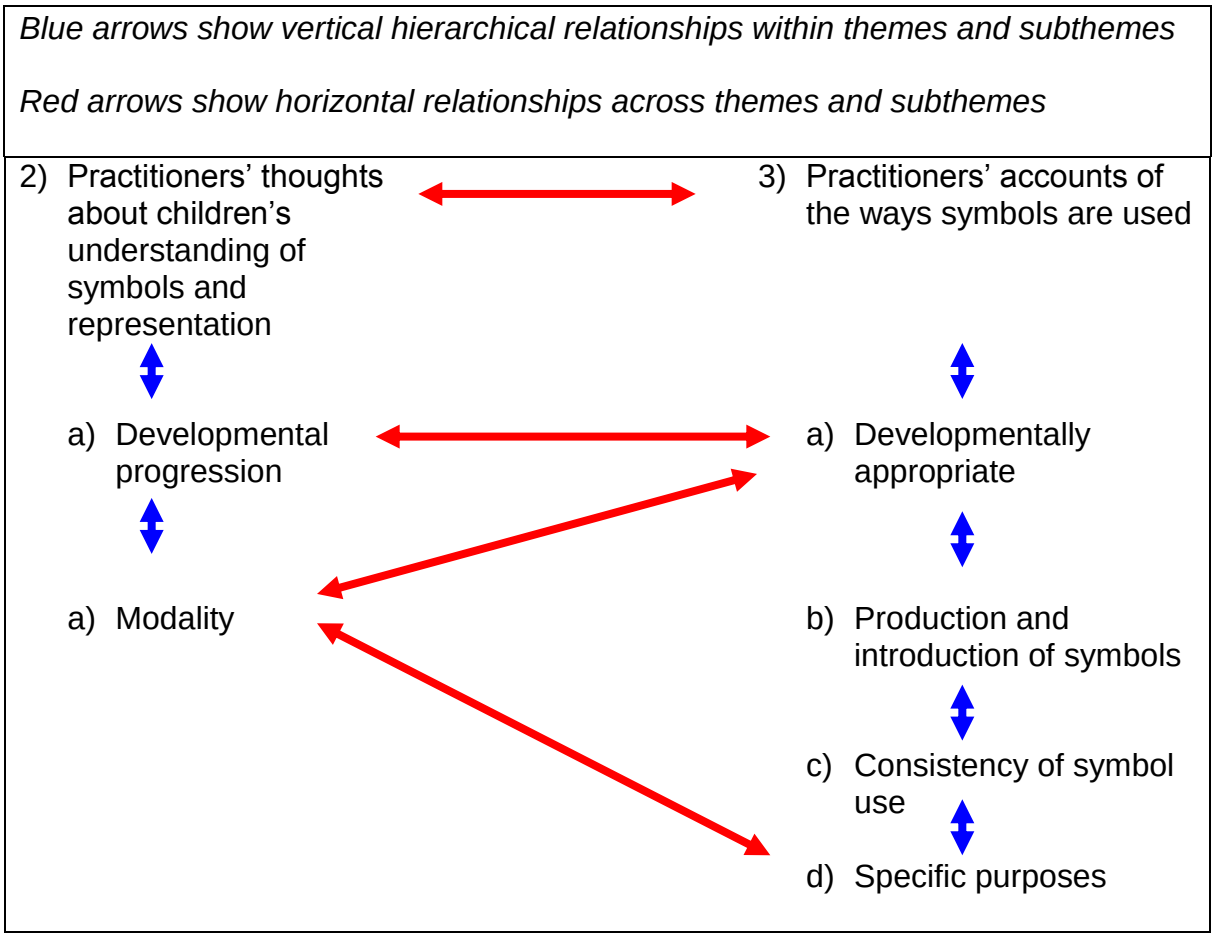
Figure 14 – Screen shot showing the number of educational practitioner transcripts coded with the 'symbols and specific children node'



The most abstract themes were placed on the highest level of the framework and related subthemes were listed below, moving down levels of the hierarchy as subsequent subthemes, showing more concrete examples, were identified. The hierarchy represented the levels of abstraction from the most abstract themes down to subthemes that contained more concrete and specific examples and

applications. The framework was also developed to show the relationships between themes and subthemes, vertically/hierarchically and horizontally across themes on the same and similar levels of the hierarchy. The thematic framework is introduced and explained in the following chapter. Figure 15 shows the inter-relationships between a series of themes and subthemes.

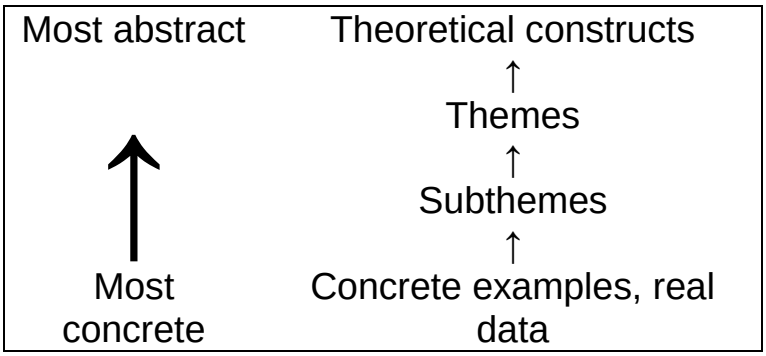
Figure 15 – Diagram showing an example of the relationships within and between themes



As the thematic framework was continually developed and themes were tested and refined, the researcher began to recognise and interpret possible theoretical concepts which were over-arching the thematic framework. The development of these concepts into two theoretical constructs contributed to an even more abstract theoretical level of explanation of the data. The theoretical constructs were developed as the researcher recognised wider groupings of patterns in the data which were interpreted as underlying frameworks of ideas and experiences. In order to meet the objectives of the analysis and seek to explain the data, rather than just describe it, the researcher attempted to identify and interpret the abstract processes influencing and governing the themes. These concepts became the theoretical constructs explained in Chapter 6.

Theoretical constructs were formulated as the thematic framework was refined and the researcher developed a theoretical explanation of the hierarchy of themes derived from the data. The hierarchical thematic framework was organised with abstract constructs and themes at the top with the least abstract subthemes at the bottom with concrete examples provided as quotes from the raw data. Figure 16 shows the development of findings beginning with the concrete examples in the data and increasing in abstraction.

Figure 16 – Diagram to show the development of findings



Development of the explanatory narrative

The next stage of the analysis was the development of the explanatory narrative, an explanation of the theoretical constructs and thematic frameworks and their inherent inter-relationships and inter-dependencies. The narrative was developed to accompany the thematic framework and make explicit the links between themes, subthemes and the theoretical constructs. The narrative, like the themes and subthemes, was grounded in the data but required analytical interpretation to identify the full extent of the connections between different aspects of the participants' experiences. The narrative was developed to 'tell the complicated story' uncovered in the data (Braun and Clarke, 2006, p.93). Through the narrative, the researcher has explored and sought to explain the 'glue' holding the theoretical constructs, themes and subthemes together. The researcher explored the ways these concepts are related and attempted to address the findings as a system or network of inter-related ideas.

The narrative served to summarise the main argument developed from the findings and conclusions and the relationship these have to the research questions. The theoretical constructs and thematic framework are embedded in the explanatory narrative which attempts to capture the 'essence' of the findings. The narrative provides explanation of the over-arching theoretical model which encompasses the complete findings. The narrative is explored throughout Chapters 5 and 6.

Relating to research questions and evaluating the theoretical findings

During the analysis the researcher remained focused on the research questions. As familiarity with the data developed, the researcher addressed each research question in turn and considered what aspects of the data may become part of a response to that question.

> Research journal entry (07/11/08)
> By breaking the research questions down a bit more I have come up with some ideas about the aspects of the data my responses to the research questions may draw upon.

Specific responses to each of the research questions drawing upon the findings were developed. Findings were compared with existing literature and observations about the relationship of the data to existing research topics were made. These are explored alongside the conclusions of the analysis in Chapter 7.

4.5 Summary

This chapter discussed the various stages of the analysis of data. The use of QSR NVivo2 software for the facilitation of data management was explored. The research process was summarised and then described in detail. The researcher explained how the findings developed through a form of thematic analysis and provided evidence for interpretative practices. The researcher also considered how the philosophical framework has been applied to the analysis and how the research questions remained central to interpretation of the data.

The following two chapters present the findings of the research. The first presents the thematic framework developed and the second demonstrates how the findings developed into a theoretical framework.

Chapter 5 – Findings Part One: Thematic Framework

5.1 Introduction

The following two chapters contain the findings of the analysis of the interview data. The analysis led to the development of a series of themes and subthemes which are introduced in this chapter. The themes and subthemes are presented in a hierarchical framework to demonstrate relationships within and between the themes. Passages of the data are provided as evidence for the themes and subthemes and are presented verbatim as recorded during the interviews. Passages of data are referenced by the name and number of the transcript they appeared in, as well as the paragraph number. Additional information about the quoted participants is available in Table 8 (page 151). The thematic framework applied to all three professional groups, however, differences between the professional groups are discussed later in the chapter.

Two abstract theoretical constructs were developed, as well as an explanatory narrative providing an over-arching explanation of the findings as whole. These are introduced in the following chapter (Chapter 6). The findings provide a theoretical framework, incorporating the thematic framework and the theoretical

constructs and narrative. The findings as a whole demonstrate a unique interpretation of the data, grounded in the participants' original accounts. The process of developing and consolidating findings is evaluated in the Chapter 7.

5.2 Introducing the findings – The Bigger Picture

The system of themes which has been developed reflects the trends, patterns, and relationships in the data set. The thematic framework is introduced below and an explanation is given for each theme and subtheme, as well as the context in which the themes occurred. The themes that were developed were refined and defined based on their prevalence across the data and the researcher's interpretation of evidence. Descriptive terminology was developed to indicate degrees of prevalence when discussing the data and findings. '**The majority of the participants**' indicates that all participants with the exception of five or fewer. '**Most of the participants**' indicates approximately three quarters of the participants (approximately thirty). '**Some of the participants**' indicates between one quarter and one half of the participants (approximately ten to twenty-two).

The themes represent substantiated 'repeating ideas and patterns in the data' and indicate units of meaning, as interpreted by the researcher. However, the themes are largely inter-related and an explanatory narrative has also been developed, representing a theoretical explanation of the themes and their inter-connections.

The inter-connections between themes are discussed in detail in the following chapter where the findings are developed to an abstract theoretical level.

Interviews were conducted with three groups of practitioners; teachers, EYPs and SLTs. The analysis was carried out with the intention of exploring the experiences of all participants across these three groups. Similarities and differences between the groups were noted. There were aspects of the accounts given by teachers and EYPs that were frequently very similar. As a result when discussing and explaining the themes the researcher has often used the term; 'educational practitioners' to demonstrate that a particular trend, pattern or theme was prevalent across the two professional groups; teachers and EYPs. Where there were differences in the accounts of teachers and EYPs, this has been indicated.

Towards the end of this chapter the differences between professional groups have been explored and discussed and are presented as; differences between educational practitioners and SLTs, and, differences between teachers and EYPs.

5.3 Themes and subthemes identified with supporting evidence

The 4 themes that were identified are presented below with accompanying quotations from the transcripts. These themes represent an interpretation of the experiences and attitudes of the individuals who were interviewed. Figure 17

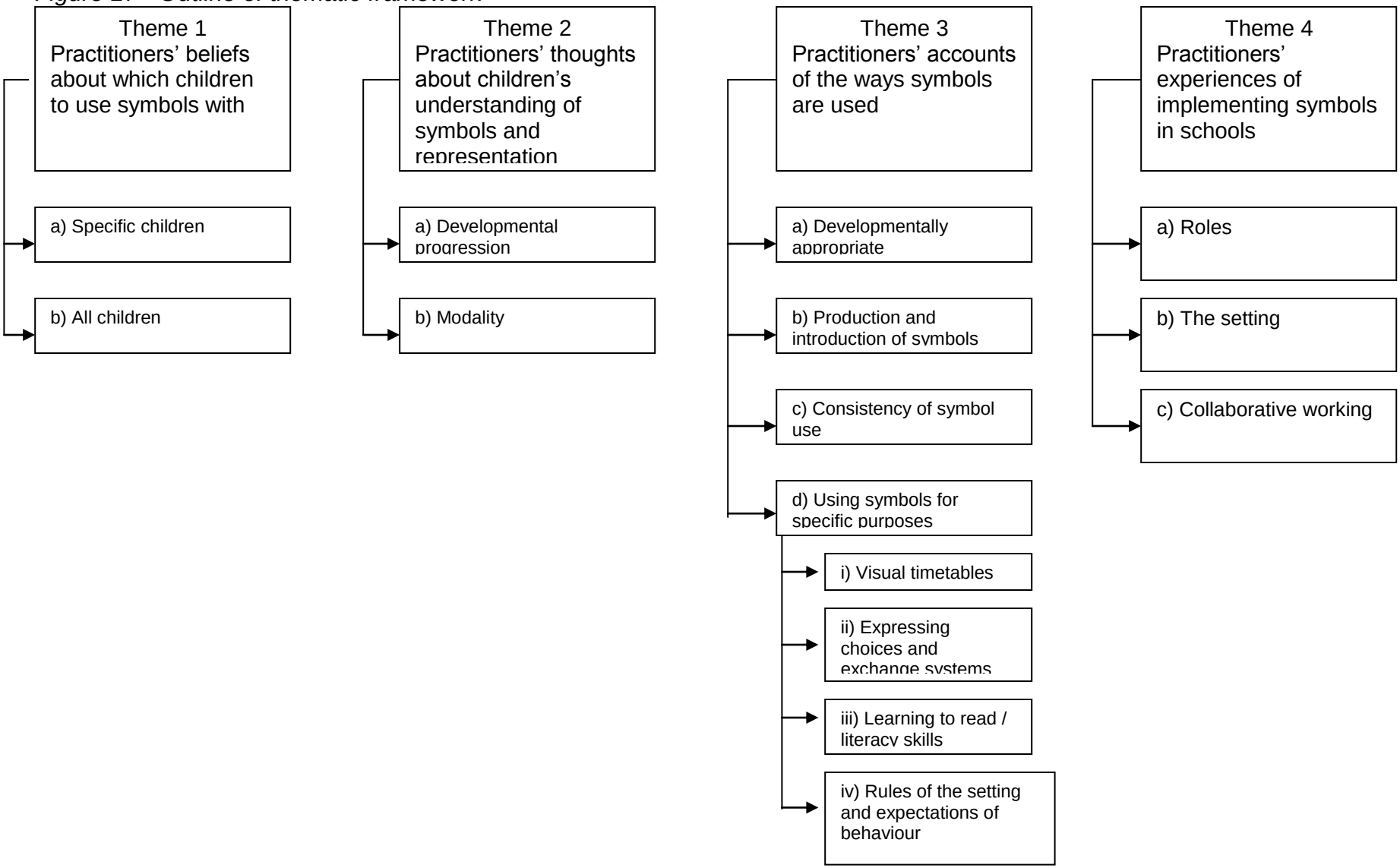
(page 202) shows an outline of the hierarchical thematic framework. Themes and subthemes will now be discussed in turn.

5.3.1 Theme 1: Practitioners' beliefs about which children to use symbols with

There was a considerable amount of agreement among participants across each of the three professional groups that the needs of the children were at the heart of their practice and governed the decisions they made while working in schools. The participants expressed a strong commitment to keeping the children's needs at the centre of their use of symbols. Children's needs appeared to be the first thing that practitioners considered when using symbols and this led them to decide which children to use symbols with.

> TA13 - Everything that we've, that I've mentioned previously (ways that symbols are used) has been what we decided we need for our children.
> (Paragraph 124)
>
> NN3 - ... (when using symbols in schools) you meet the needs of that child with what they need ...
> (Paragraph 174)
>
> SLT 11 – … at the end of the day it does have to primarily be about the needs of the child.
> (Paragraph 185)
>
> SLT 16 – It's finding the best fit for the child ... and their need.
> (Paragraph 41)

Figure 17 - Outline of thematic framework



This theme is divided into two subthemes representing two distinctly separate and, at times contrasting, sets of beliefs about which children to use symbols with and why. One group of approximately 23 participants suggested that symbols should be used with 'specific children' and these children only. The other group of approximately 17 participants referred to using symbols with 'all children'. Participants expressing both of these views were spread across the three professional groups.

5.3.1.1 Subtheme 1a) Specific children

Many of the participants referred to their experiences of using symbols with specific children with a range of needs. This varied from using symbols with the child on a one-to-one basis, to using symbols with a larger group to benefit an individual child within the group.

Participants often implied that the child concerned 'needed' the symbol in some way or that the symbols 'met a need' and were effective in supporting that child. This theme represents the belief held by some participants that symbols should be used with children who have a 'need' for them (this belief reflects an aspect of a 'tension' in the data, explored in Chapter 6).

> T8 - … the next class along didn't (use symbols) because they didn't have a special needs child … that was identified as needing that sort of thing … like autism or something.
> (Paragraph 106)

> T14 - I think they (symbols) tend to be used more on an individual basis … with children with specific needs.
> (Paragraph 246)
>
> SLT 6 - We don't use symbols specifically with every child.
> (Paragraph 110)
>
> SLT 15 - So symbol work <um> ... I have, do it in certain areas with ... and very very few children.
> (Paragraph 53)

There was a view expressed by some participants that not all children 'need' symbols and this affected their decision to use symbols with particular children.

> T11 - ... they (children) don't all need them (symbols).
> (Paragraph 262)
>
> TA15 - There may be children in there that don't … perhaps … need it as much as the others …
> (Paragraph 94)
>
> TA17 - I don't think we've got any that need them (symbols) at the moment.
> (Paragraph 162)
>
> SLT 14 - ... there's only a small number of children that actually need them in the school. Most children don't, don't need them.
> (Paragraph 173)

The 'need for symbols' was seen to be governing whether these practitioners felt they should use symbols or not.

The 'need for symbols' was often related to difficulties or disabilities that the children were believed to have. Participants frequently referred to the range of needs of children in the FS school setting. Participants sometimes referred to groups of children based on a recognised and/or identified area of need,

including; autism, physical difficulties, English as an additional language (EAL). Some participants referred to these areas of need when recalling their experiences of using symbols and suggested that symbol use could be used in various ways to support specific needs.

Some participants referred to children with autism and their needs when discussing their use of symbols, often naming specific ways of using symbols (visual timetables, PECS) and discussing the reasons why these tools were useful for children with autism.

> T7 - I think it's (symbols) … usually very successful with our children … who … have got a diagnosis of autism.
> (Paragraph 144)
>
> SLT 4 - So in terms of the autism <um> … we would definitely go in with <um> the symbol approach.
> (Paragraph 77)

Participants shared accounts of working with children who had difficulties expressing themselves for a number of reasons, including; physical difficulties, EAL, and a range of learning and communication difficulties. Participants showed an awareness that many of these children could not express their basic needs, choices or wants like other children and were excluded from certain communication opportunities as a result.

> T5 - … children that have difficulty <er> communicating ... because they can't express, they can't communicate what their needs are and how they are feeling.
> (Paragraph 122)

> SLT 12 - ... some children will know what they want but just haven't got the words to tell you what it is.
> (Paragraph 177)
>
> SLT 14 - ... children who can't express their ... <um> needs and things ... ('need' symbols)
> (Paragraph 157)
>
> SLT 15 - ... there will be specific children who ... cannot vocalise the choice that they want.
> (Paragraph 201)

Some of the participants gave accounts of their experiences of working with children with learning difficulties, and difficulties in understanding, and discussed using symbols with these children. Participants referred to the cognitive development of the children they worked with and their ability to understand information and comprehend language. There was an assumption that these children 'needed' symbols to understand certain things.

> T7 – (when asked why symbols are used) ... to, <um> … you know, help children understand.
> (Paragraph 144)
>
> T11 - ... we might say the children who need symbols … might have more learning difficulties.
> (Paragraph 270)
>
> TA16 - But it (symbols) does help those children with special needs who may not have as great an understanding as somebody else …
> (Paragraph 74)

Many of the participants interviewed mentioned that there were high numbers of children with EAL in the school setting that they worked in. Participants often observed that some of the children in the setting varied in their understanding of, and ability to speak, English, from no understanding of the language, to good

understanding and expression in English. Participants who referred to EAL issues in the interviews often referred to the anxiety and confusion that these children were likely to experience. Participants were concerned that children with EAL needs could not understand what they were saying and could not be understood when they spoke in their first language. This was given as a reason for using symbols.

> TA8 – … we couldn't understand what he was saying and he couldn't understand what we were saying.
> (Paragraph 142)
>
> T5 - All of these signs and symbols, again, help all of the children that we have in this setting now that have got English as a second language.
> (Paragraph 106)
>
> TA9 - ... we also find it (symbols) helps with children <er> the <erm> <er> you know, the children that don't speak English.
> (Paragraph 146)
>
> SLT 15 - ... we've got children with English as a second language ... a lot in <city>, so it (symbols) helps children like that.
> (Paragraph 197)

Although many participants referred to using symbols with specific needs and sometimes grouped children by their needs, others referred to the use of symbols with 'all children',

5.3.1.2 Subtheme 1b) All children

Many participants across the three professional groups gave accounts of using symbols with all children. The reasons given for this varied but some

participants appeared to reject the idea that only certain children 'need' the symbols, and suggested that all children could potentially benefit from their use.

> T14 - ... it (symbols) benefits everybody as a whole, I think...
> (Paragraph 246)
>
> TA7 - I think … if the tool is right you can use it with, with any child.
> (Paragraph 154)
>
> TA12 - I think it (symbols) would <um> … be beneficial to quite a lot of children.
> (Paragraph 178)
>
> SLT 9 – (talking about her approach to using symbols) … looking at symbols for all children.
> (Paragraph 73)

This indicates a conflicting view with those expressed in the previous subtheme, where it was suggested that symbols should only be used with children that 'need' them. Many of the participants referring to use with all children appeared to be focusing on 'potential benefit' rather than an identified need. Several reasons were given for using symbols with all children. A number of SLTs appeared to suggest that the implementation of symbol systems in schools was more effective if educational practitioners could see the benefit for a greater number of children. These SLTs explained that they emphasised this point when suggesting symbols to educational practitioners.

> SLT 5 - ... (I) say to the whole school or the teachers, 'this will benefit a number of children in your class' ... ... I think, if you can sell it to them as what's in it for them and that it benefits a larger group, you're more likely to get a positive response.
> (Paragraph 54)

> SLT 12 - ... we try and sell in that way, you know, it isn't specific for ... you know, the child that you've got difficulties with, it's like a universal thing.
> (Paragraph 101)

> SLT 14 - And also because it's used in a whole group ... other children can benefit from it as well.
> (Paragraph 157)

In some interviews SLTs recognised that individual children using symbols were dependent on other staff and children using symbols also, in order to be able to communicate with a range of communication partners. This led them to their reasons for encouraging all children to use symbols. The data in this area suggested that providing all of the children in a setting with ample and appropriate communication opportunities was seen as a complicated task by some participants.

> SLT 5 – (if communication partners are restricted)… only those two people can communicate using symbols which … isn't our goal.
> (Paragraph 58)

> SLT 15 - ... it's making an opportunity for them to communicate in some shape or form with, you know, the LSA or the teacher, or a peer.
> (Paragraph 201)

> SLT 16 - If they (children) haven't got good communication partners ... then you're not really helping them.
> (Paragraph 93)

The data surrounding this subtheme suggests that, while many participants agree that symbols can be used with all children, the reasons behind this may depend on professional role. For example, SLTs are motivated to encourage

symbol use with all children because it facilitates communication opportunities for individual children using symbols, who are the focus of their work in schools.

5.3.2 Theme 2: Practitioners' thoughts about children's understanding of symbols and representation

This theme relates to data surrounding practitioners' discussion of aspects of the way that children understand symbols and representation. This set of inter-related ideas in the data is particularly complex and abstract in places, and deals with participants' understanding of cognitive development. This theme is concerned with the considerations of using symbols with young children, in terms of their development towards understanding different types of representation and how this would affect practice.

The theme is divided into two subthemes. The first is concerned with the concept of the development of children's understanding representation as a progression. Participants' thoughts about possible stages in this developmental process are discussed, as well as their accounts of ways to assess this development. The second subtheme addresses the concept of 'modality' and graphic symbols as a visual mode of representation. Participants' discussion of 'modality' sometimes included references to the use of more than one mode and reasons for doing this when working with children and using symbols.

5.3.2.1 Subtheme 2a) Developmental progression

Many of the participants were aware of the complexity of understanding the function of symbols and relating this to how children make sense of symbols. Participants discussed the development of skills involved in understanding symbols and some participants saw this development as a sequential process occurring over time.

> T7 - … I think it (the use of symbols) depends on the children's cognitive development really.
> (Paragraph 167)

Some participants implied that during the early stages of this developmental progression children would have very little understanding of representation. Children would typically develop from understanding basic representations, for example, objects of reference, to very abstract representations, such as text. This process was often linked to other aspects of children's development, for example, understanding written words (reading) (subtheme 3diii). There was considerable agreement among participants that this development is a progression followed by most children, although there are subtle differences in terms of children's needs and difficulties. Children were seen as above or below certain 'levels' or 'stages'. Participants did not go into detail about the meaning of these 'levels' but sometimes related them to using symbols in ways that were developmentally appropriate (subtheme 3a).

> NN2 - ... she (a child) won't be able to do this, cos she's still on … don't know, the level below.
> (Paragraph 249)

> TA15 - And then there's children that are a lot lower than their developmental level ...
> (Paragraph 70)
>
> SLT 4 - ... you may be thinking that (the) child needs to move on to the next stage.
> (Paragraph 122)
>
> SLT 13 - You know, you might go in and say, 'OK, they're at this level, they're doing this beautifully ... can we move it on to the next level'.
> (Paragraph 178)

The majority of participants referred to children's understanding of symbols at some point and talked about this with varying degrees of confidence and familiarity. Some participants appeared to believe that children's ability to understand representation (the depiction of a referent through a 'symbol') was connected to their cognitive capacity to recognise that the 'symbol' relates to the referent it refers to. In various ways, participants implied that the function of the symbol was to represent a concept and make the child 'think about' that referent or 'bring it to mind'.

> NN2 - ... So with just the picture, they're (children) not, they're probably looking at it thinking of something else.
> (Paragraph 205)
>
> TA13 - So the symbol is there, they (children) can see what it's representing.
> (Paragraph 136)
>
> SLT 13 - ... obviously the child needs to understand that the symbol represents ... what it represents ... which can be quite difficult with some of the children I work with.
> (Paragraph 102)

References were made to the exploration and assessment of children's understanding of symbols and/or representation

> TA10 - ... what are they (children) going to relate to? How far does their knowledge go? Are they going to recognise?
> (Paragraph 110)
>
> SLT 5 - Can they then understand … that that line drawing represents … a drink or a biscuit or something ...?
> (Paragraph 85)
>
> SLT 14 - I've got to identify where the child's at and what they need to work on.
> (Paragraph 101)

Several SLTs appeared to imply that the ability to match objects, photos and symbols to the original object, or a representation of the referent, was an indication of the development of children's understanding of representation.

> SLT 4 - ... so a first stage would be object matching.
> (Paragraph 97)
>
> SLT 9 - And you'd probably look at whether a child can match <um> photographs, objects, to see if they understand that representation.
> (Paragraph 101)

Some of the participants talked about how they taught children the meaning of certain symbols and how they developed children's understanding of those symbols. These participants articulated this as 'building an association' between symbol and referent, recognising the representational relationship. Participants appeared to be suggesting that they believed they played an active role in supporting children's development of understanding symbols and representation.

> T3 - ... we've taken them (symbols) to assembly and then shown them (children) the picture while we were there, so the next time they're associating going to the Hall with that picture ...
> (Paragraph 143)
>
> SLT 9 – Really just using symbols throughout the environment and the setting to show children the relationship between objects and symbols ...
> (Paragraph 69)
>
> SLT 12 – Often we say ... 'if it has been kind of <um> ... everything's labelled round the room they'll see it so often that they'll, they'll learn to associate those two together'.
> (Paragraph 133)

Some participants emphasised the need for symbols to be 'meaningful' or to be used 'meaningfully', to have some meaning to the child. This suggested that these participants believed that a symbol would have meaning when the child could recognise the purpose of the symbol and identify what it was intended to represent.

> T11 – They (children) think, 'oh I know what that means, that means more to me than that one'.
> (Paragraph 178)
>
> TA15 - ... pick out the words that are gonna mean something, the symbols that are gonna mean something.
> (Paragraph 138)
>
> NN1 - … they've (children) got to understand what the symbol means.
> (Paragraph 377-379)
>
> SLT 10 - ... giving children something, a picture or, you know, a graphic representation to hang a meaning on.
> (Paragraph 141)

Some of the participants showed a general awareness of a continuum in representation from concrete to abstract. The referent itself could be concrete

(apple, cat, chair), or abstract (thoughts, feelings, time) and the symbol could be concrete (objects of referent), moving through to the more 'abstract' modes of representation (opaque graphic symbols, spoken/written words, representations that did not resemble the referent). This continuum from concrete to abstract is discussed in more detail in subtheme 3a. The proposed continuum of representation was related to the development of children's understanding from concrete to more abstract representations. The terminology for this concept varied between professional groups. For example, SLTs used the term 'abstract' but educational practitioners did not.

> SLT 4 – The (graphic) symbol is the most sort of abstract ... representation.
> (Paragraph 93)
>
> SLT 9 - ... they (children) start beginning to understand more sort of <um> abstract symbols.
> (Paragraph 101)
>
> SLT 10 – And we're moving away in terms of kind of levels of abstraction from the original object itself.
> (Paragraph 221)

This finding could be due to the fact that SLTs receive more training in the area of representation and using alternative modes of communication. Rather than using the terms 'concrete' or 'abstract' directly, educational practitioners more frequently referred to the importance of using symbols that were 'simple', 'clear' and 'straightforward', suggesting a difference in terminology or vocabulary.

> TA8 - They're really simple straight-forward pictures.
> (Paragraph 142)

TA14 - And it's just very straight forward.
(Paragraph 142)

T9 - … it's those pictures, very clear pictures.
(Paragraph 94)

TA16 - … very very simple symbols …
(Paragraph 114)

Discussion of developmental progression was often linked to the second subtheme 'modality'. Participants appeared to be aware of the considerations in using different modes of representation, depending on their developmental level and additional needs and strengths.

5.3.2.2 Subtheme 2b) Modality

Many of the participants appeared to be aware of the existence of a range of 'modes' of representation, including; objects of reference, photographs, symbols and text. They also appeared to recognise that representations can also be delivered through more than one 'channel', for example, visual and auditory channels. Many participants drew attention to the 'visual' nature of symbols in their discussion of the function and advantages of symbols. Some participants gave reference to the use of more than one mode or channel simultaneously and appeared to be familiar with the concept of multi-modality. This subtheme represents the data surrounding this cluster of concepts.

When discussing their use of symbols, a great number of participants referred to the fact that graphic symbols are 'visual'. Participants used terms related to 'looking' and 'seeing' and mentioned 'visual clues' and 'reminders', 'visual

recognition' and 'visual learners'. Some participants were aware of an increase in emphasis on using the 'visual' modes of representation.

> T11 - ... they (children) need to see it visually …
> (Paragraph 274)
>
> T13 - I think children are becoming more visual now.
> (Paragraph 230)
>
> SLT 5 - And we know that it's a really important part of understanding … visual, what we get visually.
> (Paragraph 74)

There seemed to be an element of consensus that 'visual' stimuli are easier to understand than 'auditory' and this was a reason for using visual symbols with certain children.

> TA12 - ... one of the little girls ... everything's just straight over her head. … ... But I think, the chance of her improving will be better by having the visual symbol than it would without.
> (Paragraph 146)
>
> SLT 12 - ... if they (children) do have processing problems … … they're gonna find that very difficult to hear what you've said, process what you've said and then realise kind of, 'oh yeah, that's what that is'.
> (Paragraph 133)

Some participants seemed to hold a belief that specific children benefited from 'visual' stimuli more than other children.

> T7 - And like there are some children, you know, that will always learn better … with visual prompts … anyway.
> (Paragraph 120)
>
> T11 - I suppose you could say they (children) were visual … learners.
> (Paragraph 270)

> T12 - ... some children learn visually.
> (Paragraph 178)

Some participants believed that children with autism responded better to visual information than other sensory channels. The full reasoning behind this belief was not clear in the data. When asked why they thought that children with autism responded well to 'visual' stimuli, participants did not seem to be able to draw upon a reason, other than these children were 'visual learners' or had 'visual strengths'. The precise meaning of these terms was unclear.

> SLT 8 – I suppose with the children on the autistic spectrum ... you're working to their ... kind of ... visual strengths.
> (Paragraph 110)

> SLT 13 – Because children with autism tend to be very visual ... learners.
> (Paragraph 142)

> SLT 15 – I think, to be honest, it's because they, they understand ... visual things, rather than the word, spoken word.
> (Paragraph 221)

Alongside the suggestion that some modes are easier to understand than others, some participants discussed the idea that children had a greater chance of understanding information if the message was presented in more than one mode or using more than one channel. For example, a child might understand that it was time for a snack if the practitioner told them verbally (giving an auditory signal), as well as showing them the graphic symbol (giving a visual signal).

> TA/SENCO1 - Verbal and visual together ... combination.
> (Paragraph 124)

> SLT 12 - ... so you can see it and you can hear it at the same time.
> (Paragraph 133)

In some cases, participants appeared to believe that a multi-modal approach was beneficial because certain children may have a higher ability to comprehend one than the other, for example, visual over auditory, whereas other children may not. Other participants suggested that the chances of children understanding a message were simply increased because the message was presented in more than one way. Some of these participants expressed the belief that using more than one mode and/or channel to represent a message would increase the ways that a message could be 'absorbed'.

> T6 - ... it's attacking the child from all sides ... So it's, it's attacking some of the ones we can't get at with something else.
> (Paragraph 249)

> T7 - ... for them to actually just take in something that, you know, auditory … <um> it's just, you know, your limiting the way that they can absorb something.
> (Paragraph 120)

> T14 - ... if you're using more than one … style of getting your message across then … it's, you know, it's open to more people.
> (Paragraph 170)

> SLT 5 - ... you've got to access as many channels as you can with children.
> (Paragraph 121)

The consensus seemed to be that the more ways a message is communicated, the more likely that it will be absorbed and understood.

> SLT 10 - I just think that the more ways ... you use to try and communicate a message , the more likely the child ... is to understand it ... ... at least take a bit from each of them and ... use that to help them understand. (Paragraph 149)

5.3.3 Theme 3: Practitioners' accounts of the ways symbols are used

This theme is based on several collections of data that refer to participants' accounts of the ways in which they use symbols and their associated beliefs. This data included participants' accounts of how symbol use is influenced by their perceptions of children's development, beliefs about producing and introducing symbols and using them consistently, as well as a selection of specific purposes symbols are used for.

5.3.3.1 Subtheme 3a) Developmentally appropriate

This theme relates to a cluster of data which builds on developmental progression (subtheme 2a). Subtheme 2a referred to participants' perceptions and accounts of children's development in understanding symbols. This subtheme relates to how these perceptions influence their practice and represents a recurring suggestion made by participants that symbols should be used in ways that are 'developmentally appropriate'.

There was a trend across each of the three professional groups (although slightly less prevalent among the EYPs) that participants believed in the existence of a hierarchy of ways to represent information, ranging from easy to more complex to understand.

> T9 - ... And then gradually when you get a sense of when they're (children) ready for the next (point on the hierarchy).
> (Paragraph 102)
>
> SLT 8 - I would just expect to follow ... the kind of sequence of concrete, 3D, replica ..., right through to 2D, black and white, symbol. I would expect to, them (children) to move from one to the other.
> (Paragraph 142)
>
> SLT 10 - I have a bit of a hierarchy in my head about how easy things are for children to understand ...
> (Paragraph 221)

Participants who referred to this hierarchy were generally in agreement that the easiest way to represent a concept was with an object of reference, followed by photographs, and then graphic symbols. Participants gave reasons for this and often linked the hierarchy to the developmental progression of children's understanding of representation. Their use of symbols and other representational items within this hierarchy appeared to be linked to their beliefs about what would be appropriate for their developmental level.

> TA11 - … we start with object - object match. And then we will start with a photograph to the object … and then we would move on to the symbol … with the object.
> (Paragraph 218)
>
> SLT 4 - ... objects …, photographs …, symbols, line drawings, so that's a sort of developmental pattern for … which bit of that can, could that child access.
> (Paragraph 77)
>
> SLT 10 - ... So … for instance, the children who aren't understanding, I try symbols first … children who aren't understanding symbols, I might take a step backwards and try photographs or objects of reference with.
> (Paragraph 221)

As discussed in subtheme 2a, a number of participants believed that children's development advanced through a series of stages or levels. Participants suggested that use of symbols can be differentiated for individual children according to their developmental progress.

> T5 – (talking about using photos for visual timetables) ... we always start off doing photographs of the children doing those things first of all ... we then start to put on the symbols to go below, so that as progression, they will go off that and move on to just the signs and symbols afterwards.
> (Paragraph 102)
>
> T7 - … it usually depends on the stage of the child's development … because there are some children … that need the photo before the symbol ... ... because they're not actually developmentally ready to take on board the actual like symbols. And there are some children … pre-photos we'll do, real, objects. … <Um> So I think it depends on the children's cognitive development really.
> (Paragraph 162-164)
>
> SLT 16 - ... making sure ... that they're learning useful skills for the stage that they're at, that you're giving them ... some communication for the stage that they're at ...
> (Paragraph 145)

A number of participants gave accounts of assessing where children are in terms of their development in being able to understand various types of representation. Their interpretation of this assessment then provided the basis of 'where to start' and what means of representation to use with that particular child. SLTs in particular stressed that practitioners' should start with the 'mode' that is developmentally appropriate for the individual child.

> SLT 5 - ... some children, you can go straight to symbols …
> (Paragraph 82)

> SLT 13 - Obviously we'd start off perhaps with something like photographs.
> (Paragraph 102)
>
> SLT 16 - ... so you could start looking at ... objects.
> (Paragraph 137)

Acknowledging that there are children with a range of needs and difficulties in any classroom setting relates to the participants' accounts of differentiating their interaction with children and the learning opportunities they provide. Participants suggested that this differentiation also applied when using symbols in schools. In some cases, symbol use had to be 'broken down into smaller steps', introduced more slowly and / or started at different stages depending on children's understanding. This required some level of understanding of the needs and developmental level that children were at. Some of the educational practitioners suggested that it was possible to use symbols to support differentiation.

> T5 - ... it's (symbols) very good for differentiating your activities accordingly.
> (Paragraph 22)
>
> TA10 - ... so that it (symbols) can be directed to their (children's) ability ...
> (Paragraph 34)
>
> TA15 - ... you might need to push them (children) or you might need to bring it down to their understanding level so they can carry it out.
> (Paragraph 74)

Some participants explained that they were active in the process of adapting how symbols were used to correspond to these differences between the children they worked with, making activities more developmentally appropriate.

This was an issue that affected the way symbols were implemented in schools because it was seen to add to the complexities of maintaining functional symbol use for a range of children.

> NN2 - So I use that and, sort of, go down one level for that child. Cos she won't be able to do this, cos she's still on … don't know, the level below.
> (Paragraph 249)
>
> TA11 - ... you can expand it or bring it right back down to a low level. But, you know, whatever you need really.
> (Paragraph 306)
>
> TA13 - ... we just are adaptable to whatever the person's needs are as they arise.
> (Paragraph 48)

5.3.3.2 Subtheme 3b) Production and introduction of symbols to children

Some participants discussed their experiences of planning for the use of symbols and referred to how symbols were prepared and/or where they came from. When discussing how they prepared symbols for use, some participants referred to sets or banks of symbols that were in use in the school.

> T5 - ... over the years I've got a very big bank of the signs and symbols ...
> (Paragraph 102)
>
> TA14 - ... all the class teachers ... have got sets of signs and symbols ...
> (Paragraph 213)

Some participants referred to the use of symbol software and explained that they used this software to generate symbols and 'print symbols off'.

> T11 - We have got software so that makes it easier (to generate symbols).
> (Paragraph 174)
>
> TA9 - What I normally do is, I'll print a symbol off here and then take it, scan it and use it that way.
> (Paragraph 186)
>
> NN3 - ... I've actually got a set of print out ones (symbols) …
> (Paragraph 130)
>
> SLT 13 - ... in my previous role, I was quite involved in ... you know, printing off the symbols and all that really basic stuff and finding symbols for children.
> (Paragraph 98)

Symbol software packages were mentioned by a number of participants and were reported as being installed at a number of the schools involved in the research. Several specific symbol software packages were named, including; Writing with Symbols 2000 (Widgit Software ©), Communicate: in Print (Widgit Software ©), Clicker 5 (Crick Software ©) and BoardMaker v.6 (Dynavox Mayer-Johnson ©), and participants gave accounts of using them to generate and print individual symbols for use in schools.

Several SLTs discussed making or finding symbols for use in schools and explained that they would 'send' the symbols into schools. Some of these SLTs implied that they were not always responsible for making the symbols and that their role in the implementation of symbols was dependent on which other practitioners were involved (teachers, EYPs, special service early years teachers, inclusion support workers). Responsibility for producing / providing symbols varied and some SLTs suggested that the increase in the installation of

symbol software in schools had influenced the ways in which symbols were generated.

> SLT 7 - And they've (the school) got software now as well, so that helps, they get the software and symbols come out everywhere.
> (Paragraph 121)
>
> SLT13 - ... the schools have access to their own symbols ... programmes, so they can do that (generate and print symbols).
> (Paragraph 98)
>
> SLT 14 - Most schools, we make the resources for them ...
> (Paragraph 181)

The way symbols were introduced was discussed by a number of participants indicating that this was an important consideration in using symbols. There was some agreement that symbols should be introduced slowly and gradually, and, in some cases, subtly and naturally. Most participants believed that only a few symbols should be introduced to begin with.

> T9 - ... And initially we'll do that (introduce symbols), you know, one at a time when they first come in because … otherwise it would overload them (the children).
> (Paragraph 102)
>
> NN4 – ... we just kept to the, you know, sort of about five in the early days …
> (Paragraph 126)
>
> SLT 11 - ... we might just start with, you know, with one maybe, or maybe a few more if ... you know, if the child can deal with that ...
> (Paragraph 181)
>
> SLT 15 - ... I have to introduce it (symbols) very very slowly ...
> (Paragraph 237)

It was suggested by some participants that symbols could be introduced through play, within activities and in books. These were methods suggested by SLTs which were often accompanied by the assumption that introducing symbols subtly was best. One participant suggested that, this way, the use of symbols wouldn't be perceived as 'too weird' – SLT 16.

> SLT 7 - So we just introduce symbols into the play. <Um> So it's just part of what we do and it's, you know, we make it very natural.
> (Paragraph 169)
>
> SLT 16 - ... then just introduce symbols for activities, within activities ...
> (Paragraph 165)

Some educational practitioners implied that children should be given the opportunity to 'learn' the symbols and that, in most cases, children were able to do this fairly quickly. Educational practitioners described introducing symbols one at a time to the whole class and explaining what the symbol 'meant', and then repeating this on several occasions until the symbols had been 'learnt' (the child recognised and was able to name the symbol). This was interpreted as 'teaching' the children the meaning of the symbol.

> NN1 - ... when we're sat and we've got a whole class sitting down, <um> we introduce symbols to them, that's right at the very beginning (of the academic year) …
> (Paragraph 335)
>
> TA8 - ... we just went through them (symbols) and telling them (children) what it was ... ... just keep on showing it them and telling them what they mean.
> (Paragraph 186)
>
> TA12 - ... and then go round to each individual child ... … and show them the word and the symbol as well.

(Paragraph 114)

SLT 14 - And they (children) learn them (the symbols).
(Paragraph 117)

The general consensus was that symbols should be introduced gradually and few at a time. This indicated an overall assumption that symbols should be 'introduced' to children in some way before being used routinely.

5.3.3.3 Subtheme 3c) Consistency of symbol use

Participants were asked if they had considered consistency when using symbols and were encouraged to explore their beliefs about, and observations of, consistency. If they reported that symbols were used consistently, the researcher encouraged them to explore the ways in which they tried to ensure consistent symbol use.

Many educational practitioners reported that they felt that consistency was important when using symbols. Their reasons for this were related to minimising confusion by providing familiarity in the setting. Consistency was seen as particularly important at times of 'transition' when children were new to school, moving through school, changing classes and moving up into higher age groups.

T5 - If you can start off introducing a new, a new child into your classroom with all those things that they are familiar with it's going to help a lot.
(Paragraph 142)

> TA6 - ... if they go into a class and everything's done differently, the way it's taught, then it's gonna cause, confuse the children more.
> (Paragraph 66)
>
> TA16 - And I think the children … benefit. They know that they're going into a different class, that's the one … stable thing that they've got. Cos I just think it's, it is a big thing when you're this age to, to be moving class.
> (Paragraph 134)

Educational practitioners generally agreed that children would benefit from seeing something 'familiar' and using the same symbols around school was one way of ensuring this. Some participants suggested that symbols should be visually similar around the school environment.

> T9 - ... we use them (symbols) consistently. And I think that's really important. <Um> Because then as the children move up, they're used to it, they know exactly what it means.
> (Paragraph 94)
>
> T14 - we're all in the same environment so we tend to use it in the same way which keeps it consistent as well … which is important.
> (Paragraph 286)
>
> TA9 - It's no good starting with something down here and then when they get further up the school the … find that it's totally different system up there ... I think that would be wrong.
> (Paragraph 300)
>
> SLT 11 – (if consistency is ensured) … if a child moves from setting A to setting B and then to school B, then that means that hopefully the same symbols are being used across those settings ... so they're, they're not having to learn a completely new system.
> (Paragraph 97-137)

Despite the tendency for educational practitioners to suggest they felt consistency was important when using symbols, some of the SLTs interviewed

implied that symbol use in schools was not always consistent in their experience.

> SLT 7 - ... there are sixteen classes in the school, the chances are there will be sixteen different symbols for that concept
> (Paragraph 193)
>
> SLT 9 - … it is quite a challenge to get it (symbol use) consistent.
> (Paragraph 121)

5.3.3.4 Subtheme 3d) Using symbols for specific purposes

When discussing how and when they had used symbols, the majority of participants gave examples of specific systems and resources they had used. The most prevalent of these are outlined below. The specific ways of using symbols mentioned ranged from use with individual children to working with the whole class, and, symbols that were available at certain times only, to symbols that were accessible all the time.

5.3.3.4.1 Subtheme 3di) Visual timetables

The most frequently mentioned way of using symbols across all the three professional groups was as a part of a 'visual timetable'. For many participants, visual timetables were the first use of symbols mentioned in the interviews, leading to a great deal of discussion about the timetables used. Participants frequently described the visual timetables they used, explained how they were used and gave reasons for this.

The visual timetables referred to were usually described as a series of individual symbols presented as a strip representing individual elements of a session or period of time. General consensus was that they were used to show children what would be happening during a specific period of time and in what order. There was a general expectation that practitioners interacted with the visual timetable in some way and provided children with some explanation of what the symbols represented.

Many of the participants who discussed using symbol-supported visual timetables described the ways they were used, as well as the way they were organised and displayed to the children.

> T4 - ... we had like the routine of the day set out, you know, first it's register, then it's assembly, then it's playtime or whatever.
> (Paragraph 200)
>
> T9 - They're on, we have A frames in our bases ... ... we've put Velcro round the edge and so we have them velcro'd on, on the top of the board and then on the bottom ledge of the board is where we have our visual timetable.
> (Paragraph 114)
>
> SLT 13 - ... so they'd have the symbols on, perhaps enlarged symbols.
> (Paragraph 138)
>
> SLT 14 - So there's a kind of symbol, again, on a Velcro strip for each part of the day really. So there'll be 'assembly', 'register' ...
> (Paragraph 133)

Participants explained that having the symbols for the session's activities arranged on a strip provided children with a plan of the day, allowing them to see the progression of the day and see what was coming next. A number of

participants across the three professional groups asserted that they believed children liked and needed to know 'what was happening' around them and during the day. This was a reason given frequently for using visual timetables. Participants often suggested that children may feel anxious if they were unable to understand what was 'going on' or 'happening'. The visual timetable was seen as a way of showing children what was happening.

(All quotes referring to visual timetables)

> T5 – ... they (children) can see visually what is happening.
> (Paragraph 114)
>
> TA7 - ... some children just really like to know what they're doing ...
> (Paragraph 210)
>
> SLT 10 - I think one of the main ... beneficial uses is to help children understand what's happening.
> (Paragraph 125)
>
> SLT 12 - ... to help the children understand the routine of what will happen ... during the day.
> (Paragraph 105)

For some participants, an important aspect of supporting children's understanding of what was happening was demonstrating to them what was 'coming next'. This was also seen as a benefit of visual timetables by some participants.

> T14 - ... And for some children, they need that stability of knowing what's coming next and they don't cope well with change so it kind of gives them that security.
> (Paragraph 198)
>
> TA5 - ... they (children) do like to know what's coming next ...

(Paragraph 228)

SLT 13 - ... because they (children) can just refer back to it. So they know what activity they're doing, what's coming next ...
(Paragraph 138)

Some of the educational practitioners explained that they 'went through' the visual timetable at the beginning of the session, suggesting that they spent time discussing the timetable with the children. By 'going through' the visual timetable in this way on a daily basis and referring to the timetable throughout the day, the participants believed that the visual timetable became 'part of the routine'. This was believed to enhance children's understanding of what was going to happen. This finding applied to educational practitioners only.

T10 - So we'll, you know, describe an activity and I'll put the pictures on the board. 'This is what's gonna happen'.
(Paragraph 138)

T11 - ... we go through it every morning.
(Paragraph 250)

NN1 - ... we then go through what we're going to do in the day or the session.
(Paragraph 251)

TA8 - And the visual timetable we usually have a look at in the morning first thing.
(Paragraph 142)

In some cases participants described removing symbols from the timetable as the activity had been completed. The reasons given for this were related to demonstrating to the children the number of symbols/activities reducing so they could observe progression towards the end of the session. Some participants

referred to a ‘finished box’ of some kind, into which symbols were placed to show that the activity had ended.

> T5 - … we use the post-it system … ‘look, now that we’ve been and had time on the carpet, we’re going to post that card away, let’s see what we’re going to do next’.
> (Paragraph 102)
>
> NN4 - And then we’d use them and we’d do the whole, you know, taking them (symbols) off when we’d done it, ‘and now it’s such and such time’ …
> (Paragraph 138)
>
> SLT 5 - ... get the child to take them (symbols) off and post them in a ‘finished’ box to show when it’s finished’.
> (Paragraph 113)
>
> SLT 8 - For things like the children in the specialist setting, quite a few of them have got <er> ... ‘work’ and kind of ‘finished’ boxes, so you’re gonna work left to right and then on the box on the right you’ve got a ‘finished’ symbol. So I would move it across.
> (Paragraph 90)

Many of the participants implied that visual timetables were used to demonstrate to children that the school session was a period of time with a defined end point. The reduction of symbols helped show children the progress of time towards this end point. The end point was explained to children as the point at which caregivers returned. Some participants appeared to believe that using visual timetables in this way reduced children’s anxiety about being away from caregivers. This anxiety was interpreted as ‘separation anxiety’ due to being away from caregivers and was related to the reasons for using a visual timetable.

> T6 - ... there's all kinds of separation anxieties we have to deal with.
> (Paragraph 169)
>
> NN1 - The children who aren't secure at school … they can see these symbols reducing. The last one is 'home time', we're getting really close to 'home time'. <Um> … … and that's really when, why we use, use the symbols more, is to help children feel secure.
> (Paragraph 363)
>
> NN4 - ... and sometimes for quite a lot of our children … coming to school is still the first time that they've been anywhere away from … from the home.
> (Paragraph 150)

Many of these participants saw the potential role of visual timetables as helping children 'settle in'. Visual timetables were seen to provide reassurance during 'settling in'. The timetable was seen as having a role in reassuring children that the session would come to an end and caregivers would return.

> T5 - ... they see it working it's way down to when their Mummies are coming back.
> (Paragraph 102)
>
> NN1 - Well, this is what we're doing and as they reduce you're getting closer to seeing Mum.
> (Paragraph 367)
>
> NN4 - ... because it just gives them that little bit of extra assurance that, you know, they know the routine and that sort of thing.
> (Paragraph 118)
>
> SLT 14 - ... so ... really helps ... kind of just very functionally settle the children, so they know exactly what they're doing and when.
> (Paragraph 133)

Some participants reported positive effects of using the visual timetables for this purpose and gave accounts of children interacting with the timetables independently as they became aware of what the timetable represented.

> T9 - I've found that, they're (children) quite good, quite quickly pick up, you know, and respond well to it (visual timetable). They, they really want to, to follow that and it really does help.
> (Paragraph 102)

> T10 - ... the children know and respond to that really well.
> (Paragraph 138)

> NN1 - ... children will come to it half way through the morning removing them, cos that's what we do, remove the ones we've done.
> (Paragraph 363)

> TA8 - I think they (children) go to look at it a bit more.
> (Paragraph 194)

Some of the participants explained that they used visual timetables with children who had specific needs that visual timetables could support in some way. The specific needs of these children were related to a range of areas of difficulty, including; behaviour and emotional issues, difficulties coping with change, additional language and other communication needs. Some of these participants gave accounts of using individual visual timetables created solely for one child with needs in one of these areas.

> T12 - ... one particular boy, when … he comes in in the morning, he actually finds his visual timetable, puts on what he needs to do and then once he's done that job he posts it.
> (Paragraph 210)

> SLT 9 - And then some places have had very specific visual timetables in place for specific children.
> (Paragraph 69)

> SLT 11 – (talking about visual timetables) ... specifically for children with ... you know, communication difficulties, obviously.
> (Paragraph 97)

> SLT 12 - ... we do ... do individual ones (visual timetables) for children that, you know, that have needs as well.
> (Paragraph 101)

In other cases, the children with specific needs were given an individual amended version of the timetable that was accessed by the whole class. These were usually stored and accessed by the child separately from the visual timetable used with the whole class and were uniquely designed with the specific child in mind. In some cases the quantity and size of symbols used on visual timetables also varied.

> T8 - And it started off, when we first did it, it was supposedly like, if I had a special needs child in my class I was supposed to use a visual timetable … ... Obviously, if you've got a real special needs child, they've got then their own copy.
> (Paragraph 106-134)

> T10 - ... on his timetable you have a carpet time picture. And … I mean, I wouldn't put 'washing hands' on the main timetable, but his timetable has a picture that says, 'wash hands'.
> (Paragraph 170)

> T11 - Four of the children have got their own timetables that … that have got shorter bits on, you know what I mean, so and they can look at them.
> (Paragraph 234)

Some of the educational practitioners spoke of their use of visual timetables specifically to support children who were 'new' to the setting, or had EAL needs.

> TA7 - ... we've also used them for, for children that are new to English ... … we did use a visual timetable quite a lot because we did have a lot of children here who English is a second language.
> (Paragraph 190-222)

> TA8 - ... we had a little boy start with us <um> who came over here from Poland, who had no English at all. So we started the visual timetable up for him …
> (Paragraph 142)

> NN4 - ... one little girl this year that I'm thinking of in particular who … <um> has got English as an additional language … and came in with very little English … but she really latched on to the … the timetable.
> (Paragraph 138)

As with the use of symbols more generally, participants appeared to be divided in their beliefs about using symbols with 'specific children' or 'all children'.

The accounts the participants gave of their experiences of implementing visual timetables were varied and often appeared to be influenced by their professional perspective (job role). The implementation of visual timetables was mentioned more frequently by SLTs than educational practitioners. SLTs often discussed their observations of the ways visual timetables were used after they had been introduced. Some SLTs expressed dissatisfaction with what they saw and believed that, in some cases, the visual timetables were not being used properly.

> SLT 8 - ... they (educational practitioners) could have all done the visual timetable training ... and they're still not using it … … you've done everything other than take their hand and put it on.
> (Paragraph 158)

> SLT 11 - … it's even more disappointing (if they're not being used) if you've actually talked about it with them (educational practitioners) ... the last time you were in.
> (Paragraph 155-161)

SLTs reported that in some settings visual timetables were not frequently referred to, in others they were not being used as suggested by the SLT, for example, symbols were not being removed when activities had finished.

> SLT 5 - The teacher might go through them first thing in the morning … and then never refer to them again.
> (Paragraph 54)
>
> SLT 12 - ... during the morning they never, you never see them (educational practitioners) refer to it whatsoever.
> (Paragraph 105)
>
> SLT 15 - So therefore, you could do work over several months or years and it just doesn't ... you don't establish it with them.
> (Paragraph 49)

The variation in styles of visual timetables and the range of experiences of the implementation of these in schools, indicate the complexity involved in implementing a particular symbol system in any school setting. The fact that there are different practitioners working in each school, and in each setting within those schools, contributes to the challenges of implementing visual timetables in a way that all practitioners would be satisfied with. This is related to the reasoning and objectives of each practitioner and the ways these are communicated to other practitioners. These factors are central to the theoretical constructs, 'models of reasoning' and 'perceptions of professional roles', introduced in the following chapter.

5.3.3.4.2 Subtheme 3dii) Expressing choices and exchange systems

Many of the participants gave accounts of using symbols to represent 'choices' to children. Choices were represented to children in a number of ways. Some participants discussed the use of exchange systems which enable children to develop social interaction skills and to further support the expression of choices. Participants' experiences ranged from giving children a large number of symbols to choose from so that they could choose a 'job' to do in the session, to encouraging children to choose from two symbol options for a particular snack or toy.

> TA10 - I think a lot of the time it does come down to helping them express a choice ...
> (Paragraph 94)

One example that participants gave of using symbols to support children making and expressing choices was by encouraging them to use symbols to express which activity they wanted to do 'now' and what they would like to do 'next'. One participant referred to this method as 'forced alternative choice' (SLT 7), teaching children that they had to choose one of the options.

> T10 - ... he has a 'now and next', a two point. So, 'now this is happening, and then this is happening'.
> (Paragraph 178)

> TA11 - ... Like, 'now you're doing this … then you'll be doing whatever'.
> (Paragraph 306)

> SLT 7 - It's just a simple, you know, forced alternative choice, 'which one do you want?'
> (Paragraph 125)

> SLT 8 - And then I would use them to say ... you know, 'now, what are you going to do, are you going to do some writing or do you want to do cooking first?' So they would then use them to choose.
> (Paragraph 90)

Some of the participants mentioned the use of symbol-based 'choice boards', on which a number of symbols were presented to the child to represent a series of options they could choose from. If children were unable to express themselves verbally, they were encouraged to point at the symbol they were selecting. As a result, these choice boards were usually used with individual children rather than larger groups.

> TA9 - ... for one child especially, we have a choosing board ... So we have four activities on there.
> (Paragraph 134)

> NN4 - I've used … <um> … with the little boy that … is selective mute … with, I made like a choice board for him.
> (Paragraph 178)

In other cases, symbols were used to support individual children with choice-making in group activities, such as, 'singing time'. At these times, children with difficulties with expression or comprehension were enabled to participate by using symbols.

> TA12 - And then we've got a little boy that will point to each symbol (to indicate a choice).
> (Paragraph 182)

> SLT 6 - ... I might have two symbols and I'm looking for them to make a choice, can they (children) look between … the two symbols or point between the two symbols if they're able to do that.
> (Paragraph 114)

> SLT 13 - ... so that they (children) can use the symbols to point to if they're non-verbal.
> (Paragraph 98)

> SLT 15 - ... there will be specific children who ... cannot vocalise the choice that they want.
> (Paragraph 201)

Some participants gave accounts of using symbols in this way with children who were physically unable to speak and other children who were being encouraged to use symbols alongside speech while developing their verbal ability. The use of symbols to allow children to indicate a choice appeared to reflect the belief that symbols could be used to support expression when children had difficulties with this aspect of communication.

> TA6 - ... he knew if he went and picked one of these pictures up he could actually try and relay whatever he wanted to us …
> (Paragraph 150-152)

> TA8 - ... we sort of ask her questions and she uses the symbols to sort of answer them sometimes.
> (Paragraph 254)

> TA10 - ... so that's their way of expressing themselves and letting us know what they want.
> (Paragraph 158)

> SLT 16 - ... we tend to use them (symbols) more at that earlier stage as a means of expression ...
> (Paragraph 189)

Participants referred to their experiences of teaching children to exchange pictures/symbols for a desired item (snacks/food, toys) and then working on extending these skills. One method of developing social interaction skills and

allowing children to express themselves referred to by participants was Picture Exchange Communication System (PECS).

> TA10 - One of our Foundation children uses that (PECS) at snack time ... and she does single symbol exchange for her, for what, you know, for what she wants for snack.
> (Paragraph 86)
>
> SLT 4 - … and you would then use those symbols to encourage the child to … <um> initiate <um> an interaction with another adult or child.
> (Paragraph 77)
>
> SLT 5 - So your aim is social interaction and the pictures are really just a medium to get that going.
> (Paragraph 85)

Participants' accounts of using PECS centred on children with autism, as this was the purpose the system was originally designed for, but an 'exchange system' was also used with children with other needs. PECS was used to help children develop interaction skills and to encourage children to initiate communication attempts. Some participants referred to the way in which children using the system progress from simple symbol exchanges to building symbol sentences.

> TTA1 - So once, once you're satisfied that they (children) know say a handful of symbols, then I would probably introduce (a) sentence strip …
> (Paragraph 242)
>
> TA15 - And they (children) will find the symbol for 'I want' and put it on a strip and then find the symbol for the fruit they want.
> (Paragraph 118)

5.3.3.4.3 Subtheme 3diii) Learning to read / literacy skills

Some participants, mainly educational practitioners, referred to the use of symbols in supporting children with early literacy skills, leading to learning to read. Participants had used symbols as a step towards reading and gave accounts of how they had used symbols to 'scaffold' early literacy development.

> T13 - ... a visual sort of … way of them getting into reading … … a bit of scaffolding if you like.
> (Paragraph 218-222)
>
> TA11 - … we use it as, as a form of starting to read, really.
> (Paragraph 202-214)
>
> TTA1 - ... it's reading but using your pictures as a cue to actually end up learning the words ... ... there's a few children in school that have learnt how to read this way.
> (Paragraph 214-218)

Several participants referred to the age of the children they worked with and reiterated that children of that age were unlikely to be able to read. These participants expressed a belief that, at the stage of development that the children were at, graphemes (letters) and written words had 'no meaning'.

> T8 - ... they're only four and … they couldn't read the writing.
> (Paragraph 162)
>
> T13 - ... so that's just giving them that idea of what a word actually is and that a word has meaning.
> (Paragraph 218)
>
> T14 - ... because obviously the children at my age aren't necessarily reading.
> (Paragraph 158)

> TA12 - I think for … children in Reception especially in children that aren't so quick to learn, using symbols and the words together would help them … grasp things quicker.
> (Paragraph 178)

Some participants described the process of developing literacy skills using symbols. These accounts ranged from linking symbols to individual graphemes or phonemes, to presenting symbols under whole words to support whole word recognition.

> T7 - … we would use them <um> to, to introduce sometimes, like new words.
> (Paragraph 112)
>
> TA8 - And then we have different symbols for the different letter sounds ... ... and it helps her … associate, like the sounds and the letters.
> (Paragraph 262-274)
>
> TA10 - ... it is a link in to them being able to read … just a written, written word. You know, because the word becomes familiar with the symbol. And then, you know, they can move on then to read, to recognising that word in just written context.
> (Paragraph 182)

When symbols were used to help children learn to recognise certain written words and understand that words have meaning, participants stressed that the word and the symbol should be presented together. Some participants believed that symbols should have the word written underneath in every circumstance.

> T5 - ... And they (symbols) always have the words at the bottom as well.
> (Paragraph 102)
>
> T10 - ... the word that's written underneath it … is that meaning.
> (Paragraph 182)

> T13 - … so that's just giving them that idea of what a word actually is and that a word has meaning.
> (Paragraph 218)

> TA8 - ... they've got at the bottom the word of what it is, so, 'register', 'assembly', 'PE'.
> (Paragraph 182)

In the process of supporting children 'learning to read', several participants referred to stages involving the manipulation of the way the word and symbol were presented. When word and symbol were presented together, this sometimes involved 'fading the symbol out', increasing the size of the word and decreasing the size of the symbol.

> TTA1 - ... gradually reduce it so you end up with a tiny picture in the corner and a large word, rather than the large picture and a small word.
> (Paragraph 214)

This process appeared to be seen to facilitate the child's development in recognising the whole word.

Developing from:

> TA11 - And generally, a lot of them, if you take away the picture they don't know the word … they know what the word is, through the picture.
> (Paragraph 218)

Developing towards:

> TA12 - ... the children get used to the word without the symbol as they come on.
> (Paragraph 182)

This suggested that, for most children, the ultimate objective of using symbols in this way was to reach independent reading where the symbol was no longer needed.

5.3.3.4.4 Subtheme 3div) Rules of the setting and expectations of behaviour

An example of a specific way of using symbols given by participants was to represent and reinforce rules and expectations of the children in the setting. In the data, participants explored the concept of using symbols in the management of behaviour. This concept was referred to most frequently by educational practitioners but was mentioned by several SLTs as well.

> SLT 10 - … demonstrating the rules visually and giving children something, a picture or, you know, a graphic representation.
> (Paragraph 141)

Participants often referred to using symbols to represent rules for 'sitting' or 'listening' sessions and some referred to these as 'good sitting rules'. These participants appeared to be in agreement that the purpose of these symbols was to demonstrate and remind children of the ways they were expected to behave at these times of the sessions. For example, children are expected to; 'sit still', 'listen' and 'look' at group times, each of which was represented by a symbol.

> T8 - so they've got an ear for 'you need to listen'
> (Paragraph 110)

> TA13 – So reminding the listening rules are, listening to the person who's talking, look at the person who's talking, only talk when it's your turn and sit still.
> (Paragraph 88)
>
> SLT 14 - The thing that I probably use the most are 'good listening' rules.
> (Paragraph 109)

In most cases, the participants had used symbols to represent similar rules and expectations. The participants appeared to be in agreement that children in the FS needed support in listening, concentrating and sitting still.

> T9 - we have a system … visual cues for, for behaviour management … … it's 'eyes looking', <er> so a picture of eyes, 'ears listening', 'lips closed', 'hands still' and 'brain thinking'
> (Paragraph 90-94)
>
> T14 - I've got symbols for 'lips closed' for being quiet and for 'looking at the teacher', and those sorts of things
> (Paragraph 158)
>
> TA8 - We've got some (symbols) … <um> to show them how to do good sitting on the carpet, so we have a picture of a child with legs crossed and arms folded … A picture of lips closed … Another one with somebody with their hand up.
> (Paragraph 130)
>
> NN3 - All of the classrooms have actually got up on the wall <um> … 'Good listening', 'good sitting', so we have got the pictures up there, those up on the wall and each class has got them.
> (Paragraph 162)

These participants appeared to share the view that with symbols representing these 'rules', children would be more able to understand what was expected of them.

> TA9 - … if they see the symbol … actually happening, they know then what's expected.
> (Paragraph 158)

> TA16 - … it's an ongoing reminder of what the expectations are.
> (Paragraph 126)

The participants' accounts of using symbols in this way suggest that they have reason to believe that the children understand the 'rules' and expectations represented in the symbols and that they comply with these rules when shown the symbols.

> NN4 - they're so effective because you just hold the picture up, or tap it, you know, and the children respond to it … and it's just like a little … reminder really.
> (Paragraph 186)

5.3.4 Theme 4: Practitioners' experiences of the implementation of symbols

A large quantity of the data was related to participants' experiences of the implementation of the use of symbols in schools. The data suggested that this was often a complex process and participants referred to a number of influential factors. Participants' accounts of the implementation of symbol use appeared to be divided into three key areas; the setting, the roles of the practitioners involved, and, related collaborative working. Participants' accounts suggested that implementation usually involved more than one practitioner. As a result, building an understanding of how participants worked with other practitioners was essential.

The actual implementation of the use of symbols in schools was a focus in many of the SLT interviews. The SLTs interviewed gave accounts of successful and unsuccessful implementation and frequently gave suggestions for the reasons behind this. SLTs referred to experiences of the implementation of symbols in schools and discussed the supports and challenges more frequently than educational practitioners.

5.3.4.1 Subtheme 4a) The setting

This subtheme centres upon the data surrounding the SLTs' accounts of the implementation of symbol use in the FS school setting. This appeared to be an area of frustration for some of the SLTs. There were several issues surrounding the implementation which were only referred to by SLTs, for example, the experience of being a 'visitor' and having a lack of influence in schools. Many of the educational practitioners referred to a lack of time when discussing implementation and this was sometimes referred to as a possible explanation for the failure to implement symbols in the ways that the SLTs may have wanted.

Much of the data surrounding the implementation of symbols was related to the context in which this process was occurring, FS school settings. Most of the SLTs interviewed were not permanently based in schools and, as a result, were 'visiting' schools at various intervals. The experience of not being based in the setting appeared to affect some SLTs' experiences of implementing symbols.

Some SLTs gave accounts of their experiences of going into schools, alone in most cases, to work as ‘visitors’.

> SLT 7 - ... obviously you can imagine as a visitor, although I’ve been in that school a long time, years. But you’re still a visitor.
> (Paragraph 69)

> SLT 11 - … generally my visits into schools are ... as either a lone therapist or working with a colleague and going in to schools …
> (Paragraph 69)

Some of these SLTs indicated that they had less ‘influence’ than they would like.

> SLT 7 - But I think as a therapist you don’t have a huge amount of influence ... and that’s quite frustrating.
> (Paragraph 173)

The ability to affect and stimulate change was seen by SLTs to be largely due to the amount of influence they had in the school. Sometimes SLTs reported feeling that they were ‘not party to any decisions’ and that things were ‘taken out of their hands’. This implied that these SLTs believed that some kind of change or development of practice in schools was necessary.

> SLT 10 - ... there’s less of that institutional change in the schools that we’re not based in. Just because it’s difficult to influence something when you’re not ... there really ... ... you’re not, not party to any of the decisions.
> (Paragraph 89)

It was suggested by some SLTs that the amount of influence they had could be increased over time but this involved a process of developing trust, requiring persistence.

> SLT 16 - … you get quicker at digging yourself into a new environment… … I think when you go to a special school, probably takes you ... a year to feel ... they've got to have that ... a trust ... you know, to share things and to have some respect for your professional ideas.
> (Paragraph 101)

Some of the SLTs interviewed expressed dissatisfaction at the way symbols were being used in the schools that they worked in, implying that symbol use in schools could be improved. The SLTs who expressed dissatisfaction at the implementation of symbols in schools referred to experiences of symbols 'not being used', 'not being referred to' and 'children not getting opportunities to use'.

> SLT 7 - ... they're (children) not being given the opportunity (to use the symbols).
> (Paragraph 177)

> SLT 9 - I'm wondering whether if I didn't go in ever again, whether it (the use of symbols) would carry on.
> (Paragraph 117)

> SLT 11 - ... the biggest challenge is getting them (educational practitioners) to use it.
> (Paragraph 153)

In these examples SLTs implied that symbols were not being used as they would have wanted, or the implementation of symbols was 'not getting very far'. This was a common frustration among SLTs. Some SLTs were frustrated

because they did not know why the implementation had not been successful and the symbols were not being used.

> SLT 8 - ... it's really difficult to understand ... why would you not use it?
> (Paragraph 158)

In relation to their dissatisfaction with the implementation of symbols in schools, some SLTs suggested reasons for what they believed was infrequent or ineffective use of symbols among educational practitioners. Some SLTs suggested that educational practitioners may not fully appreciate the purpose of using symbols or the potential benefits or full value of their use.

> SLT 5 - And I think that is the nub of the problem … is they don't see it (the use of symbols) in it's widest context. And the higher up the school you go, the more of an issue that becomes … ... they don't see the value of it in a wider context.
> (Paragraph 70)
>
> SLT 12 - Some of them, I'm not sure whether they see the value of (symbols).
> (Paragraph 109)
>
> SLT 13 - If they don't understand why you're doing it, they might not see the benefit it (the use of symbols) has ... for the child.
> (Paragraph 170)

This observation by the SLTs appeared to be supported by the accounts given by some educational practitioners of their awareness of the purpose of symbols and experience of their use. The general awareness or familiarity that participants had of using symbols was very variable. Some were very familiar and experienced in using symbols in schools, while others were less so. Those

that were less aware of the use of symbols tended to be EYPs, specifically teaching assistants.

> TA8 - ... I hadn't seen any of it (the use of symbols) before ...
> (Paragraph 286)
>
> TA12 - I do feel, having worked with it (symbol systems), I think a lot of people perhaps aren't aware of them ... cos I wasn't before I came here.
> (Paragraph 174)
>
> TA14 - So it's (symbols) all new at the moment and we're all learning so …
> (Paragraph 38)

The finding that some educational practitioners were not familiar with the use of symbols supports the suggestion that they have not developed an understanding of the value of their use.

When asked why they thought symbol use was not implemented as they would wish, some of the SLTs referred to the limited time available to practitioners in schools.

> SLT 11 - Often time will be a big thing.
> (Paragraph 173)
>
> SLT 12 - I think it's, I think it is a time thing ...
> (Paragraph 109)
>
> SLT 13 - I think just due to ... understandably time constraints and things.
> (Paragraph 174)

When discussing their practice in schools, educational practitioners also frequently referred to a lack of time. This emphasis on the lack of time among

educational practitioners may be related to their own reasons for symbol use not being implemented as SLTs would like. A lack of time appeared to be a common feature of the experiences of practitioners working in these FS school settings and this may have been influential in their use of symbols.

In some cases educational practitioners explained that there was not an opportunity during the day for them to 'get together' with other educational colleagues and share thoughts and ideas about the implementation of symbols. Some teachers and EYPs did not have an allocated time during the week to sit down together and talk. The data suggested that discussion about symbols and planning their use was not the only aspect of day to day practice that was affected by a lack of time.

> T4 - ... things are just so busy that there's just not the time.
> (Paragraph 184)
>
> TA7 – (talking about finding time to share ideas with colleagues) ... the biggest negative really was the time to actually, as a team, to do it.
> (Paragraph 238)
>
> TA8 - ... we don't have a set time (to talk about symbols with colleagues).
> (Paragraph 214)
>
> Int - ... do you sort of sit around and throw ideas around as a team, do you get time for that?
> TA10 - (laughs) Not much, no.
> (Paragraph 148-150)

The lack of time could provide one explanation for the lack of use of symbols that some SLTs were referring to.

5.3.4.2 Subtheme 4b) Roles

In exploring the implementation of symbols, the researcher was concerned with participants' understanding of their role in this process, as well as their perceptions of the roles of others. There were some trends among the experiences of participants in relation to their perceptions of roles in the implementation process. The majority of participants suggested that the leader of this process was an SLT and these practitioners were also frequently responsible for providing information and training. In many cases, an EYP was responsible for the longer term implementation of the symbol system in schools. The role of the teacher was less rigidly defined.

Role of the SLT

Participants' accounts of the role of SLTs in the implementation of symbols were frequently related to the initiation of this process and the introduction of the idea of using symbols.

> SLT 10 - ... we're there to supply ideas.
> (Paragraph 233)
>
> TA/SENCO1 - ... some of the ideas that they (SLTs) have really are so clever that they spark off, you know, other ideas, and what can seem quite <um> quite a simple idea you can just extend.
> (Paragraph 180)

There seemed to an assumption among some educational practitioners that SLTs had knowledge to impart about the use of symbols and that it was part of their role to share this in schools. Some SLTs referred to their experiences of asking and being asked questions by other practitioners. SLTs described

experiences of being seen as an ‘expert’ in schools and this increased the likelihood that educational practitioners would ask questions and request information about symbols.

> SLT 11 - I guess it’s about ... encouraging them (educational practitioners) to realise that actually we do know what we’re talking about.
> (Paragraph 185)
>
> SLT 13 – So ... they (educational practitioners) feel like they can just come and ... grab you if they need to, if they’ve got any questions.
> (Paragraph 66)

This was often dependent on the approachability of the practitioners and willingness to answer questions, as well as time and availability.

> T11 - ... So we can go (to the SLT) every week and say, ‘does that look right? Is that alright?’
> (Paragraph 206)

As well as having a role in the initial introduction of symbol use, the SLT role in the implementation of symbols was often linked to developing knowledge, understanding and skills among the other practitioners involved. This also implied they had knowledge to impart, suggesting that participants believed SLTs were in a position to ‘train’ others. Many participants gave accounts of the levels of skills and understanding of other practitioners when discussing the implementation of symbols and this was often linked to their perceptions of the level of training of other practitioners.

> SLT 4 - Are the people that are using the symbols … trained up to use them (symbols) with that child?
> (Paragraph 69)

Some of the SLTs interviewed explained that, in their experience, implementation of symbols alongside other practitioners varied and was largely related to the levels of understanding and competencies of the staff within the setting. SLTs suggested that it was important that all the practitioners involved knew 'how' and 'why' to use the symbols.

> SLT 6 - So how you use them (symbols) as well is also very important.
> (Paragraph 118)

> SLT 13 - they need to know why they're implementing these things ... and how to use it.
> (Paragraph 206-210)

Some of the SLTs explained that they felt that educational practitioners lacked training in the implementation and use of symbols and suggested the reasons for this.

> SLT 12 - So sometimes then, it's not easy for them (educational practitioners) to be released from ... from school to go on training, it's, it's kind of a vicious circle really.
> (Paragraph 89)

Many of the SLTs interviewed referred to their own experiences of training other practitioners in the use of symbols, which supported the suggestion that educational practitioners had a training need in this area. Some of the educational practitioners themselves referred to their own lack of training and appeared to recognise this as a training need.

> T12 - ... there's still certain aspects of it I would like some kind of extra training on.
> (Paragraph 250)
>
> TA7 - I've not had enough training by any means.
> (Paragraph 250)
>
> TA10 - And I, at that point, you know, I did feel it would be quite useful … to, to have some training.
> (Paragraph 266)

Some of the EYPs suggested that what they had learnt previously was self-taught or learnt 'on the job', rather than in formal training.

> TA12 - ... So I had somebody that really knew what they were doing and somebody that … led a good example and taught me.
> (Paragraph 66)
>
> TA14 - ... it's just more or less self-taught through … reading books and whatever ...
> (Paragraph 138)

Some of the SLTs who did provide training about symbols discussed their role in developing the knowledge and skills of educational practitioners.

> SLT 5 - ... and you can talk in a training position about … 'here are the symbols', you can show them, you can talk about how you use them …
> (Paragraph 54)
>
> SLT 9 - ... but quite a big bit of it has been ... developing their (educational practitioners) knowledge of symbols and using photographs ...
> (Paragraph 69)

This range of data reflects the belief held by some participants that the skills and understanding of practitioners are important factors in using symbols and that training is one aspect of this. Participants discussed the factors in ensuring practitioners can access training, who should deliver it and which practitioners 'need' it. It was suggested a number of times that practitioners needed to be 'ready' to use symbols, in terms of their understanding of the foundational principles and objectives of their use. Some SLTs appeared to believe they had a role to play in developing these 'skills' and increasing understanding of foundational principles so that symbol use can be fully implemented.

> SLT 9 - They (school staff) always need somebody there just to remind them and ... bring their skills on.
> (Paragraph 117)
>
> SLT 15 - It really hit home that ... you are not working all the time with people who've got the experience and skills to take on something like that (symbols).
> (Paragraph 181)

The awareness and understanding of symbols held by educational practitioners was seen as an important factor in their effective use in schools by SLTs. Some of the SLTs also suggested that educational practitioners should be taught about selecting symbols and the hierarchy of understanding representational objects. It was emphasised by several SLTs that educational practitioners needed training to be able to understand the child's developmental level and to 'focus on the level the child's at' when using symbols.

> SLT 5 - If I'm training I go through the whole process of symbols and the sort of levels because I think it's really important for teachers to know … that there is a sort of hierarchy that supports children.
> (Paragraph 82)

> SLT 12 - ... there isn't a text book of 'this is how you use symbols with children' ...
> (Paragraph 185)

Several SLTs gave the impression that they thought educational practitioners needed to be reminded to use the symbols and some were reluctant to be critical, saying that they did recognise that educational practitioners had a lot to 'contend with'. Other SLTs implied that they believed educational practitioners to be 'making excuses' and expected SLTs to go beyond their role in the implementation.

> SLT 7 - … my job is not to select symbols for them, my job is to put systems in place ...
> (Paragraph 193)

> SLT 10 - I always feel <um> … like they think we're there to tell them what to do, if you see what I mean.
> (Paragraph 233)

> SLT 12 - ... there were so many excuses, 'oh, we haven't got BoardMaker, we can't do this, we can't do that.'
> (Paragraph 105)

> SLT 13 – ... (I) go away and set it all up, and go back into school and show them (educational practitioners) the finished product and demonstrate how to use it and things.
> (Paragraph 134)

Role of the EYP

A number of participants across all three professional groups gave accounts of EYP involvement in the implementation of symbol systems. In most cases, the

SLT involved provided the educational practitioners with an outline of the process, and, in some cases, the objectives. EYPs were then frequently seen as the practitioner responsible for continuing this implementation and using the symbols in the setting when the SLT was absent.

> T7 - ... the actual sort of responsibility for administering the programme will usually be with … a teaching assistant.
> (Paragraph 200)
>
> SLT 7 - ... she (EYP) carries out lots of programmes for me.
> (Paragraph 53)
>
> SLT 12 - I will show them (EYP) a programme of work that they can be doing with them (the child).
> (Paragraph 85)

When EYPs were responsible for implementing the use of symbols, some participants suggested that the EYP was allocated this role by other members of the school team. Participants suggested that EYPs were; 'nominated' to carry out the implementation.

> SLT 4 - . It very much depends on the <um> … the learning experience of the LSA ... ... If the LSA is … an experienced LSA, the school will almost nominate that LSA to discuss all that with you
> (Paragraph 41)
>
> SLT 5 - … they delegate it down to a teaching assistant …
> (Paragraph 58)

The concepts of 'nominating' and 'delegating' may suggest some sort of hierarchy, in which the EYP was may be perceived as 'lower' than other practitioners. Time was suggested as a possible reason for nominating an EYP

to carry out the implementation, which suggests the EYP may be more 'available' than the teacher.

> T3 - ... because of time constraints it's tended to be the TA that performs the programme anyway.
> (Paragraph 171)

In some cases it was assumed that it would be an EYP who prepared and implemented the symbol system, and that all of the associated work would be their responsibility.

> SLT 10 - ... I tend to recommend doing a 'now' and a 'next' symbol and then removing the 'now' when it's finished, moving one up and adding the kind of next symbol, which is … a fair bit of work for the TAs.
> (Paragraph 193)

The EYPs responsible for continuing the implementation of symbol systems often stressed the importance of being able to approach the SLT and ask questions. They also emphasised the importance of receiving a response from the SLT and being able to observe the SLT. This supports the suggestion that the SLT role involves leading and guiding other practitioners in this process.

> TA7 - ... And then once I felt con, confident with the things that she (SLT) was doing with him then I carried that on <um> every day.
> (Paragraph 58)

> TA8 - ... And the therapist writes down exactly what she wants me to do over the week as well ... ... She's really good at explaining exactly what she means and if I'm not sure, she'll explain it again.
> (Paragraph 310-322)

> NN3 - I'm sure if I said to her, 'I need to see you doing that', she'd be most obliging ... ... Because then you get to see what she's using, how she's using it and you can carry it on.
> (Paragraph 182)

Several SLTs explained that in the schools where they worked EYPs were carrying out specific sessions and running small groups related to communication targets for the children. Accounts from SLTs and EYPs seemed to suggest that the EYPs were mostly confident in carrying out the programme/strategy and that the SLT was satisfied with their implementation of it.

Role of the teacher

When discussing the implementation of symbols, teachers referred to the roles of other practitioners they were working with more frequently than their own role. However, some of the examples given of successful implementation by SLTs were linked to the involvement of all of the educational practitioners. SLTs believed that educational practitioners should be encouraged to participate in the instigation of symbol use and have responsibility in ensuring this is effective. This was seen by SLTs as a way to ensure implementation continued successfully over time. Some SLTs did, however, refer to the settings where all of the educational practitioners had become involved and were taking responsibility for the process.

> SLT 9 - I've been in settings and then seen that they've started implementing things ... that's been really positive.
> (Paragraph 115-117)

> SLT 10 - ... here ... you have got staff taking on the responsibility of ... <um> getting lots of symbols into the classroom, <er> changing things within the school so that ... <um> it's better for the students ... ... they're really taken with it and run with it.
> (Paragraph 117)

It was not always clear who was responsible for deciding which practitioner would have responsibility for carrying out the implementation of symbols or whether the practitioners had any control or input in this. The implications for expecting or assuming that the implementation of symbols would be the responsibility of an EYP are related to the level of training, skills and understanding that these practitioners have been given the opportunity to develop. This topic can also be related to the theoretical construct 'perceptions of professional roles' (see page 297).

5.3.4.3 Subtheme 4c) Collaborative working

Most of the data surrounding the process of implementing symbol use in schools was related to participants' experiences of working with other practitioners. This subtheme builds on the influence of the setting and the roles of the practitioners involved and centres upon the ways that these factors interact when more than one practitioner plays a part in the implementation of symbols.

Participants were asked about their experiences of working 'collaboratively' and particular attention was paid to when they worked together when implementing symbols in schools. A number of participants, SLTs in particular, referred to

factors that may support and challenge collaborative working and many of these appeared to be inter-related. Collaborative working appeared to be influenced by several factors including; time and availability, communication and perceptions of professional roles.

Some of the participants referred to the availability of other practitioners as a factor in enabling or preventing collaborative working. Participants referred to the availability of other practitioners for sharing of information, meetings and time to work directly with the other practitioner(s). It was believed by some participants that it was essential that other practitioners were 'available' for meetings and opportunities to communicate and feedback. This concept of availability centred upon the practitioners having an allocated amount of time for meetings (formal or informal) and opportunities to work together. The difficulty in finding a time that was convenient to everyone involved was discussed.

> T5 – (when asked about talking to SLTs) ... it has to be done … on my feet really cos obviously I'm in the middle of teaching through my sessions.
> (Paragraph 80-82)
>
> T14 - ... it's … not usually logistically possible to sit in on those sessions with the SLT) which I think is a shame but it's … you just couldn't manage it.
> (Paragraph 262)

The availability of educational practitioners was often articulated by SLTs as an issue in their collaborative working. Some of the SLTs explained that the availability of members of staff in schools often facilitated their work with children, particularly at times when the SLT was planning on observing the child

and/or members of staff, carrying out assessments, or attempting to implement programmes with the support of the educational practitioner(s).

> SLT 15 - But it's not as easy as that because a lot of the time its <um> ... you know, working within a school, is there a TA available...?
> (Paragraph 89)

The availability of practitioners was sometimes related to the difficulties and inconsistencies in the 'release' of educational practitioners, being removed from usual duties and allowed to observe or contribute to the SLT session. This was more of an issue for teachers than EYPs.

> T11 - I don't get to see them (SLTs) as they work with my children cos obviously I've got to stay here (in the classroom) …
> (Paragraph 294)

The release of staff was often dependent on having someone to 'cover' their role in the setting and was often not planned ahead of the SLT arriving in school. The release of educational practitioners varied greatly. Some SLTs suggested that the variation between schools in terms of the release of staff, and other factors, made consistent ways of working across schools problematic.

> TA7 - ... unless it was like before school or after school <um> … we (teacher and TA) couldn't be out of class together at the same time, that was difficult.
> (Paragraph 238)

> SLT 12 - It's their (the school's) responsibility to get them (staff) available, you know, so that I can show them those sorts of things.
> (Paragraph 93)

The availability of practitioners appeared to be a factor in the way practitioners worked together, influencing the implementation of symbols.

Participants' experiences and beliefs about collaborative working frequently involved references to liaison and communication with other practitioners.

> T5 - I do liaise with speech therapists all the time.
> (Paragraph 58)
>
> SLT 11 - Everything is about liaising with, you know, with other professionals ...
> (Paragraph 45)

Communication was an important theme in the participants' discussion of their experiences of collaborative working. Participants talked about being able to contribute to discussions and 'feeling heard', as well as being able to hear what other practitioners had to share.

> TA7 - That's one thing that is really good, you know, we all communicate.
> (Paragraph 42)
>
> TA/SENCo - ... have the lines of communication open ...
> (Paragraph 212)
>
> SLT 4 - You would also have a conversation with the class teacher … out of courtesy.
> (Paragraph 41)
>
> SLT 12 - ... and talk to the class teachers as well if possible or <um> TAs if they're working with TAs.
> (Paragraph 81)

Participants often referred to communication as an important requirement of sharing information, knowledge and ideas in schools. Many participants

expressed the belief that sharing information with other practitioners was good practice and a requirement of working together. Some teachers and EYPs referred to sharing information with each other, sometimes on a day to day basis, and jointly contributing ideas for planning and implementing new strategies. This was largely dependent on time and availability. In some cases, actual incidences in which ideas and feedback were shared were said to occur in 'passing' and brief interactions at the end of the day. There seemed to be an expectation that teachers and EYPs would share information and ideas because this was a fundamental part of their working relationship.

> T14 - ... you'll see people in the corridor and have a chat and, you know, just even things in passing …
> (Paragraph 110)
>
> TA8 - Maybe just … a chat at the end of the day ... Sort of talking about how the day's gone and what's worked and what's not worked and that sort of thing ... We've spoke about it (symbols) in passing.
> (Paragraph 206)

A number of participants referred to experiences in schools, in which they had had to resolve differences of opinion with other practitioners. Participants suggested that communication skills were particularly important on these occasions. The particular skills associated with effective communication referred to by participants related to; being able to compromise, making suggestions rather than giving instructions and finding ways to share information.

The reasons for differences of opinion varied but were often linked to professional roles and objectives. Some participants discussed the challenges they faced when working with practitioners with different motivations and aims. In some cases, participants expressed experiences of resistance when colleagues were unwilling to take the course of action suggested.

> SLT 5 – (talking about implementing visual timetables) ... you get the resistance, 'well, that's the whole day, that's how we do it' ... ... the teacher may resist or may not have the support in the classroom to be able to do that.
> (Paragraph 113)

Other participants expressed their dissatisfaction with what they were asked to do or how this was communicated (for example, 'imposing' an opinion).

> T13 - I felt, at the time, she (SLT) was imposing on us … she was imposing on us … what she thought … out of a textbook, a medical book or whatever.
> (Paragraph 278)

Some of the SLTs experiencing these kinds of differences of opinion and resistance when implementing strategies, often made reference to instances when they had attempted to resolve these disparities and find a mutually acceptable solution. Participants used the term 'compromise' and in some cases participants appeared to imply that, as a result of 'compromise', a mutually satisfactory solution was found.

> SLT 6 – But if you look to find out, 'OK, well where can we compromise on this and work forwards' ... we've always managed to, to get over those difficulties.

(Paragraph 155)

SLT 11 – I think there is a compromise sometimes, you know, I might be thinking, well actually I only want to start with two but if the teacher comes to me and says, ‘actually it would be really helpful to have something for this’, then that’s about compromise ...
(Paragraph 185)

These particular accounts of experiencing and resolving conflicting suggestions were characterised by the settlement of differences by means of at least one party considering an alternative that would be more acceptable to all, as well as the way this solution was communicated. SLTs appeared to be very aware of the necessity to do this. The participants who gave accounts of this kind of negotiation of differences, referred to the communication and discussion involved. Some kind of interaction was required in order to facilitate to resolution.

SLT 7 – It’s a big compromise … … If we don’t help them ... deliver the curriculum ... <um> they’re not gonna work with us … it’s a compromise.
(Paragraph 129)

SLT 15 – Whereas, people who are ... don’t negotiate on that, you know, find it more difficult.
(Paragraph 129)

Some educational practitioners were quite explicit about their disliking the feeling of having ideas ‘enforced’ or ‘imposed’ onto them by other practitioners. There seemed to a general preference for ideas being shared tactfully in the form of ‘suggestions’ or ‘recommendations’, rather than demands or instructions. Educational practitioners seemed to be interested in the suggestions that SLTs gave and often saw these as the origin of some of the

strategies and systems they were using, particularly involving symbols. Some of these participants appeared to be interested in the SLTs' suggestions relating to extending their current use of symbols and found ideas for activities useful. Some educational practitioners explained experiences in which SLTs had recommended symbols and specific uses of symbols for implementation in school. These suggestions and recommendations were received verbally and in written reports.

> TA17 – (talking about SLTs) ... and then offer recommendations as to what we should be doing.
> (Paragraph 210)
>
> SLT 10 - ... we don't ever get it right one hundred percent of the time but we're there to supply ideas and whether the school uses them or not … entirely up to them.
> (Paragraph 233)
>
> SLT 13 - And then say, 'oh, can I just suggest ... you're using this already and that's really good but could we just move it on a step and ... do this.'
> (Paragraph 174)
>
> SLT 16 - I was able to suggest some activities we could do using symbols ...
> (Paragraph 185)

Participants gave reports of information being shared through talking and / or the receipt of reports outlining summaries of case-specific information. Teachers discussed receiving reports from SLTs more than EYPs.

> T4 - ... we do receive a copy of <um> speech and language report and also anything that needs to be followed up and we do follow that in Nursery.
> (Paragraph 164)

> T7 - ... so I know that when she comes into school within a few weeks a report will come in and that report will identify strategies that I've already talked with her …
> (Paragraph 196)

The extent to which this information was distributed more widely varied between settings. SLTs reported that when they attempted to distribute information in schools the recipient varied and there were mixed reports of the processes of circulation and distribution of this information.

> SLT 4 - ... the message doesn't always get through ...
> (Paragraph 41)
>
> SLT 11 – That information ... wasn't passed on to somebody else.
> (Paragraph 173)
>
> SLT 12 - ... trying to get information round and things is much more difficult.
> (Paragraph 73)

There appeared to be some differences in the attitudes towards collaborative working between the educational practitioners and SLTs. In some ways they also appeared to conceptualise collaboration differently. Some of the SLTs referred to 'collaboration' and what this means.

> SLT 7 – Obviously we try to work as collaboratively as we possibly can.
> (Paragraph 53)
>
> SLT 5 – So we're still moving towards collaborative working.
> (Paragraph 26)
>
> SLT 11 – True collaboration happens when everybody is ... wanting to work together to meet the needs of that child.
> (Paragraph 65)

When discussing working with other practitioners, educational practitioners referred to ‘team working’ within the school and it was not always clear whether this included SLTs or not. They did not use the term ‘collaborative working’. This suggested a terminology or vocabulary difference, or an underlying difference in understanding the meaning of collaborative working.

> TA11 - … (we) work as one big team.
> (Paragraph 110)
>
> TTA1 - The teamwork is very good.
> (Paragraph 126)
>
> TA15 - … we’re a very team-based.
> (Paragraph 38)

The SLTs interviewed frequently discussed the ways in which they approached collaborative working in schools and skills that they used to support this way of working, for example, communication skills, compromise, and diplomacy. Educational practitioners described their experiences of working with SLTs and often implied that they did not like it when ideas were imposed on them by SLTs. They did not discuss how they personally approached collaborative working.

This finding suggests that SLTs have a different awareness or understanding of the factors involved in collaborative working in schools. This could be linked to the provision of speech and language therapy in schools and the fact that SLTs are externally employed practitioners going into schools to work with children in

a different ‘territory’. This was supported by the SLTs’ accounts of being a ‘visitor’ in schools.

In general, the majority of participants were in agreement that collaborative working was necessary when implementing the use of symbols in the school setting. Their accounts of their experiences of the actual ways of working which occurred in schools suggest that the reality of working in these settings may be complicated by various factors.

5.4 Other observations about the themes

In addition to indentifying and explaining themes in the data, a number of other observations about the themes and the over-arching thematic framework were made. These included the differences in prevalence of certain themes between the three professional groups and the relationships between themes and subthemes. These observations are discussed below to further explore the data and the researcher’s interpretation of it.

5.4.1 Differences between the professional groups

Although the thematic framework was developed to reflect the accounts given by participants in all three professional groups (teachers, EYPs, SLTs), some of the aspects of the themes were more prevalent for one or more of these groups. A brief explanation is provided below indicating which aspects of the themes

were more or less prevalent for educational practitioners and SLTs. The differences between teachers and EYPs are explored in the following section.

5.4.1.1 Differences between educational practitioners and SLTs

As discussed, the participants were generally divided in their opinions about whether symbols should be used with specific individual children or whether they could be used more widely with all children. Both of these viewpoints were reflected across all three professional groups. However, when exploring these opinions more deeply, it appeared that the reasons for the viewpoints expressed differed between the professional groups.

There were examples of teachers, EYPs and SLTs suggesting that symbols should only be used with specific children that 'need' them. However, the professional groups were different in their perceptions of which children were in 'need' of symbols and how to describe these children. Educational practitioners referred to children with SEN and EAL needs, while SLTs referred solely to communication needs. This reflects the difference in professional objective and viewpoint of these groups of practitioners. It may also reflect differences in professional vocabulary.

When suggesting that symbols should be used with all children, educational practitioners suggested that symbols were 'potentially beneficial' to all children and could support many of the children in a setting. SLTs considered the use of symbols with all children as an extension of allowing individual children to

participate. Some SLTs emphasised the need for symbol users to have communication partners and communication opportunities which could be facilitated by ensuring other children use symbols in the same setting. SLTs also suggested that their approach to using symbols with all children was a way of 'selling' symbols to educational practitioners who had to meet the needs of all the children in the setting.

> SLT 5 - I have learnt that there are more teachers who will take things on board if they can see a wider impact … than if they're having to do it for only one child. And if you can get them over the hurdle … you just have a lot more success so it's also about success of getting symbols used.
> (Paragraph 74)

The tension between using symbols with specific children and with all children is explored in the following chapter.

5.4.1.2 Differences between teachers and EYPs

There were some subtle differences between the accounts given by the two professional groups of educational practitioners; teachers and EYPs. EYPs did not refer to the need to use symbols in ways that were developmentally appropriate. They did, however, refer to the need to adapt and differentiate the ways that symbols were used. This may reflect a subtle difference in understanding or terminology which could be related to different training backgrounds. EYPs did appear to recognise the need to 'adapt' the use of symbols for children's individual needs this was sometimes seen as part of their job role. This finding may be related to the EYP's specific role within the

setting, for example, some EYPs work with individual children providing permanent support one-to-one, other EYPs work with the whole class supporting the teacher.

Many EYPs gave accounts of working closely with SLTs. This was not true of teachers. The subtheme relating to practitioners' roles in the implementation of symbols demonstrated that EYPs were involved in the longer term implementation of symbols in schools and this related to their experiences of working with SLTs. As a result EYPs were able to give more detailed accounts of working with SLTs than teachers. EYPs' experiences of working with SLTs were also generally more positive than teachers. It was clear that many of the EYPs had spent time discussing strategies and learning from SLTs, while teachers' accounts were more related to a lack of time to meet and communicate with SLTs.

5.5 Links between themes

There were many areas of overlap between the themes and subthemes. The links between aspects of the thematic framework are described in this section to further advance the interpretation of participants' accounts of using symbols in schools. The thematic framework is hierarchical. The four major themes represent groups of ideas and the subthemes demonstrate how the themes can be broken down into smaller parts. The hierarchical organisation of themes and subthemes reflects the 'vertical' relationships between sets of related ideas.

There are, however, many 'horizontal' relationships among the themes, which demonstrate the broader connectedness of the participants' accounts of different aspects of using symbols. For example, there are also many relationships between ideas that are categorised under different themes.

To a certain extent, all of the themes were inter-connected in some way, due to the fact that they represented the collective experiences of using symbols discussed by the participants. Exploring participant experiences of using symbols was at the centre of the research objectives and embodied the primary research question. The thematic framework encompasses the characteristics of the children symbols are used with, the ways in which symbols are used, the ways in which practitioners conduct their roles and work together, and the value practitioners place on consistency in symbol use. The links between themes and subthemes are explored further below.

Practitioners' beliefs about which children to use symbols with (Theme 1) AND practitioners' thoughts about children's understanding of symbols and representation (Theme 2)

There appeared to be links between participants' accounts of their decision to use symbols with specific children or all children and their perceptions of children's level of understanding. For example, participants who gave accounts of using symbols with specific children often referred to children who had difficulties with understanding, processing and learning. Some of these

participants made links between these children and their lack of ability to understand representational relationships.

> TTA1 - Sometimes I don't think there's the comprehension, that they understand … ... They've got to have a certain amount of comprehension to be able to understand (symbols/representation).
> (Paragraph 254)
>
> SLT 13 - ... obviously the child needs to understand that the symbol represents ... what it represents ... which can be quite difficult with some of the children I work with.
> (Paragraph 102)

For some of these participants it seemed that the child's difficulties with understanding were a reason to use symbols with that child. In these cases symbols would be used to support specific children with difficulties who were at an earlier stage of development in their understanding of representation than other children.

Some of the participants who suggested that they might use symbols with specific children at an earlier stage of understanding representation also referred to the use of other representational modes and/or more than one mode. The reasons for this were related to children's ability and potential to be able to understand information in various forms, for example, auditory – spoken words, visual – graphic symbols (aided, static), visual-transitory – manual signs (unaided, dynamic).

Participants who believed that using more than one mode/channel was advisable often referred to children who had difficulties understanding

information. These difficulties were usually due to communication and/or learning problems, as well as children who were 'new' to the school and/or had EAL needs. For one reason or another, these children were seen to be experiencing difficulties comprehending verbal information. Using more than one mode or channel was seen as a way to increase the child's potential to understand the message among children who were struggling in this area.

> T6 - ... it's attacking the child from all sides ... So it's, it's attacking some of the ones we can't get at with something else.
> (Paragraph 249)

> TA12 - ... one of the little girls ... everything's just straight over her head. … ... But I think, the chance of her improving will be better by having the visual symbol than it would without.
> (Paragraph 146)

Practitioners' beliefs about which children to use symbols with (Theme 1) AND practitioners' accounts of the ways symbols are used (Theme 3)

Participants' beliefs about whether to use symbols with all children or just specific children with a 'need' for symbols related to their accounts of how symbols could and should be used. For example, if symbols were being used with all the children in the setting they would be introduced differently than if they were being introduced to individual children. The need to use symbols in ways that were 'developmentally appropriate' led to the need to differentiate the ways symbols were used based on the needs and developmental level of the child or children that were using the symbols.

> TA13 - ... we just are adaptable to whatever the person's (child) needs are as they arise.
> (Paragraph 48)

The data suggested that many participants had used symbols for specific purposes, such as, visual timetables and choice-making because they met the needs of individual children or groups of children, in some cases all of the children. In these instances it seemed that practitioners believed that children who had specific needs would benefit from using symbols for specific purposes.

> Visual timetables:
> SLT 12 - ... we do ... do individual ones (visual timetables) for children that, you know, that have needs as well.
> (Paragraph 101)
>
> Choices:
> TA9 - ... for one child especially, we have a choosing board ...
> (Paragraph 134)

Practitioners' thoughts about children's understanding of symbols and representation (Theme 2) AND practitioners' accounts of the ways symbols are used (Theme 3)

Participants' awareness of children's understanding of symbols appeared to be related to their beliefs about the ways symbol should be used, in particular, the need for symbol use to be developmentally appropriate. Many of the participants expressed beliefs about the ways in which children develop an understanding of representational relationships. These participants suggested that there are levels or stages in this process, for example, understanding objects of reference occurs at an earlier stage than understanding the

representational function of a graphic symbol. Participants' understanding of children's development in this area was strongly related to their accounts of using symbols and other forms of representation that were developmentally appropriate.

> T7 - And there are some children … pre-photos we'll do, real, objects. …
> (Paragraph 164)
>
> SLT 8 - I would just expect to follow ... the kind of sequence of concrete, 3D, replica ..., right through to 2D, black and white, symbol. I would expect to, them (children) to move from one to the other.
> (Paragraph 142)
>
> SLT16 - … for children of ... … SLD and low cognitive ability ... we're probably still going to be talking about real objects.
> (Paragraph 189)

Participants' accounts of their experiences of recognising children's developmental level suggest that they possess some awareness of how children understand symbols and that this informs the ways symbols are used.

Practitioners' beliefs about which children to use symbols with (Theme 1), practitioners' thoughts about children's understanding of symbols and representation (Theme 2) AND practitioners experiences of implementing symbols in schools (Theme 4)

In some cases, participants' accounts of children's development towards understanding of symbols related to their experiences of implementing symbols in schools. Collaborative working was seen as an important part of the implementation process which supported the use of symbols in ways which

were developmentally appropriate. Participants' experiences of collaborative working were sometimes linked to their understanding of 'developmental progression'. Some of the educational practitioners discussed learning from SLTs about how to use symbols to meet the needs of children at various developmental stages. The role of the SLT in giving advice and guidance and providing training was seen as an aspect of working together which increased some educational practitioners' understanding of children's development.

> TA8 - ... Just what I've picked up from the speech therapist.
> (Paragraph 298)
>
> SLT 5 - If I'm training I go through the whole process of symbols and the sort of levels because I think it's really important for teachers to know … that there is a sort of hierarchy that supports children.
> (Paragraph 82)

It was suggested by SLT 7 that, without this collaborative working and support from other practitioners, educational practitioners may use symbols in ways that are not developmentally appropriate.

> SLT 7 – (talking about giving educational practitioners guidance because the symbols they are using are ...) ... frequently concepts which are ... way too complex for the child's level of understanding.
> (Paragraph 129)

Practitioners' accounts of the ways symbols are used (Theme 3) AND practitioners' experiences of implementing symbols in schools (Theme 4)

Some participants made links between the use of symbols for specific purposes, including visual timetables, and the actual implementation of these systems in schools. When discussing the process of implementing the use of

visual timetables, participants referred to the roles of various practitioners and the requirement for working together.

> SLT11 - … quite a big part of the role is looking at how schools can be implementing visual timetables.
> (Paragraph 97)
>
> SLT13 - … you'd have to advise on what symbols a child might need and talk … staff through that and then go away and set it all up, and go back into school and show them the finished product and demonstrate how to use it and things.
> (Paragraph 134)

5.6 Summary

The thematic framework that was introduced in this chapter was based on the most prevalent, 'research-question-specific' trends and patterns in the data. The themes and subthemes that were developed were also suitably related to one another so that they formed a logical network of ideas, grounded in the data and related to the research questions. Unsubstantiated patterns that were not prevalent enough or related to research questions were documented in the research journal (Appendix 21).

The themes were introduced in hierarchical organisation with explanation of the interpreted meaning of each theme/subtheme and illustrative quotes from the raw data. This framework of themes contributes to an understanding of the researcher's interpretation of the data. The relationships between themes and differences between professional groups were also discussed.

The following chapter extends the findings of the analysis and introduces the theoretical constructs developed to provide an abstract theoretical explanation of the thematic framework and relationships between themes. An explanatory theoretical narrative accompanies these constructs designed to further 'tell the story' of the data, encompassing; inter-related themes, tensions and debates.

Chapter 6 – Findings Part Two: Theoretical constructs and narrative

6.1 Introduction

In this chapter the theoretical framework developed in this research is explained further through the description of the development of a number of theoretical constructs which can be applied to the data set as a whole. These are introduced, explained and justified with the support of models and participants examples, providing examples of the application of the constructs to reconstructed scenarios in the data.

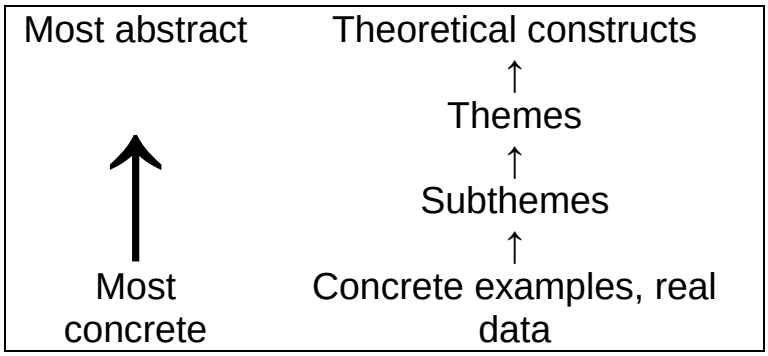
The narrative, incorporated into the findings, tells the story of how the data 'fits together'. The objective of the narrative is to 'capture the essence' of the data and the thematic framework that was developed from it by extending the analysis through identifying the inter-linking framework of the theoretical model and exploring tensions in the data (Braun and Clarke, 2006).

6.2 Theoretical Constructs

The theoretical constructs introduced below were developed simultaneously with the thematic framework discussed in the previous chapter. These constructs support the thematic framework and, together, provide an overall

explanation of the interpretive findings of the data. The constructs were developed at a theoretical level to provide an abstract explanation of the thematic framework representing the patterns in the data. The findings as a whole reflect the development of interpretations of raw data / concrete examples into themes and subthemes which can be explained by the abstract theoretical constructs. Figure 18 shows the levels of abstraction of the findings from the raw data.

Figure 18 - Diagram to show the development of findings from concrete examples to abstract theoretical constructs



Further interrogation of the data led to the development of two original theoretical constructs, which were titled; ‘models of reasoning’ and ‘perceptions of professional roles’. At an abstract level, these constructs contribute to a proposed explanation of the themes, subthemes and relationships between them, bringing unitary themes together to form part of a more cohesive theory. The theoretical constructs can be applied to examples in the data and provide an explanation for the relationships between themes and subthemes that occurred across the data set. These constructs also contribute to the

development of a theoretical framework that may be applied more widely than this data set.

6.2.1 'Models of reasoning'

The researcher identified a series of patterns in the data after having prolonged engagement with each transcript and considering the data set as a whole. These patterns of ideas formed the basis of themes which were seen as inter-related. There seemed to be sufficient evidence in the data to suggest that practitioners were revisiting their own experiences and giving accounts of processes of 'reasoning' (decision making, considering options and outcomes) when they considered how, when and why symbols should be used. Much of the data that was relevant to the research questions surrounded participants' accounts of their 'reasoning' when using symbols. Several aspects of participants' references to their 'reasoning' were reflected in the themes and subthemes.

> Research journal entry (20/11/08)
> I have some ideas for possible 'models' within the theory which revolve around a conceptualisation of the reasoning behind using symbols and how this varies between the professional groups.

The following quote demonstrates that, when talking about thinking about how to use symbols, SLT 4 referred to; possible reasons for using symbols, the 'developmental level' of the child involved, and, the skills of the practitioners using the symbols. The factors that SLT 4 considered were all interpreted as aspects of her processes of 'reasoning' when using symbols.

> SLT 4 - … you can't just think, 'I'm going to put symbols in and then that's going to be effective', you have to think about <um> the reasons why … that child may be wanting to use the symbols, you have to think about the level that they're at, as in, 'are symbols going to be effective?' <Um> Are the people that are using the symbols … trained up to use them with that child?
> (Paragraph 69)

SLT 6 also discussed considering the 'reasons' for using symbols and the processes of reasoning involved in considering the many 'issues' to think about when using symbols.

> SLT 6 - There's lots and lots of different reasons (to use symbols) … and this is why … it's very hard to just talk about one thing like symbols because there's so many issues that are involved with it, so many things you have to think about.
> (Paragraph 183)

Analysis of the data revealed agreement and disagreement within the practitioners' experiences and beliefs about using symbols, for example, which children to use symbols with, how to introduce, implement and develop the use of symbols, which purposes to use symbols for. Identification of the considerations of using symbols allowed the researcher to propose that there may be differences in the processes of reasoning that the practitioners were experiencing when they considered the use of symbols. The reasoning that practitioners follow may be related to professional role but could also be more unique to the individual. Practitioners appeared to consider similar aspects of using symbols but their reasoning did not always seem to have the same starting point or follow the same order.

The researcher developed a ‘model of reasoning’ grounded in participants’ accounts of their experiences of using symbols and beliefs about symbol use. The ‘model of reasoning’ can be applied to participants from any of the three professional groups and could be used to demonstrate the factors they considered when using symbols. The ‘model of reasoning’ acts as a framework to which any considerations and decisions relating to the use of symbols could be applied, reflecting the diversity of participants’ beliefs about symbol use. The ‘model of reasoning’ reflects various aspects of the accounts given by the participants and reflects the patterns and trends identified in the themes and subthemes. The ‘model’ was developed to reflect and explain the real accounts within the data of practitioners’ reasoning and decisions relating to using symbols.

The ‘model of reasoning’ framework was developed to reflect instances in the data in which participants referred to different elements of the reasons they used symbols with children. These included the; ‘who’ (which children), ‘why’, ‘how’ and ‘when’, related to their experiences of using of symbols. The data reflected examples of participants considering each of these aspects of using symbols in various ways and in various sequences.

Figure 19 (page 292) demonstrates the generic model of reasoning which can be applied to any of the participants in the data set. The circle in the centre represents the individual practitioner and their individual reasoning processes

are represented by an ongoing circle of arrows reflecting decisions and possibilities to consider. The model of reasoning framework has been developed to represent practitioners' symbol-related reasoning as a potentially cyclical sequence of thought processes. The findings of this research suggest that practitioners' thoughts and ideas about using symbols may begin at any of the four aspects depicted on the model (figure 19), for example, some practitioners may first consider which children to use symbols with, while others may start by thinking about how to use symbols.

Figure 19 – Theoretical construct – 'Model of reasoning'

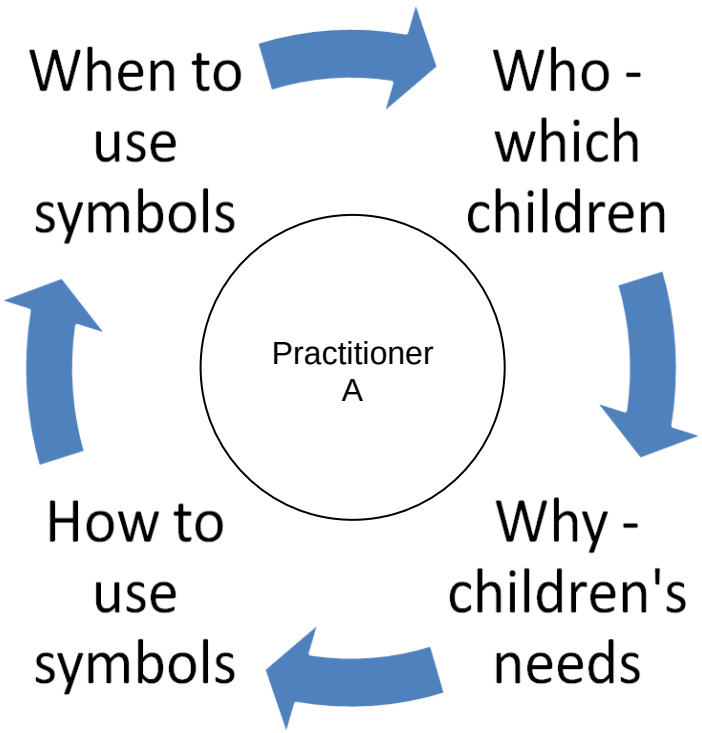


Figure 20 demonstrates the application of the model of reasoning to one participant, an SLT. Factors related to using symbols that were considered by this practitioner have been drawn from selected passages in the data.

Figure 20 – Model of reasoning applied to one participant

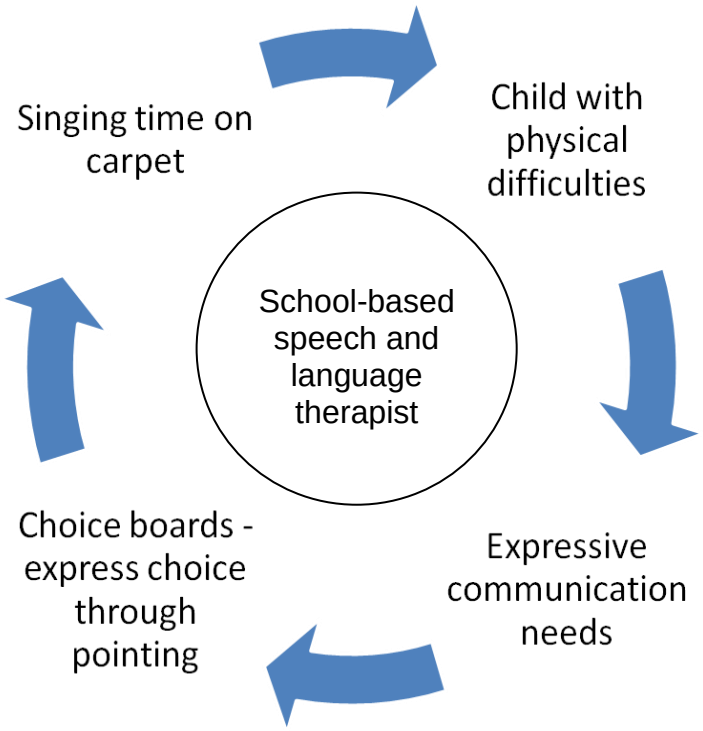


Table 11 shows the application of further real-quote examples from the data to each of the individual aspects of the model of reasoning.

Table 11 – Application of the model of reasoning to examples in the data

Aspect of model of reasoning	Examples in the data	Example quotes
Who (which children)	Participants' accounts of deciding which children to use symbols with, for example, specific children or all children	NN1 – Children which have specific special needs. (Paragraph 443) SLT 9 - … looking at symbols for all children… (Paragraph 73)
Why to use symbols (children's needs)	Participants' reasons for using symbols based on children's needs, strengths and difficulties	TA7 - … she's not very good at making choices in the classroom. (Paragraph 158) SLT 12 - … some children won't understand kind of what's happening. (Paragraph 177)
How to use symbols	Participants' accounts of ways of using symbols and their views and beliefs about how symbols should be used	TA9 - … for one child especially, we have a choosing board (with symbols on it). (Paragraph 134) SLT 8 – (talking about using PECS) … they (children) can exchange picture symbols to request what they want. (Paragraph 42)
When to use symbols	Participants' accounts of specific times of the session when symbols would be used	TA10 - We do use it (symbols), you know, throughout their school day. (Paragraph 166) SLT 6 - like a snack session … the symbols will be out or whatever it happens to be and the child will point to them. (Paragraph 118)

A series of examples were developed to demonstrate the process of reasoning and decision-making that the participants gave accounts of, using examples from the raw data. The first two of these four examples (Figures 21 and 22) are based on the 'model of reasoning' theoretical construct and aspects of the participants' accounts of their own experiences. They are intended to demonstrate the ways the 'model of reasoning' can be applied to scenarios based on the real data.

Figure 21 – Participant Example 1

Participant Example 1 – Process of reasoning about use of symbols - Teacher

Who – which children	T5 uses symbols with all children.
Why – children's needs	She uses symbols with all children because she believes they can support the full range of children in the setting, ranging from children with speech and language needs to those who are new to the school.
How symbols are used	T5 uses a symbol-supported visual timetable with all the children.
When symbols are used	The visual timetable is used throughout the session on a daily basis.

Figure 22 – Participant Example 2

Participant Example 2 – Process of reasoning about use of symbols – SLT

Who – which children	SLT16 used symbols with children with expressive communication difficulties.
Why – children's needs	These children find it difficult to express needs, wants and choices through speech.
How symbols are used	SLT16 used symbols to support these children in expressing choices by representing options to them and asking them to indicate a choice by pointing or looking.
When symbols are used	SLT16 believed that this method of using symbols should be used much as possible.

The theory that practitioners go through a process of 'reasoning' when considering using symbols suggests that there are a number of factors to be taken into consideration. The factors influencing, and processes involved in, making these decisions can be demonstrated by applying the 'model of reasoning'. The model of reasoning focuses on the individual practitioner, which is the starting point for understanding the researcher's interpretation of

this dataset, and does not extend to their experiences of working with other practitioners involved in the use of symbols. The findings suggested that the majority of participants had worked alongside other practitioners in using symbols and this suggests that at some stage the reasoning of the individual practitioner would need to be communicated and explained to others.

> T4 – (talking about reports received from SLTs) … some of the wording, you think, 'oh what do they mean by that?'
> (Paragraph 168)
>
> SLT 11 - ... it's about ... making sure they (educational practitioners) understand why you're saying what you're saying ...
> (Paragraph 173)

The data indicates there are differences in the reasoning of different practitioners and this frequently appeared to be linked to their perceptions of their professional role and the roles of others.

6.2.2 'Perceptions of professional roles' - professional knowledge, skills, training, and objectives

The second theoretical construct developed during the analysis, and based on the thematic framework, was derived from the observation that participants seemed to have certain perceptions about their own professional role and those of their colleagues. These perceptions appeared to be influential in their experiences of using symbols. The construct developed to depict these, referred to as 'perceptions of professional roles', was designed to incorporate the ways in which 'reasoning' was communicated and shared, as well as to

develop our understanding of the individual practitioner's experience of working with others when using symbols.

A large amount of data was collected in which participants discussed their understanding of their own job role. When discussing their professional roles, participants referred to their responsibilities, priorities and objectives.

> T8 - I oversee the other teachers, the teaching assistants, the nursery nurses.
> (Paragraph 6)
>
> TA9 - … my main role is to support children with special needs.
> (Paragraph 102)
>
> SLT 10 - … my aim would be to work with the children <um> in a variety of ways. So individually and in groups and as whole classes.
> (Paragraph 89)

The understanding the participants had of the job roles of practitioners in other professional groups appeared to be variable. SLTs appeared to be clearer about the role of other practitioners than educational practitioners did about SLTs.

> Int - … how much do you feel informed about why a therapist is advising you to do something, or why they're doing something?
> T13 - I didn't feel informed.
> (Paragraph 276-278)
>
> Int - … do you feel like you know what their (the SLT) objective is for that session? How well informed …?
> TA10 - I don't necessarily know at that point …
> (Paragraph 256-258)

The ‘perceptions of professional roles’ theoretical construct was designed to reflect these examples of participants’ accounts of the ways in which they perceived and discussed their own professional role and those of the other practitioners they worked with. It is argued that participants’ ‘perceptions of professional roles’ were a key factor in the ways they use symbols and how they communicate about this with other practitioners. There were various degrees of agreement and conflict surrounding participants’ beliefs about their roles in implementing and using symbols and these were related to tensions in the data surrounding their explanation of professional objectives and reasoning.

This construct was seen to relate to, and offer some explanation for the ‘practitioners’ experiences of the implementation of symbols’ theme (Theme 4). This theme reflected data about the considerations and complications of working with other practitioners when using symbols and was often related to instances when the objectives and ideas of more than one practitioner were jointly contributing to the implementation of symbols within one setting. The ways in which practitioners communicated and took responsibility for implementing their ideas about using symbols was believed to be related to their ‘perceptions of professional roles’.

The ‘perception of professional roles’ construct was originally developed from a cluster of ideas suggested as a candidate category during the analysis following the realisation that ‘understanding of professional roles’ was an important aspect of some of the core nodes and patterns in the data.

> Research journal entry (27/11/08)
> Suggestion for new candidate category:
> ‘Practitioners’ professional motivations, concerns, objectives, priorities’ (reflecting professional role)

As ‘repeating ideas’ and ‘units of meaning’ were interpreted in the data, the researcher began to recognise that the participants’ understanding and interpretation of their ‘professional role’ was an over-arching concept which related to the accounts they gave of their practice. In the interviews, participants described their experiences of using symbols in schools which frequently involved other practitioners. As a result there was a requirement to understand the role of others as well. Perceptions of professional roles appeared to be influenced by understanding of professional objectives, inter-professional communication, territory issues and accountability. This appeared to be more complicated as the number of practitioners working together increased.

Figure 23 presents a framework representing practitioners’ ‘perceptions of professional roles’ based on a model of three practitioners working together. The model demonstrates how individual practitioners have perceptions about their own professional roles, as well as perceptions of the roles of the other practitioners they are working with. Each blue circle represents the individual practitioner and their subjective perceptions about their own professional role. The two-way arrows connecting each of the three circles represent the perceptions that each individual has about the professional roles of the other

practitioners. Each practitioner in the model has a perception of their own role and of the roles of each of the other practitioners.

Figures 23 –Theoretical construct 'Perceptions of professional roles'

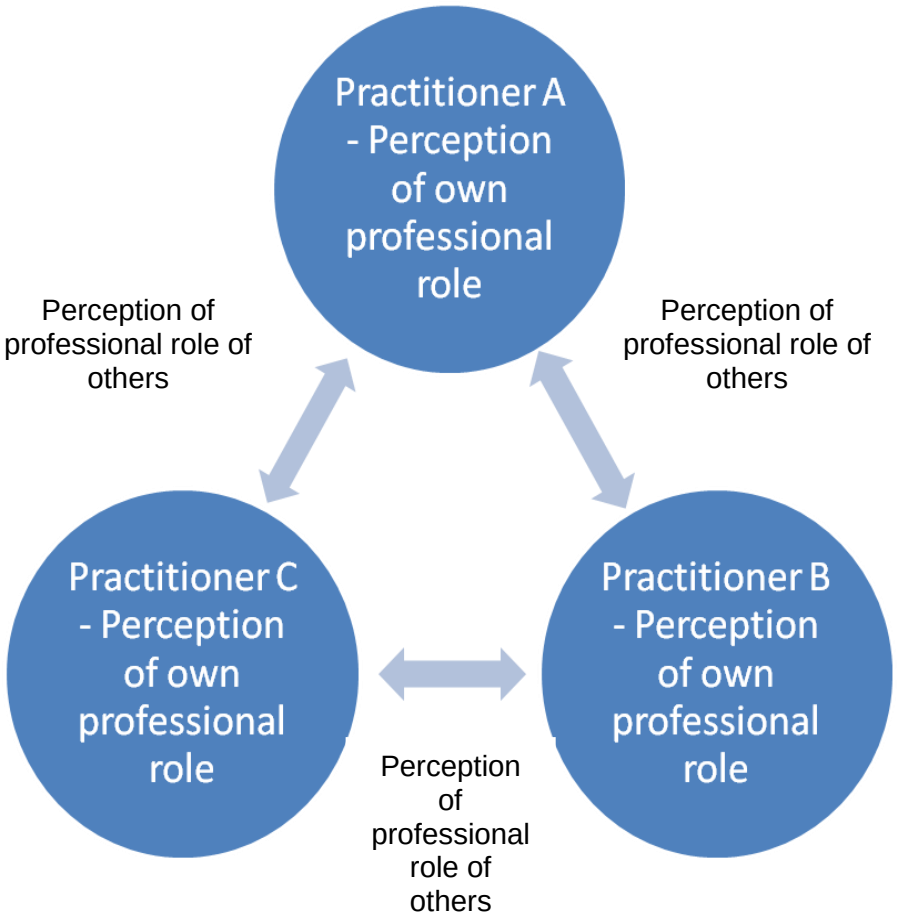
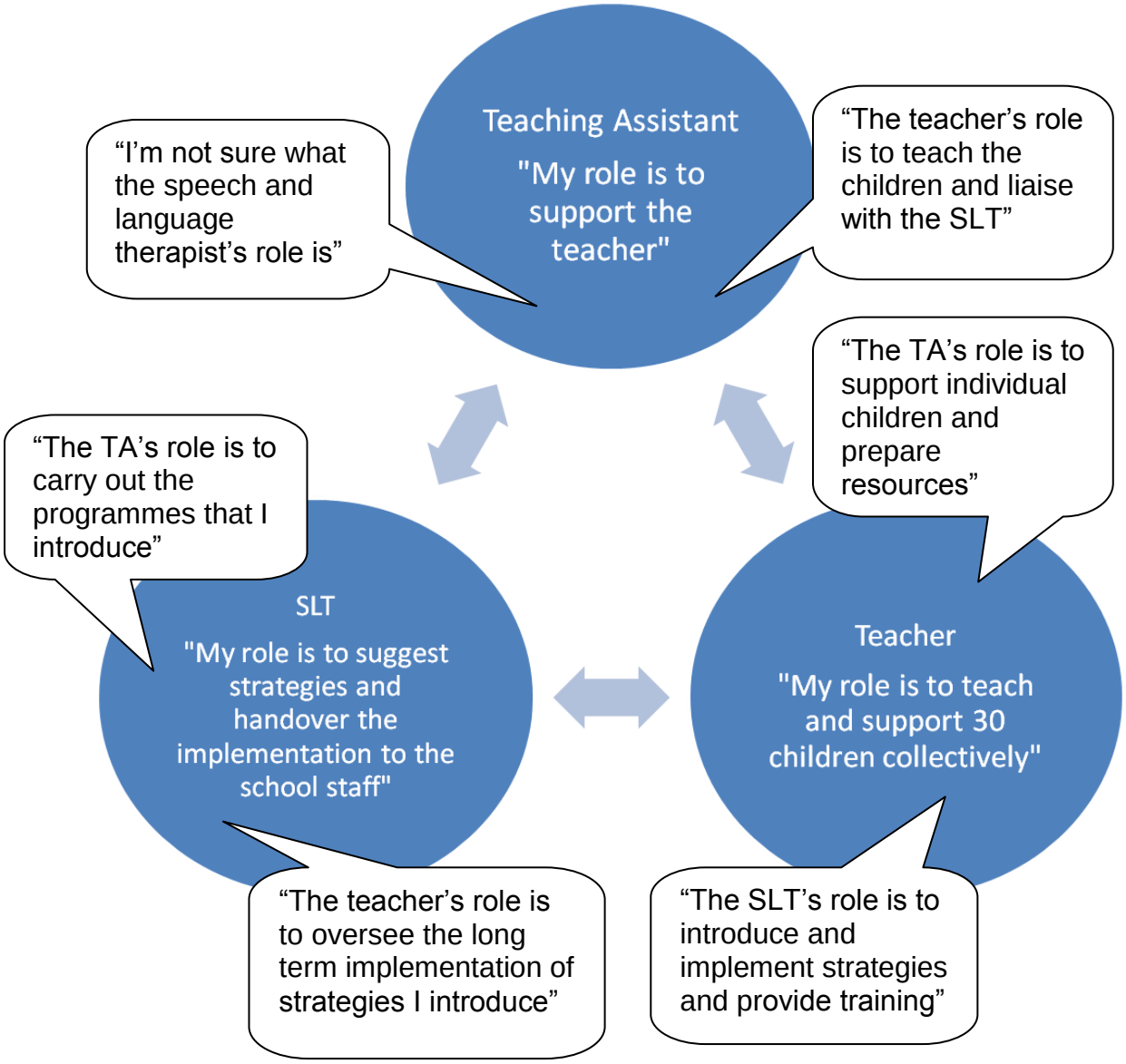


Figure 24 demonstrates the application of the 'perceptions of professional roles' model based on a reconstructed scenario of three practitioners working together. The examples provided have been developed from instances in the data and have been put together to indicate the interaction of perceptions of

professional roles if three practitioners were working together in a school setting. Figure 25 demonstrates that there may be disagreement and confusion about the roles of each of the three practitioners.

Figure 24 – 'Perceptions of professional roles' model applied to three participants

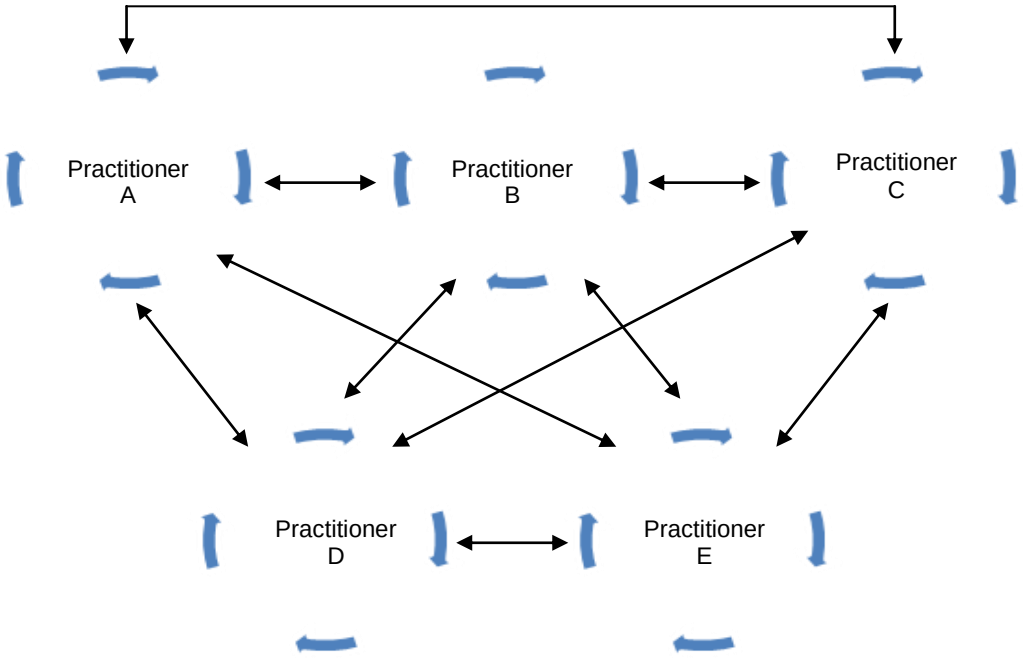


Figures 23 and 24 demonstrate that individual practitioners are influenced by their unique perceptions of their professional role at the same time as being

influenced by their perceptions of the roles of any other practitioners that are involved. The interaction of these multiple perceptions occurring within any one setting can become quite complex. This model can be extended depending on the number of practitioners involved. In order to demonstrate this, Figure 25 (page 304) depicts the interaction of five practitioners.

Each of the five circles represents a practitioner who follows their own unique process of reasoning, represented by blue arrows, and perceptions of their own professional role. The black arrows represent that each practitioner also has perceptions of the professional roles of each of the other practitioners. This model does not demonstrate the extent to which the perceptions among the group of practitioners conflict or are in agreement. It also does not show to what extent to which the practitioners feel that they understand the roles of others. This is something that could be incorporated into the model when applied to real data showing the working relationships of larger groups of practitioners.

Figure 25 – Diagram to show the interaction of professional reasoning and perceptions of professional roles when five practitioners work together



In the data, positive experiences of working with others appeared to be related to participants' accounts of instances in which all practitioners involved had a shared understanding of their own role and the roles of each other and were heading towards a common goal. Practitioners appeared to have a desire to understand the 'role' of other practitioners.

> T10 - you've always got an idea … of what the person next to you wants. And what, you know, what your responsibility is to them …
> (Paragraph 94)
>
> TA5 - I see what they're doing and they see what I'm doing and we, we work together.
> (Paragraph 252)
>
> TA/SENCO 1 - … you have to be very clear what your role is … what their role is …
> (Paragraph 212)

> SLT 6 - … we discuss it and we work through it and we acknowledge that we're both coming from different points of view …
> (Paragraph 155)

Less positive experiences were linked to a lack of understanding of each other's objectives and the absence of communication between practitioners which was related to poorer understanding of roles. In these cases, there was evidence of some hostility and resistance affecting working together and implementing each other's ideas. These experiences were often linked to frustration and were described emotively. These findings appeared to underline the challenge of conducting a professional role in an environment where practitioners are working together but approaching their work from different disciplinary and training backgrounds.

> T13 - I felt, at the time, she was imposing on us.
> (Paragraph 278)

> SLT 10 - I always feel … like they (educational practitioners) think we're there to tell them what to do … … that's why they're very defensive when we go in there and so it's very difficult to get them to try new things.
> (Paragraph 233)

Table 12 shows the application of the 'perceptions of professional roles' construct to examples from the real data.

Table 12 – Application of 'perceptions of professional roles to examples in the data

Aspect of perceptions of professional roles	Examples in the data	Example quotes
Perception of own professional role	Participants' accounts of how they understood their own professional role	T8 - I oversee the other teachers, the teaching assistants, the nursery nurses …so basically the day to day management. (Paragraph 6) TA8 - I'm there to support the teacher really in every way she needs. (Paragraph 106) SLT 4 - … as therapists we all go into schools and … either provide training where necessary … or assess a child and discuss strategies with <um> the teacher, LSA, SENCO … <um> so basically that child's needs is being supported. (Paragraph 33)
Perceptions of the roles of others	Participants' accounts of their understanding of the professional roles of others	T14 - … they'll (SLTs) come in and they'll spend some time with a child or the child working with another group. (Paragraph 262) NN2 – (when asked what she thought was the role of the SLT in school) … To get the child to talk (laughs). (Paragraph 265) SLT 8 - They (educational practitioners) might be the one doing their (children) feed or, or they might be coming in, you know, going out the classroom in the next five minutes to go and change somebody or to hoist somebody from a to b, to then put them somewhere else. (Paragraph 42)

Figures 26 and 27 provide the third and fourth applied examples showing the application of the theoretical constructs to specific participants. Examples 3 and 4 demonstrate the 'perceptions of professional roles' to two participants in the data set.

Figure 26 – Participant Example 3

Participant Example 3 – Understanding of professional role - SLT

Perception of own professional role	SLT7 is school-based for some of the working week. She sees her role in schools as a combination of observing children and writing speech and language support programmes. Although she guides and supports the implementation of the programme, she does not see the long term implementation as her role.
Perception of the role of others	SLT7 believes it is the role of the EYP to implement and carry out the programme in schools.

Figure 27 – Participant Example 4

Participant Example 4 – Understanding of professional role – Teaching assistant

Perception of own professional role	TA11 is a teaching assistant in a special school. She sees her role as supporting children, 'being there for them' and working alongside them.
Perception of the role of others	She sees the planning of the session as the role of the teacher and her role, as a teaching assistant, is to follow this planning.

The 'perceptions of professional roles' construct was developed because these perceptions were seen as an important influence on the phenomenon under investigation; using symbols in schools. The 'model of reasoning' provided a clear representation of the considerations and processes of thinking that practitioners follow, as depicted in the data. The 'model of reasoning' reflects participants as individuals with unique ways of thinking. The 'perceptions of professional roles' construct develops this by acknowledging the presence and interaction of other practitioners. In the same way that the 'model of reasoning' was developed to reflect the centrality of the participants' processes of reasoning and decision-making when using symbols, the importance and

influence of their perceptions of professional roles in this process was also highlighted.

'Models of reasoning' and 'perceptions of professional roles' were seen as theoretical constructs providing explanation for aspects of the data. These two constructs, encompassed by the over-arching theoretical narrative, reflect the 'story' told by the data. These constructs provide a platform for the thematic framework which takes the individual and collective experiences further and explores the detail in the participants' accounts.

6.3 Tensions and debates in the data

Some of the participants expressed beliefs that appeared to contradict beliefs expressed by other participants. These discrepancies in the opinions expressed by participants were interpreted as 'tensions' in the data. One tension in particular was a dominant feature of the data, the decision to use symbols with all or specific children. This tension has been highlighted because participants' position in this debate appeared to be pivotal in their experiences of using symbols.

Using symbols with 'specific children' or 'all children'

Out of the 32 educational practitioners, 17 referred to their experiences of using symbols with specific children, as did six out of the 12 SLTs. In many of these examples, the children's physical, learning or communication needs were

central to the practitioners' reasons for using symbols. Some of these participants explained that they would only use symbols if they were working with these 'specific children' (those with specific needs).

> TA8 - She's the sort of child where she needs a symbol to look at.
> (Paragraph 274)
>
> SLT 6 - We don't use symbols specifically with every child.
> (Paragraph 110)

Out of the 32 educational practitioners, 11 referred to their experiences of using symbols with 'all' of the children they came into contact with, as did six out of the 12 SLTs. These participants did not appear to be basing their use of symbols on the needs of 'specific children' but believed symbol use would be useful with a wider range of children, in most cases 'all of the children'.

> T7 - … you don't need to use symbols just with your children that have got special needs.
> (Paragraph 108)
>
> TA10 - … we use the symbols with the whole group.
> (Paragraph 142)
>
> SLT 14 - And also because it's used in a whole group ... other children can benefit from it as well.
> (Paragraph 157)

SLTs were divided exactly half and half in their opinions on this debate but their reasoning was different to the educational practitioners and they generally always had the needs of individual children in mind. This reflects the difference between the educational practitioner's responsibility for meeting the needs of all

children and the SLT's focus on individual clients. Some SLTs recognised this difference between professional responsibilities.

> SLT 5 - … if you say to a teacher you need to be employing these strategies or giving them advice, they can quite rightly turn round to you and say, 'you've never done this with thirty children, it's different'
> (Paragraph 26)

'Needing the symbol' or 'potentially benefiting'

There appeared to be some differences in the opinions expressed by some participants about the purpose of using symbols and this related to whether they believed that symbols should be used with individual children with specific needs or all children. Some participants explained that they would use symbols if the child 'needed' them. Similarly, some explained that they would not use symbols if they were not working with any children with this 'need' for symbols.

> T11 - … they (children) don't all need them (symbols).
> (Paragraph 262)

> TA15 - There may be children in there that don't … perhaps … need it (symbols) as much as the others …
> (Paragraph 94)

> TA17 - I don't think we've got any (children) that need them (symbols) at the moment.
> (Paragraph 162)

> SLT 14 - … there's only a small number of children that actually need them (symbols) in the school. Most children don't, don't need them.
> (Paragraph 173)

This was in contradiction with the belief that using symbols could potentially benefit all of the children.

> T14 - … it (symbols) benefits everybody as a whole, I think as well.
> (Paragraph 246)
>
> TA12 - I think it (symbols) would <um> … be beneficial to quite a lot of children.
> (Paragraph 178)
>
> SLT 1.9 - … looking at symbols for all children.
> (Paragraph 73)

In some cases it appeared that these beliefs were related to professional role and objectives. There were participants in all of the professional groups supporting both sides of this debate. However, the reasoning behind using symbols with specific or all children sometimes varied across the professional groups. Possible differences in reasoning were explored in the previous chapter in the discussion of the differences between professional groups.

These findings suggest that, although the 'models of reasoning' for participants from different professional groups are job-role-specific in some ways, there are also some similarities and differences in reasoning that are not specifically related to professional role. These differences may be due to personal opinions or experiences in schools regardless of professional role.

6.4 Summary

This chapter contained an introduction to the theoretical constructs and accompanying explanatory narrative which was developed as part of the findings of this research. The theoretical constructs were introduced and illustrated with examples to clarify their meaning and relationship to the thematic framework introduced in the previous chapters. The theoretical constructs; 'models of reasoning' and 'perceptions of professional roles', were developed to extend the explanation of the data after the thematic framework was refined. In this chapter these were introduced and demonstrated with models and examples, providing reconstructed examples based on the real data. Tensions in the data were also discussed.

The following chapter provides the Discussion. In this chapter research questions are reintroduced and responses are developed. The findings are related to existing literature and the major links are identified, as well as aspects of the findings that are unsupported by existing literature. The transferability of the findings are explored and a number of suggestions for future research are presented. The research process is critically evaluated before the thesis is concluded by considering the usefulness and implications of the research.

Chapter 7 - Discussion

7.1 Introduction

The final chapter of the thesis is divided into four parts. The first part of this chapter returns focus to the objectives of the research and the research questions introduced in Chapters 1 and 2. The chapter begins by considering the extent to which the objectives of the research have been met. The researcher then addresses each of the four research questions individually and conclusions are drawn. The responses to the research questions explore the links between the findings and the existing literature explored in the Literature Review. The researcher addresses the contribution made by the findings to existing knowledge on the research topic.

In the second part of the chapter, the researcher explores the transferability of the theoretical model to other populations and settings and two suggestions are given for ways in which the theoretical framework could be taken further. The researcher also outlines three additional suggestions for future research.

The third part of the chapter focuses on an evaluation of the research process. The researcher considers what went well and what could be improved upon in relation to the philosophical framework, methodology and outcomes of the

research. This section of the chapter focuses on what the researcher has learnt from the experience of conducting this research.

In the final part of the chapter the thesis is concluded by considering the usefulness of the research for practitioners, policy-makers and researchers. The researcher explores the overall contribution made by the thesis and the research outlined within it. The final case is made for the originality of the research and the impact of the findings.

7.2 Meeting objectives and addressing research questions

7.2.1 Meeting research objectives

The objectives for the research were introduced in the Introduction chapter and were:

- To investigate the experiences and attitudes of teachers, EYPs and SLTs using symbols in a range of school FS school settings

- To explore the experiences, attitudes and perceptions of these practitioners about:
    - the purpose of using symbols in schools
    - how they currently use symbols in schools
    - how the practitioners who use symbols work with other practitioners in schools
    - the consistency of current symbol use in schools

The objective to investigate the experiences and attitudes that these three groups of practitioners have of using symbols in FS school settings was successfully achieved. This objective was achieved through the collection of appropriate and relevant data in semi-structured interviews addressing the research topic. The findings of the analysis of this data and conclusions drawn reflect the outcomes of this investigation.

The attitudes and perceptions of the three groups of practitioners were successfully explored in the interviews and interpreted and presented in the findings. Participants' ideas about the purpose of using symbols were explored in the interviews by asking questions about how, why and when they used symbols. Participants' responses to these questions can be explained by the theoretical construct, the 'model of reasoning'. The interviews provided insight into the ways in which these practitioners work together and adopt various roles in the implementation of using symbols. These ways of working can be explained by the theoretical construct 'perceptions of professional role'.

The researcher encouraged participants to explore their beliefs and experiences relating to consistency in the use of symbols. Participants' beliefs about the need for consistency were identifiable in the data and reflected some shared beliefs. These are discussed in response to the second research question.

7.2.2 Addressing the research questions

Rich detailed accounts were collected from the practitioners involved in the research about their experiences of using symbols. This provided the basis for addressing research questions. The responses to the four research questions draw upon the themes, subthemes and theoretical constructs and lead to a number of conclusions.

1) What are the experiences and attitudes of practitioners working in Foundation Stage school settings around the use of symbols?

The aim of the primary research question was to address and draw together the range of experiences that practitioners described surrounding their use of symbols in schools and explore any 'attitudes' embedded in their accounts. Although a number of patterns and themes were identified, the diversity of practitioners' experiences must also be acknowledged as a key feature of the data. The response to this research question focuses on key areas of the practitioners' experiences of using symbols and discusses the contribution made by these findings in light of existing literature. The key areas of practitioners' experiences are addressed in turn and relate to the thematic framework already discussed.

Children's needs

All of the practitioners involved in the research had experienced using symbols in schools with the children they worked with. Many had used symbols with

individual children and groups, and some had used them with all the children in one particular setting. Practitioners gave accounts of using symbols with children with a range of 'needs', including; autism, physical difficulties and learning difficulties. The use of symbols with children with specific needs was also represented in the literature by Connor (1999) suggesting the use of symbols with children with autism, Schlosser and Sigafoos (2002) relating the use of symbols to children with physical needs, and, Valiquette et al. (2006) documenting the use of symbols with a child with learning difficulties.

The accounts given by the practitioners involved in the research support the suggestion of Abbott et al. (2006) that symbols can be used with children with a wide range of 'needs' and that symbol use should be differentiated according to these needs. This research is based on a collection of accounts of how practitioners address the diverse needs of a range of children in school settings. It builds on existing literature by demonstrating some of the ways in which practitioners differentiate their use of symbols to meet a range of needs, while also embedding their use of symbols in day to day practice within the setting. The complexities of using symbols with children with a very wide range of needs may be related to practitioners' experiences of using symbols with 'all children', which was reflected in the data.

The data indicated that the use of symbols with 'all children' may frequently occur in schools. Educational practitioners appeared to use symbols with all children if they felt symbols could benefit a wider range of children. This

approach is in keeping with an ‘inclusive’ approach to education which emphasises the importance of meeting the needs of all children, as suggested in key Government documents, including, Every Child Matters (ECM) (DfES, 2003). This argument is also supported by Carpenter and Detheridge (1994) who argued that symbols could be used to support the development of all children. However, the opposite view was also identified in the data and many practitioners agreed with Buckley and Bird (1993) that not all children ‘need’ symbols and that symbols should not be used with children with no such ‘need’.

SLTs, who were primarily aiming to meet the needs of individual children, recognised that children with specific communication needs are educated alongside those with no known difficulties in mainstream settings and children with similar but not identical needs in special schools. Some SLTs appeared to view ‘other children’ as potential communication partners for children with a specific need for symbols. SLTs used symbols with all children with the aim of extending communication opportunities for individual children who used symbols to communicate. This approach would be encouraged by von Tetzchner et al (2005) who highlighted the importance of peers using symbols to support the implementation of AAC systems in schools. Abbott et al. (2006) also recognised the value of creating ample communication opportunities for children using symbols. This was seen as an issue relating to the over-arching ‘social inclusion’ of individuals using symbols, highlighted by Williams et al. (2008), which seemed to be considered more by SLTs than educational practitioners.

In addition to the need to increase communication opportunities for individual children, some of the SLTs suggested that they used a 'symbols for all' approach as a way of 'selling' symbol use to educational practitioners. This suggests that some SLTs felt the need to develop techniques to facilitate the implementation of certain strategies in schools. Williams et al. (2008) argued that there is currently not enough focus on the 'implementation' of symbols and AAC in these settings. This argument resonates with the findings of this research which suggested that the long term implementation of the use of symbols was one area of tension for practitioners.

If there are aspects of symbol use which cause debate among practitioners working in schools, this may further complicate the process of implementing symbol use. The findings of this research indicate that there are 'differences of opinion' among practitioners using symbols which may have implications for the effective implementation of symbols. These differences should now be explored and discussed in practice.

The data indicated that the majority of the practitioners recognised the diversity of the needs of the population of children in FS school settings. This is reflected in several influential documents guiding professional practice in schools, including, ECM (DfES, 2003) and the SEN Code of Practice (DfEE, 2001, effective 2002). This finding is interesting in the context of the dominant discourse of 'inclusive education'. Tensions inherent within the implementation

of ‘inclusive education, discussed by Norwich (2002) and Norwich and Lewis (2007, 2001), reflect difficulties faced by practitioners in meeting the needs of individuals, as well as the overall majority. The findings of this research confirm the complexities of addressing ‘dilemmas of difference’ (Norwich, 2002) in practice and highlight some of the implications for the ways services provided in school settings are organised and delivered. Practitioners were not always clear about what their views on inclusion were.

Children’s symbolic development

The findings reflect practitioners’ shared beliefs about the use of symbols in relation to children’s developmental level and their ability to understand representation. Many of the practitioners appeared to link their understanding of children’s symbolic development with their decisions about how to use symbols and other items in ways which were developmentally appropriate. This can be related to the requirement of the EYFS (DfES, 2007a) to provide children with appropriate learning opportunities. This appeared to be a complex process for practitioners working with class sizes of approximately 30 children where identifying the practitioner(s) with the responsibility for this differentiation was sometimes unclear.

Many of the practitioners appeared to have an understanding that children go through a process of development in understanding symbols, similar to that outlined by DeLoache (2005 2004), who explored children’s development towards reaching an understanding of representation, ‘representational insight’.

Some of the practitioners gave accounts of using ‘matching’ tasks to determine children’s level in the developmental sequence, for example, asking children to match objects with objects, or, objects with symbols. These practitioners suggested that children developed the ability to match two objects representing the same concept before they were capable of matching object to symbols. Matching object to symbol was believed to demonstrate that children had an understanding of the function of symbols. Callaghan (2000) and DeLoache (2004) also used a ‘matching’ method to determine children’s level of symbolic development. Many practitioners were in agreement with DeLoache (2004) that understanding the function of objects of reference was a pre-cursor to developing a full understanding of other types of symbols.

Practitioners referred, directly and indirectly, to the existence of a representational hierarchy and suggested that objects of reference were the easiest to understand, followed by photos and symbols (similar to the hierarchy presented in Figure 3, presented again below).

Figure 3 replicated

Most abstract / most difficult to decode	Orthography / text
↑	Graphic symbols: Blissymbols Makaton symbols Widgit Literacy symbols PCS symbols
	Photos
Most iconic / easiest to decode	Objects of reference

Many practitioners agreed with McNaughton (2006), who was originally influenced by Vanderheiden and Lloyd (1986), and Porter and Ashdown (2002) that certain modes of representation can be understood before others and that this development typically occurs in sequence. This links with McNaughton's (2006) 'AAC literacy ramp' and Porter and Ashdown's (2002) concept of a progression continuum, both of which described these items in a similar order or perceived difficulty. Practitioners described children's understanding of symbols as a series of 'levels' or 'stages' and related this to the 'object – photo – symbol' sequence. These accounts suggested that some practitioners had experience of linking children's developmental level to decisions concerning whether to use objects, photos, symbols or another alternative in the school context.

The findings of this research build on the work of McNaughton (2006) and Porter and Ashdown (2002) by reflecting the complex reality of matching the developmental abilities of a range of children with the appropriate use of symbols in schools. Not only do these models depict a similar concept of developmental progression to that represented in the data, but McNaughton (2006) and Porter and Ashdown (2002) also describe the same sequence of progressing difficulty in the forms of representation, objects towards text. These findings suggest that there are recognised developmental stages and these are considered and applied by practitioners as a basis for differentiating the use of objects, photos or symbols in schools. Practitioners referred to a general lack

of training in this area which leads to curiosity about how they came to acquire their understanding of symbolic development and appropriate use of symbols.

The data provided examples of practitioners' accounts of working with a range of children within the FS age range, some of which had developed an understanding of the function of symbols, and others who had not. This finding is interesting when compared to Callaghan's (2000, 1999) suggestion that children develop an understanding the function of symbols late in the third year. Practitioners' accounts appeared to suggest that Callaghan's (2000, 1999) finding was true of some of the children they had worked with in this group but also suggests that the developmental process may be more complex for some other children. As a result the ways that symbols and other representational items were used, was differentiated accordingly.

There was some agreement between practitioners' accounts of symbolic development and Rochat and Callaghan's (2005) 'six level model of pictorial meaning'. The accounts given by practitioners build on the developmental framework suggested by Rochat and Callaghan (2005), while also drawing attention to the complexity and diversity of children's development. The data provides examples of practitioners' every day experiences to which Rochat and Callaghan's (2005) model can be applied and compared. These examples reflect a population of children with a wide range of needs which may or may not fit with the model outlined by Rochat and Callaghan (2005).

This finding suggests that, when applying models outlining the stages in symbolic development, practitioners should acknowledge the diversity in children's developmental progress in this area. This would be in-keeping with the 'unique differences' approach to inclusive education proposed by Norwich and Lewis (2007), in which the focus of educational provision is on meeting individual needs, rather than differentiating for various 'groups' of children. However, Norwich and Lewis (2007) acknowledge the complexities in meeting individual needs while providing learning opportunities for 'the majority' which may be the case when practitioners are required to differentiate symbol use for individual children, while providing learning opportunities that are accessible to all.

The findings of this research demonstrate how practitioners interpret, and are influenced by, the concepts associated with symbolic development. The findings suggest that, in some cases, practitioners' understanding of symbolic development comes from their own experiences. Some practitioners regularly made links between their perceptions of children's developmental abilities and a number of ways to use symbols and other representational items. The findings of this research indicate that it is important that practitioners using symbols are introduced to the concept of symbolic development and are given the opportunity to develop this knowledge before and after their initial training.

Modes and multi-modality

When giving accounts of their use of a multi-modal approach, some practitioners suggested that their objective was to support children in absorbing and understanding the information that was being delivered. These accounts indicated that practitioners were in agreement with Grove and Walker (1990) that a multi-modal approach may benefit a range of learners. Practitioners' accounts of their experiences in this area indicated that they had reason to concur with the premise of the 'total communication' approach, using multiple modes simultaneously, developed by Denton (1976). The data collected in this research demonstrated that a 'total communication' or multi-modal approach was being adopted to support children with learning difficulties, EAL and difficulties with comprehension of verbal language.

Practitioners' accounts of using a multi-modal method were also in agreement with the finding of Zentel et al. (2007) that information was more readily understood and recalled when presented in more than one mode simultaneously. Zentel et al. (2007) found that children were more able to recall information presented as 'text and symbols' which is similar to the suggestion made by practitioners that children were able to recall more when symbols were used alongside text and auditory formats.

Practitioners suggested that the visual channel was the preferable sensory channel for some children. These children were sometimes described as having difficulties in understanding information delivered aurally. Some

practitioners gave accounts of using more than one mode or channel to support children with these kinds of needs. Valiquette et al. (2006) were in agreement with this approach and suggested a multi-modal method could be used when speech alone was not satisfactory or sufficient.

The use of a 'multi-sensory approach' referred to by some practitioners can be related to the recommendation of Wellington and Wellington (2002) who applied this approach when working with children with communication difficulties in mainstream science settings. A multi-sensory approach was also suggested by Schupack and Wilson (1997) for supporting children with dyslexia. When discussing the use of a multi-sensory approach, practitioners referred to a range of children, many of whom had communication needs. Dyslexia was not mentioned. Many practitioners appeared to agree that using more than one 'channel' to present information to children was more effective than using one channel alone, for example, just auditory.

These findings suggest that practitioners are aware of the possible advantages of using more than one mode and that they recognise opportunities to use a multi-modal approach within the school setting. It is possible that adopting this approach provides practitioners with a means of addressing the need to differentiate the ways that a message is delivered and target a range of children simultaneously.

Visual timetables

Visual timetables were the most frequently mentioned way of using symbols in the entire data set and were used by practitioners to demonstrate to children the sequence of the day/morning/afternoon's events. Visual timetables were displayed as a sequence of symbols in a horizontal or vertical line, depicting activities or blocks of time in the day. This approach was used to show children time passing and to signpost the return of caregivers at the end of the session, which was believed to reduce anxiety among children. Practitioners' accounts build on the work of Abbott and Lucey (2003) and Beaney and Kershaw (2003) who discussed and recommended the use of visual timetables in schools. Beaney and Kershaw (2003) linked the use of visual timetables with children with autism and a similar link was also made by some of the practitioners in this research. However, the findings suggest that visual timetables are also used more widely in schools and were frequently seen by practitioners as useful for other children, in some cases, all children.

This research highlights the prevalent use of visual timetables in these settings and provides detailed accounts of how visual timetables are used. These findings extended our understanding of symbol use in schools and suggest that the use of visual timetables is an example of the use of symbols which is, in some cases, accessed by the entire FS population. This finding may suggest that symbol use in schools is developing beyond AAC and symbols are being used by educational practitioners to meet their own educational and behaviour management objectives. Visual timetables were also used by SLTs who placed

great value on helping children to understand what was happening in their surroundings. The use of visual timetables must be explored further with a view to exploring the possible tension between a need for consistency and a more individualised approach.

Expressing choices

In the data, the use of symbols to support choice-making was often linked to the need to support children with expressive language difficulties, which was reflected in the work of Schlosser and Sigafoos (2002) who discussed the use of symbols in AAC for expressing requests. However, there appeared to be differences between the use of symbols to support choice-making in the classroom, as discussed by practitioners, and the role of symbols in AAC to facilitate expressive communication.

Bousaki (2006) emphasised the role of symbol-supported choice boards in supporting children with communication difficulties in mainstream schools which was similar to the accounts given by practitioners. However, the practitioners involved in this research gave accounts of using choice boards with a range of children. The data indicated that, in schools, symbols are used to support a wider range of children in making and expressing a choice than those with communication needs alone. Practitioners' accounts of using symbols in this way were only related to children who were seen as 'AAC users' in a few cases. The children mentioned by practitioners did not always have identified difficulties with expressive language. Some practitioners recalled using

symbols to support children with comprehension difficulties who might need the symbols to understand the choice they were being asked to make. In other cases, practitioners used symbols to support children with emotional and behavioural difficulties, who needed support focusing on a task and following a routine.

The difference between using symbols with children who were traditionally likely to become AAC users and the general population of children is highlighted in these findings. The findings suggest that practitioners recognise the potential benefits of using symbols with children who would not be typical AAC users, for example, children with emotional and behavioural difficulties. This indicates that practitioners have identified ways that symbols can be used which may have emerged and developed in school settings and may not be represented in the literature.

Early literacy skills: Learning to read

Many of the practitioners involved in the research expressed a view similar to that made by Carpenter and Detheridge (1994), that symbols could support children in becoming literate. Some practitioners gave accounts of using symbols to develop literacy skills and many of these practitioners appeared to agree with Abbott et al. (2006) that symbols could be used as a 'transition tool' when learning to understand text. The suggestion made by Abbott et al. (2006) was based on a population of symbol-users of all ages with a range of needs. The data collected in this research demonstrated practitioners' experiences of

using symbols to develop literacy skills with children within a specific age range of three to five year olds. In most cases, the use of symbols was seen as a 'stepping stone', as suggested by Abbott et al. (2006).

The data surrounding the use of symbols and literacy indicated that some practitioners believed that symbols could be used to enable children to recognise words and graphemes by associating them with the symbol when displayed together. Children were supported in learning to recognise the word by presenting the symbol along with the written word. Practitioners described a process of reducing the size of the symbol over time, as children became able to recognise the word, until eventually it was no longer needed. There were some similarities between the method described by practitioners and those methods explored by Sheehy (2005, 2002) and colleagues.

The data suggested that some practitioners were in agreement with the findings of Sheehy (2005, 2002) that using a 'word and symbol approach' was more successful than teaching children word recognition with word alone techniques. The practitioners involved in this study did not refer to embedding the symbol within the word, as carried out by Sheehy (2005, 2002), but gave accounts of presenting the symbol and word simultaneously. These findings suggest that some practitioners believed that symbols could play a role in supporting early literacy development. The differences in the approaches outlined by the practitioners and Sheehy (2005, 2002) may relate to the practicalities of using these approaches in schools.

Some practitioners suggested that symbols could be used to support all children to recognise words and others gave accounts of using this approach with children with learning difficulties. Using symbols to develop literacy skills in children with these needs was advised by Valiquette et al. (2006) who suggested that symbols may compensate for cognitive difficulties. Practitioners gave accounts of using this approach in the context of a school setting which provided an insight into the application of this approach in practice and demonstrated the role certain practitioners play when supporting children developing literacy skills.

Rules and expectations

Many practitioners had experienced using symbols to represent 'rules and expectations' to a range of children. This is in an interesting finding especially as reference to using symbols in this way had previously been reported in literature related to behaviour and autism (Whitaker et al., 2001). The data indicated that the use of symbols to represent rules was a specific way that symbols were used in schools. Practitioners involved in this study often referred to their experiences of managing challenging behaviour in the school setting and this was related to their reasons for using symbols to represent rules and expectations.

The findings of this research indicate that symbols are being used in schools to support the management of behaviour with a range of children, rather than just

those with autism. The research also suggests that it is not only educational practitioners who use symbols in this way, as would be expected given their role in behaviour management. Several SLTs reported using symbols in this way as well, which indicates that they also recognised the value of using symbols to represent to expectations of behaviour to children. This finding suggests that some SLTs may perceive managing behaviour as an aspect of their role in schools or that behaviour management is necessary in order for them to carry out their role.

When discussing their experiences of using symbols, practitioners frequently gave accounts of working with other practitioners, which appeared to impact on the ways symbols were used. This area of the data is explored further in the response to the fourth research question.

2) How consistent is symbol use across the Foundation Stage, what are practitioners' thoughts about this?

A number of practitioners expressed beliefs about the need for symbol use to be 'consistent' within settings. Practitioners described consistent symbol use as using the same symbols in different parts of the setting and whole school, and, using the same symbols at different times of the day. Practitioners referred to the need to use symbols that were visually similar or identical within and around the setting to support children at times of 'transition', providing children with a sense of familiarity. Familiarity was seen as something that children liked and

needed and was believed to reduce anxiety that they might be experiencing. This finding was supported by Abbott and Lucey (2005) who also found that reducing anxiety was a common reason for using symbols in schools.

This research provides insight into the reasons why practitioners may want to maintain consistency in symbol use in schools. The findings indicate that many practitioners believed it was a priority to ensure that children know what is happening / going on. The data also highlights the importance that practitioners attributed to reducing anxiety among children, particularly those having difficulties settling in, understanding their environment or experiencing trauma through separating from caregivers. Using symbols to reduce anxiety was seen by Abbott and Lucey (2005) as supportive of children's personal and emotional development, which was given by their participants as a reason for using symbols in schools. Similarly, the data collected in this research indicated that reducing anxiety is seen as part of their professional role by some practitioners and an essential part of supporting children in schools. Practitioners recognised the need to focus on children's personal and emotional well being and development in this area.

Many practitioners emphasised the need to use symbols that are visually similar and use these symbols consistently. However, many practitioners also referred to the need to differentiate their use of symbols towards meeting the unique needs of a range of children. The need to differentiate symbol use to meet children's needs relates to the suggestion made by Abbott et al. (2006) that an

individualised approach is more suitable than ‘sticking rigidly to one symbol set’. Many practitioners involved in this research were in agreement with Abbott et al. (2006) that children’s needs are unique and diverse but were also driven by the need to provide familiarity.

These findings may suggest that practitioners recognise the value in using visually similar symbols consistently for some purposes (labelling the environment, visual timetables), as well as tailoring their use to meet the needs of individual children for others (choice boards, communication and literacy). This may be related to the context of the practitioners’ school based experiences and the need to help children settle into the setting, which would be particularly important when working with the FS age group. The findings of this research indicate that consistency in the visual appearance of symbols is seen as important by practitioners for providing familiarity and reducing anxiety but the need to differentiate symbol use to meet individual needs is also a requirement. Most practitioners appeared to be striving to meet both of these requirements equally.

3) What is guiding/governing current symbol use?

The response to this research question considers ‘who’ is guiding current symbol use, as well as ‘what’. The data indicated that symbol use was primarily guided by practitioners’ perceptions of children’s needs and that the actual implementation of their use of symbols was guided by individual practitioners

rather than ‘school policy’. As a result, the response to this research question centres upon the data which was related to the roles of those practitioners involved. The data suggested that, as well as the needs of the children they worked with, practitioners’ use of symbols was guided by; their own awareness, knowledge and understanding of symbols, their perceptions of their professional role, and, guidance from other practitioners.

Professional roles

The majority of the practitioners involved in this research appeared to be guided by their professional objectives and perceptions of their professional role in supporting children in schools. Practitioners sometimes discussed their interpretations of the roles of other practitioners and some did not seem to have a clear understanding of these roles. Kersner (1996) stressed the importance of understanding professional roles when practitioners are working together and suggested that professional roles for groups of practitioners working in schools are prone to change and reinterpretation. Jarvis and Trodd (2008) referred to changes in professional roles as ‘negotiation of identities’ and suggested that this was, in fact, necessary for practitioners to work together in multi-professional settings.

The accounts given by some of the practitioners in this research suggested that professional roles and identities were often undefined, for example, some of the educational practitioners interviewed in this research expressed confusion

about the roles of the SLTs they worked with. SLTs discussion of roles was related to the long term implementation of symbol systems in schools, which suggested that there may be a tension in understanding who was responsible for maintaining the use of symbols. The findings also indicate that teachers and EYPs may be unsure of their own roles and the roles of others in the ongoing implementation of symbols, as suggested by Williams et al. (2008).

Jarvis and Trodd (2008) argued that 'negotiation of (professional) identities' leads to the development of a 'community of practice' where language and procedures are shared. However, although some practitioners interviewed in this research gave accounts of positive experiences of working with others and successful collaborative working, many practitioners did not. One reason for this may be that the conditions needed to explore professional identities, for example, time and co-location, are not available to some practitioners working in FS school settings. However, practitioners' accounts confirmed that a shared understanding of roles was desirable, which was in keeping with the finding of Tollerfield (2003) that, when clearly understood, differences in professional role could benefit professional relationships. In this research, positive experiences of working collaboratively seemed to be related to clear understanding of the roles of all those involved and open communication about this.

The findings of this research suggested that professional reasoning and decision-making about using symbols is initially guided by the individual practitioner's thought processes which could be influenced by a number of

personal and professional factors. This was reflected in the theoretical construct, the 'model of reasoning'. The 'model of reasoning' demonstrates that, among other things, practitioners were guided by their own thinking and decision-making processes when using symbols. This research highlights the important role of individual practitioners' reasoning in the use of symbols which suggests that there is a need to explain this reasoning and share this with the other practitioners involved. Practitioners' accounts indicate that time is not usually made available for this kind of inter-professional communication in busy school settings.

The data also indicated that symbol use involving more than one practitioner led to the need to determine professional roles in this process. It would appear that professional roles were often linked to practitioners' perceptions of their professional objectives. For example, several SLTs referred to their objective to support and enable children to develop functional communication and this seemed to guide their use of symbols. This was acknowledged by Calculator and Jorgensen (1991), who discussed the integration of symbol-supported AAC systems in schools and argued that the development of functional communication should be the primary objective when implementing AAC in schools.

Educational practitioners often referred to the use of symbols to support children in developing early literacy skills which was also demonstrated by Sheehy (2005, 2002), as discussed earlier. This appeared to be guided by

educational practitioners' professional objectives and requirement to support literacy development in all children which was the focus of the Rose Review (2006). The Rose Review (2006) provided practitioners with advice about approaches to take in supporting early reading and may act as an ongoing guide for school-based practitioners. However, the Rose Review (2006) did not promote the use of symbols to support the development of early literacy skills but did advocate the use of 'highly personalised interventions' in some cases (Rose, 2006, p.42). The findings of this research demonstrate that some practitioners are using 'personalised' approaches and integrating symbols into approaches to teaching literacy which provide alternatives to the widespread 'phonics' approach.

The collection of data from three professional groups all working within schools settings, allowed the identification of professional differences in the objectives of using symbols. Where previous research had acknowledged the use of symbols for specific purposes, this was developed in this research by considering what happens when symbols are used for different purposes, by different groups of practitioners, with different objectives in mind. The differences in the use of symbols by practitioners from the three professional groups reflect the differences in perceptions of professional roles within each group and the contrasting knowledge bases that they may be drawing on.

Forbes (2008) argued that practitioners working together may be drawing on one of two types of knowledge, 'discipline specific' or 'hybrid applied

knowledge'. Forbes (2008) suggested that the latter type of knowledge was derived from, and supportive of, collaborative working, as this type of knowledge was created in inter-disciplinary contexts. There appeared to be examples of practitioners drawing upon both of these types of knowledge in the data but the differences between using symbols for educational and communication purposes reflect the dominance of 'discipline specific' knowledge among each of the three professional groups. It may be that educational practitioners and SLTs working in FS school settings have not been able to fully develop the 'hybrid applied' knowledge required to support collaborative working. The reasons for, and implications of, this must be explored.

Many of the educational practitioners gave accounts of being guided by other practitioners, particularly SLTs, in their use of symbols. In some cases, SLTs had introduced or suggested the use of symbols to educational practitioners and they were subsequently implemented with the support of the SLT. Some educational practitioners reported observing SLTs modelling and demonstrating how to use symbols and providing training in schools. The differences between the roles of SLTs and teachers in schools were acknowledged by Wright and Kersner (1998) who suggested that this was influenced by the contrasts in their specialist training. Following this argument, it could be assumed that specialist training may encourage SLTs to 'model' or 'demonstrate' the use of symbols, as observed in this data.

Some of the accounts of the implementation of symbols given by practitioners suggested that SLTs were seen as experts, which may imply ways of working similar to the 'expert model' (McCartney, 1999; Kersner, 1996). This finding is similar to that of Baxter et al. (2009), who referred to the concept of a 'consultative model' occurring in schools, when SLTs are seen as 'experts' and are expected to advise other practitioners. Baxter et al. (2009) concluded that educational practitioners often view SLTs as 'experts' if they are not fully aware of their role in schools. Baxter et al. (2009) and Kersner (1996) both suggested that this approach did not facilitate the achievement of common goals.

Ways of working associated with the 'expert model' imply a tendency towards 'discipline specific' knowledge (Forbes, 2008), which is also seen as unsupportive of collaborative working. However, the findings of this research reflect the reality of ways of working in school settings which suggest that practitioners are currently ill-equipped to develop ways of working that divert from the 'expert model', such as 'organisational learning' suggested by Martin (2008). It is unclear, however, how opportunities for 'organisational learning' can be provided in the school settings explored in this research.

In this research, several educational practitioners working in a mixture of mainstream and special schools reported that SLTs were not involved in symbol use. Similarly, several SLTs reported not being involved or invited to contribute to the use of symbols in schools. This did not necessarily suggest that in these cases SLTs were not seen as experts but may reflect differences in

interpretations of the roles of professionals in implementing symbols. It may also reflect differences in the extent to which ways of working in these settings are truly ‘collaborative’.

The roles assumed by practitioners were often related to the time spent in schools by SLTs, as well as perceptions of professional roles. These findings suggest that there may be inconsistencies in the roles of practitioners in the use of symbols and who is responsible for guiding the process. Therefore, clear understanding of roles and a shared understanding of who was guiding the process would be an advantage.

Practitioners’ accounts demonstrated that their own knowledge and understanding of how and why to use symbols varied greatly (varying most among educational practitioners) and this may have had an effect on how much guidance they sought or were willing to take. A number of practitioners referred to practitioner skills, knowledge and understanding as a factor influencing the implementation of symbols. These practitioners suggested that when other practitioners lacked understanding of symbols, implementation was more challenging. These findings relate to the argument made by Nind (2000), who suggested that practitioner understanding of techniques and initiatives is essential to their successful implementation. There appears to be a need to increase professional training, before and after qualification, in the use of symbols which may be more effective if specialist roles for professional groups were defined (Forbes, 2008). This would suggest that raising practitioner

awareness, knowledge, understanding, and, skills in using symbols should be made a priority.

Early Years Foundation Stage

Out of the whole data set, three teachers referred specifically to the EYFS (DfES, 2007a) framework. However, several of the subthemes identified in the data suggest that other practitioners had been influenced or guided by the EYFS in their practice. The EYFS is based on the developmental processes of children in the birth to five age range and advises practitioners to consider the developmental progress of each child. In this research many practitioners discussed their experiences of recognising a developmental progression in children and some described this as a 'continuum'. The developmental continuum discussed by practitioners was strongly linked with their accounts of using symbols and children's development in understanding representation.

The EYFS also advises practitioners to provide children with learning opportunities that are developmentally appropriate and suggests practitioners should avoid assessing children by age only. Although some of the practitioners in this research referred to the age of the children they worked with, they appeared to be more guided by their observations of the development of individual children. The practitioners recognised that not all children were at the same developmental level and, as a result, gave accounts of differentiating symbol use accordingly. These findings suggest that, although only a small number of practitioners referred directly to the EYFS, the key messages from

this framework may be influencing and/or guiding practitioners in their use of symbols.

4) What are practitioners' experiences of educational practitioners and speech and language therapists working together when using symbols in Foundation Stage settings?

In this research, practitioners reported working with other practitioners from the same and different professional groups when using symbols in schools. Practitioners' accounts of collaborative working indicated that this was an important part of their experiences of the implementation of symbols. References were made to several factors influencing collaborative working relating to the setting and the roles of various practitioners. Practitioners had varying perceptions of their own professional role in the use of symbols, as well as the roles of other practitioners. Some practitioners had strong beliefs about the factors that improved and supported working together and these seemed to centre upon effective communication and time to work together and carry out roles. Several of the SLTs mentioned the requirement to work together 'collaboratively' and discussed what this term meant to them.

The theoretical framework developed during the analysis is based on the understanding of practitioners as individuals with unique reasoning, as well as part of networks of practitioners, within which their reasoning must be communicated and roles must be determined. The importance of

understanding roles was acknowledged by Kersner (1996) who related a shared understanding of roles among teachers and SLTs to setting appropriate and realistic goals. Some practitioners gave accounts of what they saw as successful working relationships with other practitioners and recognised that working together was beneficial because of the unique knowledge and skills that each professional group could offer. Wright (1996) described this as 'explicit recognition of complementary roles' (p.4). The findings of this research indicated that a shared understanding of roles was dependent on a number of factors in schools, including, time and opportunity to communicate.

In their accounts of using symbols, practitioners often demonstrated that their processes of reasoning were unique and subjective. This was acknowledged by McCartney (2000) who highlighted the influence of individual reasoning when practitioners work together. The data indicated that working collaboratively in schools was complicated by the need to communicate individual reasoning with practitioners coming from a different professional view point. McCartney's (2000) solution to this was to foster a culture of joint input involving more than one practitioner. When discussing the implementation of AAC systems in schools, Calculator and Jorgensen (1991) also stressed the importance of collaborative input.

Some of the practitioners in this research gave accounts of their experiences of giving joint input to the use of symbols. Many of these practitioners suggested that this approach facilitated working together in schools. Similarly, Hunt et al.

(2002) concluded that 'collaborative teaming' improved practitioners' experiences of working together and led to improved outcomes for children using symbol-supported AAC systems in schools. The benefits reported by their participants were increased accountability, improved support networks and opportunities to share perspectives and expertise in the setting. Some of the practitioners involved in this research reported similar experiences and positive accounts of collaborative working were often related to understanding accountability and the advantages of gaining insight into other professional perspectives. The findings of this research, however, reflect the complexities of fostering 'collaborative teaming' in school settings and suggest that practitioners must be aware of the purpose and recognise the need to work in this way.

When experiences of collaborative working were less successful, practitioners sometimes referred to a lack of understanding of the role or objective of other practitioners. Lack of understanding of roles was seen as a barrier to collaboration by McCartney (1999). As a solution to this McCartney (1999) stressed the need to foster mutual understanding of roles when practitioners work together in schools. The data suggested that in order for practitioners to understand their role, and the role of others, these roles must be clearly defined, this had not always been the case in the practitioners' experiences. The theoretical construct, 'perceptions of professional roles', was developed to reflect the practitioners' accounts of their understanding of professional roles. This model seems to be in agreement with the findings of McCartney (1999)

and suggests that ensuring roles are understood by all practitioners may address a common barrier to collaborative working.

Practitioners suggested that an exchange of information between practitioners was an essential part of working collaboratively, particularly when information that was shared could improve and develop practice. Practitioners referred to this when discussing the implementation of symbols and it was frequently suggested that SLTs could contribute to the development of the skills and understanding of educational practitioners. This finding is supported by Wright (1996) and Tollerfield (2006) who both stressed the possible advantages of effectively sharing information, knowledge and skills. Wright (1996) described the increase in knowledge resulting from sharing information as ‘cognitive gain’.

Some educational practitioners referred to the knowledge and skills that they had developed as a result of observing, working with, and talking to SLTs. Their accounts of this suggested that they believed that these experiences had led to a certain amount of ‘cognitive gain’. In recognising that some practitioners gained knowledge and skills by sharing information with other practitioners, the findings of this research highlight the potential benefits of effective collaborative working in schools. Similarly, Martin (2008) referred to ‘distributed expertise’ as a product of ‘expansive learning’. The term ‘distributed expertise’ was used to describe being more ‘disposed’ to the knowledge of others.

Some of the practitioners in this research discussed, at some stage, the knowledge they had gained from others. Martin (2008) defined 'expansive learning' as a two-way process and it was not always clear if the knowledge sharing process was always a two-way phenomenon for the practitioners involved in this research. Educational practitioners referred to knowledge gained from others more than SLTs.

The findings of this research indicated a tension between using symbols with all children or specific children. The differences in allocation of services and prioritisation between SLTs and educational practitioners may have contributed to this tension in the data. Accounts of symbol use given by SLTs were related to the objective to provide support to specifically targeted children, while educational practitioners were aiming to meet the needs of all of the children in the setting. These professional differences were described by McCartney (1999) as a functional barrier to collaboration.

It is important to acknowledge that not all SLTs believed that symbol use should always be targeted at individual children, and not all educational practitioners believed they should be used with all children. SLTs' reasons for using symbols with all children may be interpreted as an attempt to address this 'functional barrier' to collaboration. For example, some SLTs promoted a 'symbols for all' approach in order way to 'sell' the use of symbols to educational practitioners, which was partly related to their awareness of the need for symbol-users to have communication partners, while also recognising that some educational

practitioners may be resistant to their suggestions. The data provides concrete examples of practitioners attempting to address 'barriers to collaboration' in their day to day practice.

Lack of time was referred to by the majority of practitioners as a factor in collaborative working and the use of symbols in schools. This was in agreement with the findings of Hartas (2004) who found that lack of time influenced teachers and SLTs working together, and, McCartney (1999) who referred to lack of time as a structural barrier to collaboration. Parsons et al. (2008) recognised the impact of lack of time when considering the implementation of ICT in settings and considered time to be a resource-related 'first order factor' influencing implementation. Accounts given by practitioners also suggested that collaborative implementation of symbols was challenging when time was limited. These findings emphasise that the availability of time must be considered when practitioners are expected to work together when implementing a strategy or resource.

The practitioners' accounts of the effect of a lack of time were often related to other practitioners not being 'available' to meet and discuss strategies. The practitioners involved in this research placed a lot of value on flexibility when working in schools and suggested that being inflexible was a barrier to working collaboratively. This finding was mirrored by McCartney's (1999) definition of structural barriers which also included a lack of availability and flexibility of practitioners. The data indicated that practitioners were aware of these barriers

and their accounts suggest that they have attempted to address these. Practitioners appeared to be restricted by other factors, for example, high caseloads and other demands from management.

Several SLTs highlighted their experiences of working in schools as a 'visitor' and suggested that this affected their practice in schools. This implied the presence of 'ritualised working' (Jarvis and Trodd, 2008), conforming to stereotypes, which may form social barriers between professional groups. McCartney (1999) also described the experience of being a 'visitor' in schools as a social barrier to collaboration. Practitioners' accounts of working with other practitioners in schools suggested that they had encountered most of the barriers to collaboration identified by McCartney (1999). The findings add to our understanding of how practitioners attempt to address these barriers when working in school settings when implementing a specific resource, like symbols. The data indicates that some practitioners recognise the need to address these barriers more than others.

SLTs, in particular, recognised the need for a number of inter-personal skills, including, diplomacy, compromise and sensitivity to the objectives of other professional groups. The data indicates that SLTs were more overtly aware of the need to address barriers to collaborative working than educational practitioners. This raises questions about the value placed on collaboration by various professional groups and may reflect differences in organisational culture. Parsons et al. (2008) recognised the influence of organisational culture

which was seen to influence staff beliefs and become a ‘second order factor’ in the implementation of ICT in settings.

Using a form of activity theory, similar to that adopted by Parsons et al. (2008), Martin (2008) argued that ‘organisational learning’ provides a way to address issues relating to organisational culture. Referring to Engeström’s (1999) ‘third generation activity theory model’, Martin (2008) demonstrated that, in order to negotiate partnerships and develop ‘distributed expertise’, collective learning at an organisational level was required. This would imply a need for a policy-level change in providing opportunities for practitioners to experience inter-professional learning, of which there was no suggestion or evidence in the data collected in this research.

The findings of Parsons et al. (2008) suggest that differences in organisational culture can challenge and impede effective implementation. The data collected in this research provided examples of practitioners attempting to address differences in organisational culture in their practice. For example, several SLTs described promoting symbol use for all children to educational practitioners by recognising their need to meet the needs of all of the children in the setting. This demonstrated a sensitivity to professional differences that was more identifiable in SLTs than educational practitioners.

Collaborative working was frequently part of practitioners’ accounts of the implementation of symbols. The data indicated that organisational culture,

professional identity and professional vocabulary may influence practitioners' definitions and conceptualisations of collaborative working, as well as the importance placed on this. Educational practitioners reflected on their own collaborative working skills less frequently than SLTs, indicating a different perception of collaborative working. Martin (2008) also highlighted this difference between educational practitioners and other professional groups and suggested that resistance to change is commonplace in schools. This may suggest that SLTs are more aware of the need for collaborative working in schools or that they have more experience of developing these skills in training and in practice, given that their role is often peripatetic. Wright and Kersner (2009) also highlighted this point when describing the job role of an SLT.

Many practitioners recognised the importance of effective communication when working with other practitioners and implementing the use of symbols in schools. In some cases, communication was seen as a way to bridge professional / organisational differences. This was also acknowledged by Parsons et al. (2008) who argued that addressing 'second order factors', including organisational culture, was essential to facilitate the implementation process. The findings of this research contribute to an understanding of how practitioners working in schools address these differences and demonstrate that not all practitioners are necessarily aware of a problem to address. This suggests that it would be useful to make practitioners aware of the necessary conditions for working collaboratively and the factors that challenge this.

The theoretical constructs developed in the research demonstrate the role of the interaction between practitioners in the use of symbols in schools. This data indicates that symbol use in schools usually involves more than one practitioner which means that the interaction between practitioners is an important influence in this area of practice. The data indicates that individual practitioners with their own process of reasoning are also frequently members of networks of practitioners each having perceptions of their own roles and those of others.

As the number of practitioners involved in this process increases, the interaction of their perceptions of roles increases in complexity. The data indicates that symbol use in schools may be complicated by confusion over roles and that communication between practitioners is one way to address this. This also suggests that clearer definitions of professional roles in the use of symbols in schools are needed and that this information should be widely distributed. Defining roles and developing skills for working collaboratively could be integrated into professional training. In addition, definitions of roles should be shared within and between employing organisations and could be developed collaboratively by more than one agency.

The shared understanding of appropriately defined professional roles may lead to developments in new professional identities called for by Jarvis and Trodd (2008). This process may require an element of 'critical pragmatism' (Cherryholmes, 1987) which involves evaluating and redefining 'what a professional does'. Lloyd (2000) argued that this kind of scrutiny of professional

roles is essential for meeting the needs of all children. However, it is unclear how this process would be facilitated or who would be responsible for guiding it. The findings of this research are in agreement with much of the existing literature that working collaboratively is a complex process which requires focus in research and professional training.

7.3 Taking the findings further – Transferability and future research

The thematic framework and theoretical constructs were developed to be viewed as a network of ideas reflecting the researcher's interpretation of the data. When presented alongside the explanatory narrative, the theoretical constructs provide a framework which serves as a model of the story the data is telling. This theoretical model has been developed from this unique data set and the thematic framework applies to this data only. However, the theoretical constructs may be more widely applicable. The following section introduces a proposed application of the model to data collected in different conditions and involving similar or contrasting research populations.

After exploring the transferability of this model, a number of other possible avenues for future research will be introduced. These are based on developing key findings from this research and exploring aspects of practitioners' experiences of using symbols further.

7.3.1 Widening the applicability of the theoretical model

The researcher suggests that the two theoretical constructs, 'models of reasoning' and 'perceptions of professional roles' can be applied as a generic model which may be applicable to a wider research population. Extending the research population would mean applying the theoretical framework to a wider range of groups of professionals, working in a wider range of settings.

The theoretical model may be applied and tested with extended and alternative groups of practitioners working in conditions where the following criteria apply:

- practitioners follow a process of professional reasoning
- practitioners are working alongside other practitioners who also engage in a process of professional reasoning
- practitioners fulfil certain roles in their practice and have perceptions of their own roles and the roles of others

The wider applicability and transferability is based on the theoretical framework as a model of the factors influencing the ways in which designated groups of practitioners work together, and the factors influencing this. These professional groups might include, but are not limited to; physiotherapists, occupational therapists, paediatricians, community and school nurses, and, educational psychologists. The use of symbols is not a requirement for the application of the theoretical model to other groups of practitioners and in other settings. However, the model could be applied to other circumstances in which symbols are used if these circumstances also meet the other criteria.

The researcher has developed two research proposals that may be suitable to demonstrate and explore the transferability and wider applicability of the theoretical model. These are two examples of suggested future research based specifically on testing and developing the theoretical constructs developed in this research.

Exploring the transferability of the theoretical model – Option 1: Exploring the reasoning of practitioners using symbols in schools

Research population (could include any number and any combination of the following groups of practitioners working with any age group):

- Teachers
- EYPs
- SLTs
- SENCOs
- Educational psychologists
- Physiotherapists
- Occupational therapists

Application of the model:

- Characterising and explaining the participants' professional reasoning about the use of symbols with children using the 'model of reasoning'
- Demonstrating and explaining how the reasoning of the individual interacts with and influences the ways that practitioners work with other practitioners when using symbols with children in schools

Summary of proposed research design:

In order to explore practitioners' reasoning in more detail, a sample of practitioners currently using symbols with children in schools could be recruited. The researcher would ask participants to keep a journal of their thoughts and decision making associated with their use of symbols with any children. This would vary depending on whether the practitioner was using symbols with specific children or all children, and how regularly they were meeting these children. The researcher would ask participants to makes notes in the journal every time they used symbols or considered using them and would be instructed to note the reasons for using symbols, the characteristics of children they are using them with and the ways they intend to use them.

The researcher would later collect and analyse the journals from participants and could also discuss them with the participants if necessary, making notes to add to the textual data. This data would be analysed using thematic analysis. The 'model of reasoning framework' could be applied by inserting details of the decisions made by practitioners about how, why and when to use symbols, and with which children. The reasoning processes of individual practitioners would be explored and discussed, as well as comparing the reasoning of different practitioners and considering how these would interact. This would enable the researcher to determine whether the participants were, in fact, following a similar reasoning process to that suggested in the model, considering which

children to use symbols with based on their needs, as well as how and when to use symbols.

Exploring the transferability of the theoretical model – Option 2 (applying the model to a different setting): Exploring the perceptions of professional roles of practitioners working in Children's Centres providing services for children from birth to five years

Research population (could include any number and combination of the following groups of practitioners working with any age group):

- Paediatricians
- Community Nurses
- Educational psychologists
- SLTs
- Physiotherapists
- Occupational therapists
- Children's Centre teachers
- Children's Centre play workers

Application of the model:

- Exploring and explaining the participants' perceptions of their own professional role and the roles of others when working with other practitioners in a community Children's Centre
- Demonstrating and explaining how the reasoning of the individual interacts with and influences the ways that participants work with other practitioners when working with other practitioners in Children's Centres

Summary of the proposed research design:

In order to explore practitioners' perceptions of their own professional role and the roles of others when working in Children's Centres, a sample of practitioners with experience of working with other professionals could be recruited. The findings of the research presented in this thesis suggested that practitioners' perceptions of roles are influential in the ways they work with other practitioners. This research did not, however, provide a detailed exploration of what these roles entail or how and why they develop. The researcher would like to explore in depth the concept of professional roles with a range of practitioners.

In order to explore the perceptions of practitioners surrounding their role and the roles of others an in depth qualitative methodology would be most appropriate. Given that the model of perceptions of professional roles focuses on the interaction of more than one practitioner and their perceptions, focus groups would be an appropriate method for collecting data. Participants would take part in a 60 minute focus group which would be video-recorded. The researcher would lead the group by posing questions surrounding the roles of various practitioners in a Children's Centre setting and would encourage participants to take part in an open discussion. A framework of questions would be loosely followed to direct the discussion and the researcher would be active in encouraging the various participants to contribute.

Collecting data from a range of practitioners in a focus group setting would enable to researcher to observe and record the interaction, agreement and conflict occurring among participants when discussing their perceptions of roles. The dialogue from the focus groups would be transcribed. Thematic analysis would then focus on the ways participants interacted with each other and how they discussed their perceptions of professional roles and resolved any conflicts within the group.

In both of these examples, the practitioners' unique models of reasoning could be explored by asking participants about the factors they consider when carrying out their practice, as well as their own personal decision making processes. Participants could also be questioned about their experiences of working with other practitioners, including; the roles they carry out, their understanding of the roles of others, the ways that they communicate with other practitioners and the ways in which they work collaboratively. This would facilitate the application of the 'perceptions of professional roles' construct and lead to a better understanding of the ways in which different groups of practitioners perceive professional roles. Dissemination of these findings to the research population would allow practitioners to learn more about how other practitioners perceive professional roles.

Applying the theoretical model to alternative settings and populations in this way would lead to a clearer understanding of the interaction between professional

reasoning and perceptions of professional roles when a range of practitioners work together. This would also lead to a better appreciation of how practitioners, from the same and different professional groups, work together as networks. In the following section, three additional suggestions for future research are introduced. These are not based on directly transferring the theoretical model.

7.3.2 Future research

By documenting concisely the processes involved in the conduct of this research, the thesis provides a framework for how future research of a similar nature could be conducted. This could include the application or testing of the theoretical model and / or the further development of this model as outlined above. The findings have confirmed that further research is needed in the area of symbol use in schools. Analysis of the links between the findings and existing literature highlighted a number of areas of symbol use in schools which have not yet been explored. The conclusions of the research reported in this thesis offer an appropriate starting point for some of the most interesting and necessary areas of focus for future research as they reflect the depiction of symbol use by the practitioners themselves.

Two original theoretical constructs were developed which contribute to an over-arching theoretical model which may be applicable to other research topics involving other professional groups and settings. In the previous section the researcher presented two research proposals based on testing and developing

the theoretical constructs. Three other suggestions for future research are proposed below to explore in more detail some of the key areas of the findings, representing several important aspects of symbol use in schools.

Research suggestion 1

The findings of this research highlighted a tension between beliefs held by practitioners surrounding the use of symbols with specific children or all children. This is an area in need of investigation to enable a better understanding of both sides of this debate. It may also lead to an exploration of the outcomes of using symbols with different ranges of children. A two-stage method would be one way of exploring this area of debate among practitioners. Recruitment of a sample similar to that involved in the research presented in this thesis would provide a suitable range of practitioners. Data would be collected from teachers, EYPs and SLTs beginning with a large scale questionnaire collecting responses about the use of symbols with specific children or all children. By asking about participants' experiences about using symbols in schools generally, the questionnaire could then address directly participants' opinions about the debate surrounding using symbols with children with specific needs versus all children.

Analysis of the questionnaire data would lead to the division of participants into those that believe that symbols should only be used with specific children with a 'need' for symbols (specific children group) and those believing that symbols could and should be used with all children (all children group). Participants who

do not clearly express either of these viewpoints could be excluded from the next stage. Participants from the 'specific children group' and from the 'all children group' would be recruited to take part in the second stage of the research involving semi-structured interviews.

During the interviews, participants would be questioned about their beliefs surrounding symbol use, particularly focusing on their beliefs associated with the 'specific versus all' approaches. This would enable the collection of rich detailed accounts of participants' experiences and beliefs in this area. Questioning would be specifically designed to explore participants' reasoning for their beliefs and their experiences of using symbols with specific children and/or all children. Analysis of this data would lead to a deeper understanding of this group of participants' reasons for using symbols with specific children or all children. This may provide insight into ways in which symbols have appeared to be particularly effective, as well as possible professional differences which contribute to these points of view.

Research suggestion 2

One area of the findings that would be interesting to explore further would be participants' perceptions of children's understanding of symbols and representation. This research focused on the experiences of practitioners working with children aged three to five, which appears to be an important stage in children's symbolic development (DeLoache, 2005, 2004; Callaghan, 2000, 1999). The participants' interviewed discussed this area of development with

various degrees of confidence and familiarity. Many participants discussed their knowledge of children's development in this area and linked this to their use of various modes of representation; objects, photos, symbols. Some participants suggested that practitioners' understanding of this area of development directly effects the successful implementation and appropriate use of symbols with children.

Due to the design of this research, it was not possible to observe the ways in which practitioners determined children's developmental level or how this influenced the ways they used symbols or other modes of representation. To further develop a theoretical model of practitioners' perceptions of children's symbolic development, it would be useful to observe and analyse their practice in the school setting. Research in this area could be developed to focus on a range of practitioners who may have some knowledge of children's symbolic development and apply this to the use of symbols. To develop the findings of this research a further study could be conducted with a sample of practitioners including the three professional groups involved in this research.

The researcher would recruit a sample of practitioners working in school settings and would also seek ethical approval from parents to observe the children within that setting. A sample of practitioners would take part in semi-structured interviews with the researcher in which their experiences of symbol use would be explored. The framework of questions used in the interview would focus on participants' knowledge, understanding and beliefs about

children's symbolic development. In particular, participants would be questioned about how they assess children's symbolic development and how this affects their practice. Interview data would be analysed and a selection of the sample of practitioners would be recruited for the next stage. The interview data for these participants would be developed into individual case studies.

The researcher would then carry out classroom observations of participants working with children and using symbols and other modes of representation. When appropriate, the researcher would also ask participants to record their reasoning and decision making when working in this way. Observations and other field notes would be analysed as data associated with each participant case study. Some classroom activity could be video recorded with permission. All of the data would be analysed collectively and detailed interpretation of each participant case study would be generated. Case studies would be discussed individually, as well as considering the patterns occurring across the case studies.

Collecting data from participants' accounts of their perceptions of children's understanding of symbols, as well as observations of the ways they actually used various modes of representation, would allow the researcher to explore participants' perceptions of children's development and how this relates to their actual practice. It would then be possible to compare the level of awareness of symbolic development among different professional groups, as well as exploring

any professional differences in interpretation of what is ‘developmentally appropriate’.

Research suggestion 3

The use of visual timetables was highly prevalent in the data collected in this research but not represented in the existing literature. There are a range of possibilities for research in this area, including; survey research quantifying the use of visual timetables in schools around the UK, interviews with practitioners exploring the use of visual timetables specifically, and, observations of the use of these timetables in school settings.

Although, the data collected involved detailed accounts of participants’ use of visual timetables, it was not possible to compare these accounts with actual use of visual timetables in schools. As a result, the researcher would be very interested in observing the use of visual timetables in a range of school settings. This would involve approaching practitioners in a number of schools identified as using symbols and conducting observations of the use of these timetables throughout the session. This would also involve collecting ethical approval from the parents of the children in the setting.

By analysing these observations, the researcher would be able to determine more about the ways practitioners and children interact with the timetable during the session. The researcher would also be able to explore the purposes the timetables were used for, the ways they were introduced and the degree to

which they were used consistently. This research could then be developed to conduct controlled experiments comparing different approaches to using a visual timetable and recording the outcomes observed in children.

The suggestions for future research outlined above demonstrate that a range of research designs would be suitable for exploring the various research topics which may develop. For example, qualitative research could be used to further explore the experiences of a range of practitioners in interviews, which could be one-to-one or focus groups. Practitioner experiences could also be collected in larger numbers through questionnaires. Questionnaire and survey methods could also be applied to collect information about the use of symbols across the country by approaching local authorities, Primary Care Trusts and other policy-makers. A current survey of symbol use in schools under various local authorities would be useful to determine the extent of current symbol use and the role of policy in this. There has not been a survey of this kind within the last five years and existing research focuses solely on special provision.

The outcomes of using symbols in various ways could be explored by attempting to identify the effect on children's learning, communication and well-being. School-based observations and case studies would facilitate the collection of data exploring how symbols are actually used and how this influences children's outcomes. Action research could be used to trial various approaches to using symbols and recording the outcomes. As symbol use in schools is an under-researched area, there are many avenues of exploratory

research that could be implemented. However, the practitioners using symbols in schools have first-hand experience of their use and this research has confirmed that practitioner accounts can contribute to an understanding of this phenomenon.

7.4 Critical evaluation of the research process

Conducting the research provided an opportunity to put into practice a range of research techniques. The research process and the research techniques employed have been evaluated to indicate aspects which were effective and useful, as well as aspects which were less effective and problematic.

7.4.1 Evaluation of research philosophy

The complex abstract concepts of 'phenomenological reduction' and 'bracketing' were investigated and put into practice when the researcher engaged in reflexive bracketing practices. These practices included; keeping a research journal and recording ideas about the ways in which presuppositions may have influenced the conduct of the research and interpretation of data. The researcher discovered that it was possible and necessary to reflect on her own presuppositions at every stage and acknowledge these, although it took time and understanding to carry out these practices. This process was greatly supported by use of the research journal which contributed to the audit trail. Maintaining an audit trail supported the 'confirmabillity' of the research because key decisions and thought processes could be traced (Lincoln and Guba, 1985).

In the future the researcher would continue to maintain a research journal throughout the research process and increase the frequency of journaling.

The researcher became more aware of the importance of recognising her own role as a social actor in the conduct of the research and would develop methods of reflecting and recording this in the future, ensuring future research was equally 'credible' (Lincoln and Guba, 1985). Having conducted this research, the researcher is now in a better position than at the start to be mindful of the ways in which self-presentation and interview style may potentially affect the behaviour of interviewees. The researcher has now developed skills in this area and would now be more practiced in recognising her own social role. This would lead to being more explicit about this in the presentation of future research.

The researcher is confident that a phenomenological approach was appropriate and effective and that the findings are in keeping with this approach reflecting; "a description of the structures of consciousness of everyday experiences as experienced firsthand" (Grbich, 2007, p. 39).

7.4.2 Evaluation of research methodology

Documentation of the methodology used in this research ensured that the research process could be replicated and was 'transferable' (Lincoln and Guba, 1985). Maintaining documentation of the research process as it occurred allowed the researcher to recognise the benefits of being committed and

rigorous when recording ideas, decisions and experiences of doing the research (Yardley, 2000). These skills can now be applied in future research.

Reflections on design

The design of the research was based on the identification of an exploratory research project and the objective to address the research questions. The design and methodology of the study were found to be suitable because an appropriate sample was recruited and the analysis of interview data led to the development of responses to the research questions. This experience has demonstrated the importance of selecting an appropriate design and methodology based on the needs of the study rather than personal, institutional or disciplinary preferences. This has given the researcher confidence to explore methodological options and select those that are most appropriate for future projects.

Reflections on sampling

The sampling process was complicated by the requirement to apply for ethical approval from the NHS Patient Safety Agency. In future research where this process was a requirement, the researcher would also consider the restrictions on contacting employees of the NHS directly and design a sampling strategy that would facilitate communication with Managers and distribution of information to the research population.

The researcher has gained experience of the complexities of recruiting participants from different employing agencies. The differences between the processes of approaching practitioners working for education and health authorities influenced the timetable for sampling and collecting data. This would lead the researcher to approximate the timetable for these processes when in the early stages of preparing for the research and plan sampling and data collection around these in the future.

The response rate of educational practitioners was approximately 3% for teachers and approximately 4.4% for EYPs, which was considered low when compared to approximately 10.6% for SLTs. However, it was problematic to determine how many schools had received the initial email about the research so it was only possible to estimate approximate response rates. Future contact with schools would be conducted by Royal Mail and follow up telephone correspondence. This would allow the researcher to record the number of schools receiving the information and their responses systematically. Organisational differences made it easier to monitor the number of SLTs receiving the initial information and these numbers were confirmed by Service Managers.

In the future, the researcher would also consider the availability of practitioners with different job roles. Informal conversations with practitioners suggest that this may be due to the difficulties in ‘releasing’ teachers from classroom settings. In the future, the researcher would explore this with potential

participants and senior management in schools and would continue to be flexible in making arrangements for interviews to increase the likelihood that teachers were available.

The transcription and analysis of this data was time-consuming and organising the data was complicated at times. If sample sizes were similar or greater in future research, it may be necessary to recruit other researchers to be involved in the collection and analysis of data. Future projects could be based around a team of researchers led by one chief researcher with experience in this area. Ideal sample size would be decided prior to sampling, based on the duration of the study and resources available for transcription, data management and analysis.

Reflections on interviewing

An important aspect of the conduct of the interviews was the development of rapport. In order to encourage participants to recall and explore their experiences in detail, the researcher was dependent on building a relationship of trust and making the participant feel at ease. The development of rapport was more rapid with some participants than others. To increase the likelihood that rapport would be established quickly in future interviews, the researcher would increase the length of interviews and pilot a number of questions to identify the quickest ways to develop rapport with participants.

Transcription was a valuable part of the data management process which took place immediately after each interview was conducted. The transcription of interview data allowed the researcher to revisit each interview and begin to interpret the participants' responses. It was a time-consuming process but the pace of transcribing improved with practice and the use of a foot pedal was a great benefit. Upon reflection, it was important that the transcription occurred so closely to the collection of data to allow the researcher to recall and note the non-verbal and contextual factors of each interview. As a result of this experience, the researcher would ensure time to transcribe the interviews was allowed for.

7.4.3 Critical evaluation of the analysis process and method used

The entire analysis process involved subjective judgment and interpretation, for which the thought and decision processes were recorded and provided as evidence in the research journal and memos. However, there were points at which it was difficult to record accurately abstract ideas and reasoning and provide evidence of the 'cognitive work' involved in the analysis. In order to improve the documentation of the analysis process, the researcher would increase the frequency of creating detailed memos detailing ideas, thoughts and decisions in a format that could be inserted into publications. A standard format for these memos would be useful, as would a system of cataloguing and easy retrieval. This would enhance the transparency of the analysis process (Yardley, 2000).

The researcher found it challenging to use appropriate language to demonstrate the prevalence of repeating ideas and patterns in the data. In an attempt to address this issue the researcher established levels of prevalence which were the basis for confirming findings (see Analysis, Chapter 4). In future research, the researcher would set the levels of determining prevalence much earlier in the process and ensure these were articulated clearly in the documentation of the analysis process.

As qualitative data analysis is a personal and variable process, it was sometimes challenging to know when to move on to the next phase of the analysis. As the analysis process developed the researcher became more confident in recognising the point at which to move on to the next stage. This experience will support the researcher in subsequent research and the analysis process will be conducted with more confidence in the future as a result. The researcher now recognises that confidence in knowing how and when to develop the analysis is the result of sustained and committed engagement with the data, developing a thorough understanding of the data and testing ideas as they occur.

7.4.4 Use of QSR NVivo2

QSR NVivo2 software was a useful tool in the management of data. The software was useful for recording and storing notes in the research journal which was stored within the software 'project'. In the future the software could be incorporated into other stages of the research process, including the

literature review. At the literature review stage NVivo would facilitate the storage of notes and references and would enable the researcher to manipulate and retrieve these effectively. This would also ensure that the whole process was documented in one location.

There were points during the analysis when the researcher was unsure about how to make best use of the software to facilitate the management and analysis of data. These concerns were resolved by engaging and connecting with the data and changing perspective on the analysis. When using the software in the future, the researcher would increase and decrease distance from the data with more regularity. This would involve spending more time working with the data closely, for example, engaging with individual transcripts, as well as, increasing distance from the data by working with all the data with a 'bird's eye view'. A combination of both perspectives would prevent the analysis becoming mechanical or losing depth.

The quantity of data caused some difficulties with the software. As the transcripts were coded and the number of nodes increased, the software slowed down and it became difficult to work at the pace required. Due to the quantity of data, the initial node system was very large (over 6000 nodes). As the analysis continued the nodes were condensed and many nodes were merged. This allowed the speed of retrieval of coded passages to increase to a more satisfactory pace. In the future, when coding large quantities of data, the researcher would organise and store the data in smaller quantities and ensure

that coding was not producing superfluous nodes. Nodes would be tested more regularly for applicability and prevalence across the data set. However, the researcher recognised that coding individual transcripts to very fine detail was necessary to thoroughly explore the data.

QSR NVivo2 proved to be useful and appropriate for the purpose this research. The experience of working with the software has led the researcher to recognise the importance of using the most appropriate functions for the objectives of the analysis, rather than attempting to use all the functions the software contains. There were a number of functions in the software that were not applicable and did not further the researcher's understanding of the data any more than could be achieved through other methods, for example, printing the node lists and scrutinising them on paper. The software functioned as a data management tool but it was imperative to recognise the value of breaking away from the computer and engaging with the coded data on paper. As a result, it is believed that an awareness of the limitations of the software was essential.

7.4.5 Reflexivity general

In conducting qualitative research and adopting a phenomenological approach, the researcher recognised the need to be reflexive throughout the research process. Reflexivity is an abstract concept which was, at first, difficult to understand and put into practice. As skills in maintaining reflexivity have developed through conducting this research, the researcher has now gained

experience in reflecting openly about her own presuppositions. This skill will be applied and developed in the future.

7.5 Conclusion - Usefulness of the research and implications for practice

In the Introduction chapter the researcher introduced the research by exploring the political context and key policies / documents guiding the practice of those working in the FS. By outlining key documents and policy influences, the researcher was able to position the findings and outcomes of this research within this context (Yardley, 2000). It is acknowledged that the findings may have been influenced by the 'social and political relations' occurring in the fields of education and speech and language therapy at the time of the research (Hammersley, 1995, p.51). Therefore, to conclude the thesis the researcher will now focus on the contribution and implications of the research by considering its position in the political context.

The findings of this research were linked with key documents, including, ECM (DfES, 2003) and the EYFS (DfES, 2007a). The findings of the research demonstrated that practitioners' experiences of using symbols were influenced by the key themes outlined in these documents. For example, practitioners were driven by the need to meet the needs of individual children and differentiate their practice accordingly, but were also aware of demands for consistency across provision for the FS age range in 'inclusive settings'. Practitioners' views surrounding 'inclusion' appear complicated and this is

reflected in their varied approaches to the use of symbols. This is an interesting finding to consider in the context of the over-arching 'discourse of inclusive education'.

The findings of this research, and the documentation of the entire research process, may be of practical use to several groups of individuals working within this context. As research that is situated in the context of education and speech and language therapy services, it was always an objective to generate findings and outcomes that had the; "capacity to beneficially inform action" (Porter, 2007, p.86). It is hoped that the findings generated in this research will be of practical use to practitioners and have the potential to impact policy and practice and stimulate discussion and further inquiry (Yardley, 2000).

The researcher aimed to provide practitioners with a 'voice' in research by conducting interviews, interpreting practitioner accounts and recording and disseminating these. The researcher exercised reflexive practices and a commitment to a systematic and rigorous method to ensure that, to the best of her ability, practitioners' voices were placed at the heart of the findings. This allowed the researcher to develop findings which, it is hoped, reflect something of the reality of practitioners' experiences of using symbols in schools at the time the research was conducted.

Regular attempts were made to share updates about the progress of the research with interested parties by email for the duration of the project with the

objective of fostering a culture of information sharing and raising awareness about the research. Now that the findings of the research have been finalised, it is hoped that a range of practitioners will be able to draw on the theoretical framework developed from detailed accounts given by practitioners.

In order for this research to be of practical use to practitioners and any other parties, the findings have been presented in the thesis and will be disseminated to the research population in the following ways: planned presentations at practitioner conferences (March and September 2009), planned published works in academic and practitioner publications (Greenstock, 2009), distribution of an executive summary (Appendix 26) and invitation to a research seminar for the research sample and colleagues (Autumn 2009). Findings will be distributed in clear format using non-technical language.

It is hoped that sharing the findings with practitioners will stimulate interest in the use of symbols in schools and raise awareness of the considerations involved in using symbols. The findings demonstrated that some SLTs believed that educational practitioners were not fully aware of the benefits of using symbols and did not see symbol use 'in its widest context'. EYPs in particular gave accounts of being unfamiliar with the use of symbols and having had little experience in this area. This highlights the importance of raising awareness among educational practitioners specifically, which can be facilitated by sharing the findings of the research with this population. As well as raising awareness, the researcher is able to share practitioners' accounts of good practice and their

wishes for future use of symbols. These accounts are represented in the findings and will be among the information distributed to the research population and other audiences.

Policy makers in the fields of education and / or speech and language therapy services may also be interested in the research. The findings relate to the amount of time available to practitioners for implementing symbols, and, communicating and working with other practitioners. The availability of practitioners and amount of time spent in schools were identified as factors influencing the use of symbols. As a result, the policy-makers most likely to be interested in the research include those with a role in determining the distribution of resources and man power in the education and speech and language therapy services. For example, those responsible for determining SLT case load size and number of practitioners needed in a geographical area. Policy-makers may also wish to look at the amount of 'non-contact' time made available to educational practitioners for focusing on professional development and liaising with other practitioners.

Practitioners' opinions about the effectiveness of various ways of working, and their experiences and perceptions of factors supporting successful use of symbols, were also encompassed in the findings. These accounts contributed to our understanding of the practicalities of implementing approaches and resources, like symbols, in real school settings. Practitioners' accounts of using symbols successfully for various purposes may be of interest to policy makers

who are involved in prioritising and setting targets for the implementation of new initiatives and resources in education and speech and language therapy.

The findings produced a theoretical model of how practitioners are influenced by their individual subjective thinking and decision-making processes, as well as the requirement to communicate with other practitioners and work together. The theoretical model developed in this research may provide a framework for policy makers seeking to develop inter-professional working in schools and other settings. For example, policy makers may be able to apply the theoretical framework to represent the range of practitioners in relevant settings. This model could also be used as a tool by policy-makers wishing to demonstrate to practitioners the factors influencing collaborative working and work on related skills in training and professional development.

The findings provide practitioners, policy-makers and researchers with a detailed explanation of the experiences of a small number of practitioners, which provide insight into the use of symbols in FS school settings. They also introduce the complexity of using symbols and related decision-making and reasoning that practitioners are involved in. The findings indicate that there are implications of expectations to 'work together' for this range of practitioners when using symbols in schools. It is hoped that, disseminating the findings of this research, will raise awareness of the use of symbols and pass on the message to practitioners that this is a complex area of practice. It is also hoped

that practitioners will recognise the value of open and explicit communication within and between professional groups.

The value of this research lies in the exploration of an under-researched area of practice in school settings, which draws on accounts given by the practitioners themselves. The findings reflect an interpretation of the reality of using symbols in schools at the time of this research and demonstrate areas of good practice and training needs.

The research was an original exploratory investigation of practitioners' experiences of using symbols in schools with children in the FS. The findings of the research confirm symbol use in schools as an important area for future research and raise more questions about how to improve practice in this area. As a whole, the research has facilitated the identification of a number of avenues for future inquiry and has contributed to a better understanding of the use of symbols in schools. The ultimate outcome of this research should be a step towards enabling practitioners to develop skills for working collaboratively, as well as improving their knowledge and understanding regarding the use of symbols. This would contribute to improvements in opportunities for practitioner professional development, which would lead to improving outcomes for children. These are issues that remain high on the political agenda which can be concentrated upon by disseminating findings and encouraging future research, bridging the gap between research and the realities of day to day practice.

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Appendices

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Appendix 1 - Literature search

The following search terms were used in the literature search:

Initial search terms	Graphic symbols Symbols
Search terms used as 'symbols AND …'	Communication Learning Literacy Communication difficulties Speech and language difficulties Physical difficulties / disability Learning difficulties / disability Special educational needs Speech and language therapy Speech and language therapists Teachers Teaching assistants Learning support assistants Education Schools Foundation Stage Early Years Foundation Stage National Curriculum Augmentative and alternative communication (AAC) Autism English as an additional language Psychology Educational psychology Information communication technology (ICT) Inclusion Collaboration Collaborative working
Additional search terms related to collaborative working (in most searches the terms 'in schools' were added)	Collaboration Collaborative working Multi-agency working Inter-agency working Inter-professional working Inter-disciplinary working Multi-disciplinary working Partnership working Integrated working Inter-professional practice Inter-professional education Teachers AND speech and language therapists AND teaching assistants AND learning support assistants AND nursery nurses

Appendix 2 – Table to show alternative research methods considered

Research method or strategy	Reasons for not using
Quantitative Design	A traditional empiricist quantitative design would not facilitate the objectives of this research. Quantitative designs are not suitable for the collection of in-depth data from practitioners surrounding an exploratory research topic. The collection of data which incorporated the 'voices' of participants was essential in order to address the research questions. Traditional quantitative designs result in the collection of data which is lacking in depth and detail. In research using a quantitative design the 'voices' of participants are at risk of becoming 'disembodied' (Schratz, 1993).
Focus Groups and Ethnography	One to one interviews were selected over focus groups because the researcher wanted to focus on unique individual accounts. The researcher wished to avoid the influence of a group situation affecting accounts given by participants and remove the risk of participants behaving differently due to the presence of other participants (Morgan, 1997). An ethnographical design was rejected due to the practical constraints on the researcher spending time in school and observing practitioners. The focus of this research was on a discrete part of activity within schools, rather than the overall ethos or culture of the schools.
Grounded Theory	The Grounded Theory method of Glaser and Strauss (1967) was rejected because of the requirement to control and remove the influence of previous experiences and conceptions entirely and for the researcher to act only as a 'witness'. This was not possible due to the first hand experience of the researcher and the period of engagement with existing literature. Grounded theory also requires an ongoing process of sampling and analysis which was not possible when recruiting this sample. Time-consuming ethical applications were required, in which the statement of specific time-frames and number of participants were a requirement. There are some parallels between a Grounded Theory approach and the phenomenological perspectives that have influenced this research. Both approaches are based on theory generation rather than hypothesis testing and believe that theoretical constructions should be firmly grounded in data. The primary differences between phenomenology and Grounded Theory are in their approaches to bracketing prior experience and methods of sampling and theory formation.

Appendix 3 - Copy of ethical approval correspondence (Faculty of Health and Life Sciences, De Montfort University)

1

dmu.ac.uk
DE MONTFORT UNIVERSITY
LEICESTER

Monday 13th August 2007

Louise Greenstock,
Health & Life Sciences

Dear Louise,

Re: Ethical application – An investigation into the experiences and attitudes of professionals working with graphic symbols in schools with Foundation aged children (ref: 243)

I am writing regarding your application for ethical approval for a research project titled to the above project. This project has been reviewed in accordance with the Operational Procedures for De Montfort University Faculty of Health and Life Sciences Research Ethics Committee. These procedures are available from the Faculty Research and Commercial Office upon your request.

I am pleased to inform you that ethical approval has been granted by Chair's Action for your application. This will be reported at the next Faculty Research Committee, which is being held in October 2007

Should there be any amendments to the research methods or persons involved with this project you must notify the Chair of the Faculty Research Ethics Committee immediately in writing. Serious or adverse events related to the conduct of the study need to be reported immediately to your Supervisor and the Chair of this Committee. Also, The Faculty Research Ethics Committee should be notified by e-mail to [redacted] when your research project has been completed.

Yours sincerely,

[redacted]

Faculty of Health and Life Sciences
Research Ethics Committee

Faculty of Health and Life Sciences, The Gateway, Leicester LE1 9BH.
[redacted]

Appendix 4 – Copy of ethical approval correspondence (NHS Local Research Ethics Committee)

(2)

NHS

National Research Ethics Service

[redacted] **Research Ethics Committee**

[redacted]

[redacted]

14 April 2008

[redacted]

De Montfort University
Faculty of Health and Life Sciences
Hawthorne Building
Leicester, LE1 9BH

Dear [redacted]

Full title of study: **"Using graphic symbols": An investigation into the experiences and attitudes of professionals working with graphic symbols in schools with children in the Foundation Stage (3 - 5 year olds)**

REC reference number: **08/H0407/5**

Thank you for your email of 25 March 2008, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Ethical review of research sites

The Committee has designated this study as exempt from site-specific assessment (SSA). There is no requirement for [other] Local Research Ethics Committees to be informed or for site-specific assessment to be carried out at each site.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Application	AB/126568/1	08 February 2008
Investigator CV		06 February 2008

This Research Ethics Committee is an advisory committee to [redacted]

The National Research Ethics Service (NRES) represents the NRES Directorate within the National Patient Safety Agency and Research Ethics Committees in England.

Investigator CV		06 February 2008
Protocol	4	31 January 2008
Letter from Sponsor		08 February 2008
Peer Review		19 September 2007
Peer Review		
Interview Schedules/Topic Guides	1	31 January 2008
Letter of invitation to participant	1	31 January 2008
Participant Information Sheet: Pilot Study	4	06 March 2008
Participant Information Sheet: Main Study	4	06 March 2008
Participant Consent Form: Pilot Study	3	06 March 2008
Participant Consent Form: Main Study	3	06 March 2008
Response to Request for Further Information	Email	25 March 2008
Response form to peer review	1	30 January 2008
Letter from Funder		02 April 2007

R&D approval

All researchers and research collaborators who will be participating in the research at NHS sites should apply for R&D approval from the relevant care organisation, if they have not yet done so. R&D approval is required, whether or not the study is exempt from SSA. You should advise researchers and local collaborators accordingly.

Guidance on applying for R&D approval is available from http://www.rdforum.nhs.uk/rdform.htm.

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Website > After Review

Here you will find links to the following

a) Providing feedback. You are invited to give your view of the service that you have received from the National Research Ethics Service on the application procedure. If you wish to make your views known please use the feedback form available on the website.
b) Progress Reports. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
c) Safety Reports. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
d) Amendments. Please refer to the attached Standard conditions of approval by Research Ethics Committees.
e) End of Study/Project. Please refer to the attached Standard conditions of approval by Research Ethics Committees.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email referencegroup@nationalres.org.uk .

08/H0407/5	Please quote this number on all correspondence

With the Committee's best wishes for the success of this project

Yours sincerely

[redacted]

[redacted]

Email: [redacted]

Enclosures: *Standard approval conditions*

Copy to:

[redacted]

De Montfort University
Faculty of Health and Life Sciences,
School of Allied Health Sciences
Leicester, LE1 9BH

R&D office for NHS care organisation at lead site - [redacted]

Appendix 5 – NHS Research and Development Department approval correspondence (PCT1)

[redacted] NHS

Research & Development Department

[redacted]

18th April 2008

[redacted]

De Montfort University
Faculty of Health and Life Sciences
Hawthorne Building
Leicester
LE1 9BH

Dear [redacted]

Ethics Reference Number: 08/H0407/5
Project Title: Using graphic symbols: An investigation into the experiences and attitudes of professionals working with graphic symbols in schools with children in the Foundation Stage (3-5 year olds)

Thank you for submitting the above project to the [redacted] Research and Development Department. The project has now been given Organisational Approval by:

[redacted] R & D Lead, on behalf of [redacted]

Although Organisational approval has been given for this study it does not guarantee that independent contractors such as GPs, dentists, optometrists and community pharmacists will be able to take part in your study.

Conditions of approval

Please note that approval for this study is dependent on full compliance with the following. To that end, please complete and return the form attached to this letter confirming your acceptance of these terms and conditions:

- You are required to ensure that all information regarding patients or staff remains secure and **strictly confidential** at all times. You must ensure that you understand

Version 4, October 2006

Page 1 of 3

[redacted] NHS 6

and comply with the requirements of the NHS Confidentiality Code of Practice (***http://www.dh.gov.uk/assetRoot/04/06/92/54/04069254.pdf***) and the Data Protection Act (1998). Furthermore, you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

- You must not hold person identifiable data on portable media unless it is encrypted. Protecting data files with passwords does not constitute encryption
- To complete yearly/final reports as requested, and to feedback study findings to the Research and Development Department and participants (as appropriate)
- To endeavor to publish and/or disseminate research findings on completion of the project
- To inform the Research and Development Department of any changes that occur, e.g. amendments to approved documentation, project not started for any reason, change in personnel etc
- That you inform the Research and Development Department which GP Practices you have recruited to your study from the [redacted] (where applicable)
- That you inform the Research and Development Department of all serious adverse incidents[1] in accordance with Trust Policy and/or Legal requirements (e.g. Sponsor, MHRA). This is in addition to the reporting of serious or unexpected adverse events and adverse drug reactions (which may affect the conduct and continuation of the study) to the approving research ethics committee
- That you agree to cooperate with a Research Governance Audit of the project if requested by the Research and Development Department
- That you have read and agree to abide by the Research Governance Framework (RGF) for Health and Social Care (second edition 2005)

The *Research Governance Framework for Health & Social Care* sets out the responsibilities of all those involved in research in order to enhance the ethical and scientific quality of health research and to safeguard patients and the public. The lead investigator and all involved in the research have a responsibility to comply with Research Governance.

Full details can be found in the RGF document available at www.dh.gov.uk or via the Research and Development Department.

Yours sincerely,

[redacted]

Copy to:
Relevant PCT Lead
Research Ethics Committee
Louise Greenstock, PhD Student

[redacted]

Appendix 6 – NHS Research and Development Department approval correspondence (PCT2)

7

[redacted] NHS

[redacted]

[redacted]

De Montfort University
Faculty of Health and Life Sciences
Room 2.29 Hawthorne Building
Leicester.
LE1 9BH

27.05.2008

Dear Louise

Re: *Using graphic symbols": An investigation into the experiences and attitudes of professionals working with graphic symbols) in schools with children in the Foundation Stage (age three to five years*

The PCT is please to give approval for the above study. Thank you for a comprehensive and excellent application. We wish you every success and look forward to seeing the completed study

Yours sincerely

[redacted]

Appendix 7 – Initial letter sent to all schools by email

Dear Head Teacher and Governors

I am a PhD student at De Montfort University in Leicester . I am based in the Speech and Language Therapy Division at the City site. My research is investigating the use of graphic symbols in Foundation Stage school settings.

I hope to conduct one off 45-60 minute interviews with teachers, teaching assistants and speech and language therapists in the following areas:

Nottingham City and Nottinghamshire

Leicester City and Leicestershire

Derby City and Derbyshire

Lincoln City and Lincolnshire

Rutland

As your school provides education for children in the Foundation Stage I am writing to ask if you would be willing for any of the staff at your school to be involved in the research. I can send you the information to distribute to your staff where appropriate if you are willing to proceed. I can also provide you with a more detailed outline of the research aims and methodology if you require. The information will contain contact details for your staff to contact me directly thus minimising the work required of you.

The initial information will contain basic details of the study and requirements for participation. The information will also contain details of ethical considerations and rights of the participant to remain anonymous.

The findings of the research will contribute to my PhD thesis which will be available from the British Library on completion. I hope to generate findings which are useful and applicable to school-based professionals. I am also willing to offer an executive summary to settings and parties that are involved. The timeframe for the research adheres to the full time PhD regulations and data collection will continue over a 12 month period (ideally Jan 2008 – Jan 2009). The final thesis will be examined in early 2010.

If you are interested in taking part in this research please contact me as soon as possible via one of the following channels:

Telephone: <removed>

Email: <removed>

I have ethical approval to proceed from the University Committee and have provided contact details of my supervisory team.

Yours faithfully , Louise Greenstock

Appendix 8 – Initial letter sent by email to Service Managers

Dear (Service Manager)

Following our correspondence by phone, I have put together a brief description of what would be involved if your team were to be involved in my PhD research. The information I have given is the ideal sample situation and I want to emphasise that I am very flexible with regards to time and location of the interviews. I understand that you want to minimise inconvenience to the therapists and fortunately I have a fairly open diary for the coming months and can really work around your requirements.

I am hoping to recruit no more than twelve speech and language therapists who meet the following requirements:

- Currently working in schools with children in the Foundation Stage (3-5 years old) for at least part of the working week
- Have experience of using graphic symbols

Ideally, I would like to interview two speech and language therapists from your service for a small pilot study and a further ten therapists for the main study.

The interviews would take no longer than 45 minutes including brief and debrief and will be recorded using a digital recorder with informed consent in all cases. The interviews would be about the experiences the speech and language therapists have of using graphic symbols in schools. Interviews would be one to one and no further contact will be required between participant and researcher unless the participant wishes to make contact. The location of interviews is negotiable and would be based on convenience of you and the team.

I will bring you a formal introductory letter providing more information when we meet on (date). I hope this information is satisfactory in the mean time, please feel free to contact me at any time.

Many thanks, once again.

Louise Greenstock

Appendix 9 – Letter sent to all potential participants

Dear Sir/Madam

I am a PhD student from De Montfort University, Leicester. I am carrying out a research project about the ways practitioners work with graphic symbols in schools with children who are aged three to five. I am interested in the experiences that teachers, teaching assistants and school-based speech and language therapists have of working with graphic symbols with this age group across a range of school settings.

I am looking for teachers, TAs and speech and language therapists who would be willing to take part in a one-off 45 minute interview with myself. The interviews will be carried out at a location agreed by the participant, your employer and myself.

Information given in the interview will be confidential and no personal information will be in the final copy of the research. The interview data will be stored in a locked cabinet and on a password protected personal computer. I have been given ethical approval by De Montfort University.

If you would like to know more information about the study or feel you may be willing to take part please contact me via the details below or indicate this to your Service Manager. The interviews will take place in September.

I will then provide a detailed Information Sheet which is designed to answer any questions you may have but I would encourage you to ask questions at any stage. If you are willing to participate I will provide you with a Consent Form which you would need to sign if you agree to participate (you are advised not to sign this form until you have had all of your questions answered and the interview is about to begin).

Please contact me at any time by the following:
Email: <removed>
Telephone: <removed>

I thank you in advance and look forward to hearing from you.
Yours faithfully
Louise Greenstock

Appendix 10 – Participant Consent Form Pilot Study

PILOT STUDY PARTICIPANT CONSENT FORM

Please complete and sign this form after you have read and understood the Information Sheet provided.

Using graphic symbols

Title of Project

<removed>

Name of Chief Investigator

	Please initial
I can confirm that I have received, read and understood the Information Sheet (version 4, 06/03/08) for the named research project	_____
I can confirm I have been given the opportunity to ask any questions I have and have had these answered satisfactorily	_____
I understand that participation in this research project is voluntary and I have been told about my right to withdraw at any time	_____
I have received satisfactory information about what will happen to the data collected in interviews. I understand that data will be kept securely and that the interview is confidential	_____
I have been informed that any identifiable information I give will be censored or removed from the final study and that the research supervisors may hear recordings for monitoring purposes	_____
I give permission for the researcher to store the information given in the interview for the duration of the study and understand that it will then be stored at De Montfort University for the archiving period (up to ten years)	_____
I give my informed consent to take part in this research	_____

_____	_____	_____	
Name of participant	Signature		Date
_____	_____	_____	
Name of researcher	Signature		Date

Appendix 11 – Participant Consent Form Main Study

PARTICIPANT CONSENT FORM

Please complete and sign this form after you have read and understood the Information Sheet provided.

Using graphic symbols

Title of Project

<removed>

Name of Chief Investigator

	Please initial
I can confirm that I have received, read and understood the Information Sheet (version 4, 06/03/08) for the named research project	_____
I can confirm I have been given the opportunity to ask any questions I have and have had these answered satisfactorily	_____
I understand that participation in this research project is voluntary and I have been told about my right to withdraw at any time	_____
I have received satisfactory information about what will happen to the data collected in interviews. I understand that data will be kept securely and that the interview is confidential	_____
I have been informed that any identifiable information I give will be censored or removed from the final study and that the research supervisors may hear recordings for monitoring purposes	_____
I give permission for the researcher to store the information given in the interview for the duration of the study and understand that it will then be stored at De Montfort University for the archiving period (up to ten years)	_____
I give my informed consent to take part in this research	_____

_____	_____	_____
Name of participant	Signature	Date
_____	_____	_____
Name of researcher	Signature	Date

Appendix 12 – Participant Information Sheet Pilot Study

Title of research

"Using graphic symbols": An investigation into the experiences and attitudes of practitioners working with graphic symbols in schools with children in the Foundation Stage (3 – 5 years old)

This sheet has been designed to provide you with the information you need to take part in this research. It is vital that you read and understand the information given here, and that you ask questions where you need to know more.

What is the study about? For my PhD research I have decided to look at the experiences that speech and language therapists, teachers and teaching assistants have had of working with graphic symbols in schools with children who are in the Foundation Stage of education. I plan to explore the use of graphic symbols by talking about this with practitioners who work in different settings across the range of Foundation Stage school settings. I will be inviting therapists, teachers and teaching assistants to talk about how they work with graphic symbols, how they each contribute to the decisions that are made, how they record and plan for the outcomes of their decisions, and how they feel about working with others. I will also be giving therapists the opportunity to talk about experiences of working in schools. I will not be evaluating different ways of working or observing the children directly. The research will only involve adults.

Why have I been chosen? I am based in Nottingham and would like to have an understanding of services in the East Midlands region. I am inviting speech and language therapists, teachers and teaching assistants to take part in a pilot study and have asked permission from your employer to contact you. You are being approached because you work with children of the right age range in school settings, and have experience of working with graphic symbols. The research has been through the Research Governance procedures required by the NHS. I have not identified you by name but your manager has agreed to pass this information onto you on my behalf as you meet the criteria of the study.

Who is involved in the study? I am a PhD student from the Speech and Language Therapy division of De Montfort University, I will be working alone on this research. I am being supervised by Professor Jannet Wright, De Montfort University, and Doctor Chris Abbott, Kings College London. Professor Wright is acting as the Chief Investigator of this study.

The other people involved in the pilot study will also be interviewed and they will be; speech and language therapists, teachers or teaching assistants who also work with graphic symbols in schools and work in the East Midlands area.

Do I have to take part? No. Participation in the research is voluntary. You have the right to withdraw at any time without anything negative happening to you, you do not have to give a reason for withdrawing. You just need to tell me you do not want to continue.

What is involved? You are being asked to take part in an interview about your experiences and thoughts about the use of graphic symbols with children in the foundation stage. This will

be a face to face interview at a time that is convenient to you and your employer. All the final details will be explained and we will agree the date and time of the interview. At the start of the interview I will ask you to sign a consent form to show you have given your consent to take part (you should not sign this form until you have read the information sheet and had time to ask questions). Interviews will not take longer than one hour and will be recorded with your knowledge. The recordings will be typed up at a later date without any names or information that might identify you. The transcription will take place on the researcher's personal computer (at home or at the University – both are locked with security codes). I will use codes instead of names and places. Supervisors of the research may have access to the recordings for monitoring purposes.

Are there any potential risks? There are no foreseeable risks or harms in taking part in this research. Participants will have the right to refuse to answer questions or provide information that they would prefer not to.

If you are harmed by taking part in this research, there are no special compensation arrangements. If you are harmed due to someone's negligence, then you may have grounds for legal action but you may have to cover your legal costs. Regardless of this, if you wish to complain about any aspect of the way you have been approached or treated during the course of this study, the normal National Health Service mechanisms may be available to you.

What happens to the information? Your interview will remain anonymous because I will remove all personal details that you refer to in your interview. These will all be changed when the interview is typed up. The signed consent form and tape recording of the interview will be kept in a locked cabinet for the duration of the study and then stored for the archiving period (up to ten years) at De Montfort University. I will be the only person with access to this information but supervisors may have access to recordings for monitoring purposes. Electronic files will be stored on a personal computer at the home of the Principal Investigator which is security locked with a code known only to the researcher. No personal details or information from which you may be identified will be included in the study. It will be your choice whether you tell anyone you have contributed or not.

What if I wish to complain? You may contact my Supervisor at De Montfort University, Professor Jannet Wright on <removed>.

You may also address your complaints to the sponsor of the research, Faculty of Health and Life Sciences, De Montfort University <removed>. The normal National Health Service mechanisms may also be available to you.

What will happen to the results of the study? When I have sufficient information to draw conclusions I will begin to analyse the interview transcripts. I will then write up the pilot study in a report. I will then go on to conduct a full study and the findings from both studies will be written up as a thesis which will take around a year to complete. I will then be examined and if I am successful my thesis will be available for reading. I will make a summary of the research findings available when the research is completed.

Who is organising and funding the study? I am funded by the Faculty of Health and Life Sciences, De Montfort University.

Contact for further information You can contact me directly by email at; <removed>, or by telephone on <removed>

Appendix 13 – Participant Information Sheet Main Study

Title of research

"Using graphic symbols": An investigation into the experiences and attitudes of practitioners working with graphic symbols in schools with children in the Foundation Stage (3 – 5 years old)

This sheet has been designed to provide you with the information you need to take part in this research. It is vital that you read and understand the information given here, and that you ask questions where you need to know more.

What is the study about? For my PhD research I have decided to look at the experiences that speech and language therapists, teachers and teaching assistants have had of working with graphic symbols in schools with children who are in the Foundation Stage of education. I plan to explore the use of graphic symbols by talking about this with practitioners who work in different settings across the range of Foundation Stage school settings. I will be inviting therapists, teachers and teaching assistants to talk about how they work with graphic symbols, how they each contribute to the decisions that are made, how they record and plan for the outcomes of their decisions, and how they feel about working with others. I will also be giving therapists the opportunity to talk about experiences of working in schools. I will not be evaluating different ways of working or observing the children directly. The research will only involve adults.

Why have I been chosen? I am based in Nottingham and would like to have an understanding of services in the East Midlands region. I am inviting speech and language therapists, teachers and teaching assistants to take part and have asked permission from your employer to contact you. You are being approached because you work with children of the right age range in school settings, and have experience of working with graphic symbols. The research has been through the Research Governance procedures required by the NHS. I have not identified you by name but your manager has agreed to pass this information onto you on my behalf as you meet the criteria of the study.

Who is involved in the study? I am a PhD student from the Speech and Language Therapy division of De Montfort University, I will be working alone on this research. I am being supervised by Professor Jannet Wright, De Montfort University, and Doctor Chris Abbott, Kings College London. Professor Wright is acting as the Chief Investigator of this study.

The other people involved in the study will also be interviewed and they will be; speech and language therapists, teachers and teaching assistants who also work with graphic symbols in schools and work in the East Midlands area.

Do I have to take part? No. Participation in the research is voluntary. You have the right to withdraw at any time without anything negative happening to you, you do not have to give a reason for withdrawing. You just need to tell me you do not want to continue.

What is involved? You are being asked to take part in an interview about your experiences and thoughts about the use of graphic symbols with children in the foundation stage. This will be a face to face interview at a time that is convenient to you and your employer. All the final details will be explained and we will agree the date and time of the interview. At the start of the interview I will ask you to sign a consent form to show you have given your consent to take

part (you should not sign this form until you have read the information sheet and had time to ask questions). Interviews will not take longer than one hour and will be recorded with your knowledge. The recordings will be typed up at a later date without any names or information that might identify you. The transcription will take place on the researcher's personal computer (at home or at the University – both are locked with security codes). I will use codes instead of names and places. Supervisors of the research may have access to the recordings for monitoring purposes.

Are there any potential risks? There are no foreseeable risks or harms in taking part in this research. Participants will have the right to refuse to answer questions or provide information that they would prefer not to.

If you are harmed by taking part in this research, there are no special compensation arrangements. If you are harmed due to someone's negligence, then you may have grounds for legal action but you may have to cover your legal costs. Regardless of this, if you wish to complain about any aspect of the way you have been approached or treated during the course of this study, the normal National Health Service mechanisms may be available to you.

What happens to the information? Your interview will remain anonymous because I will remove all personal details that you refer to in your interview. These will all be changed when the interview is typed up. The signed consent form and tape recording of the interview will be kept in a locked cabinet for the duration of the study and then stored for the archiving period (up to ten years) at De Montfort University. I will be the only person with access to this information but supervisors may have access to recordings for monitoring purposes. Electronic files will be stored on a personal computer at the home of the Principal Investigator which is security locked with a code known only to the researcher. No personal details or information from which you may be identified will be included in the study. It will be your choice whether you tell anyone you have contributed or not.

What if I wish to complain? You may contact my Supervisor at De Montfort University, Professor Jannet Wright on <removed>.

You may also address your complaints to the sponsor of the research, Faculty of Health and Life Sciences, De Montfort University <removed>. The normal National Health Service mechanisms may also be available to you.

What will happen to the results of the study? When I have sufficient information to draw conclusions I will begin to analyse the interview transcripts. I will then write up the full study as a thesis which will take around a year to complete. I will then be examined and if I am successful my thesis will be available for reading. I will make a summary of the research findings available when the research is completed.

Who is organising and funding the study? I am funded by the Faculty of Health and Life Sciences, De Montfort University.

Contact for further information You can contact me directly by email at; <removed> or by telephone on <removed>

Appendix 14 - TEACHER AND EYP PILOT STUDY INTERVIEW TOPIC GUIDE FRAMEWORK

In a moment I am going to begin the interview by following the interview framework which contains a list of questions which will guide us through the topics of interest. I anticipate that we will move away from the questions in places and this is absolutely fine. I would like to encourage you to give as much detail as you feel comfortable sharing. If you do not wish to answer a question simply tell me and we will move on.

1. What is your job title?
2. How long have you been working in your current school? (Where did you work previously?)

3. Could you describe the school(s) and/or setting that you work in?
    - age range of children, type of setting; Foundation Unit, Nursery
    - mainstream or special school

4. Could you briefly summarise what your job entails?

5. Could you explain how and when you use graphic symbols?
6. How do you decide which children you are going to introduce graphic symbols to?

7. Can you tell me whether you think there are any prerequisite skills children require when working with graphic symbols?

8. Could you explain how you *plan for* and *use* symbols; when you work alone with the children, and when you work with other professionals?

9. Do you think professionals use graphic symbols consistently in your setting?

10. If you have had the opportunity to witness speech and language therapists/teachers/TAs using graphic symbols, could you tell me about what you have seen?

11. Is there a school policy about symbols? How much input do you feel you have into this other school policies?

12. What training, if any, have you had in the use of graphic symbols? What training would you find most useful?

13. How much opportunity do you have for training and professional development?

14. Would you be interested in training alongside speech and language professionals, what would be the benefits/challenges?

15. How informed do you feel about the role of the speech and language therapist in school and their objectives?

16. Tell me about the experiences you have had of speech and language therapists working with teachers and TAs.

17. Can you tell me if your teaching qualification covered; graphic symbols, or skills for working with other professionals at all?

Appendix 14a - SLT PILOT STUDY INTERVIEW TOPIC GUIDE

FRAMEWORK

In a moment I am going to begin the interview by following the interview framework which contains a list of questions which will guide us through the topics of interest. I anticipate that we will move away from the questions in places and this is absolutely fine. I would like to encourage you to give as much detail as you feel comfortable sharing. If you do not wish to answer a question simply tell me and we will move on.

1. What is your job title?

2. How long have you been working in your current school(s)? (Where did you work previously?)

3. Could you describe the school(s) and/or setting that you work in?
   - age range of children, type of setting; Foundation Unit, Nursery
   - mainstream or special school

4. Could you briefly summarise what your job entails?

5. Could you explain how and when you use graphic symbols?

6. How do you decide which children you are going to introduce graphic symbols to?

7. Can you tell me whether you think there are any prerequisite skills children require when working with graphic symbols?

8. Could you explain how you *plan for* and *use* symbols; when you work alone with the children, and when you work with other professionals?

9. Do you think professionals use graphic symbols consistently in your setting?

10. If you have had the opportunity to witness speech and language therapists/teachers/TAs using graphic symbols, could you tell me about what you have seen?

11. Do any of the schools you work in have a school policy about symbols? How much input do you feel you have into these other school policies?

12. What training, if any, have you had in the use of graphic symbols? What training would you find most useful?

13. Would you be interested in training alongside education professionals, what would be the benefits/challenges?

14. Have you had any training around the Curriculum for the Foundation Stage? Are you ever required to plan your work with symbols to tie in with the Curriculum?

15. Can you tell me if your speech and language therapy qualification covered; graphic symbols, or skills for working with other professionals at all?

Appendix 15 - TEACHER AND EYP MAIN STUDY INTERVIEW TOPIC GUIDE FRAMEWORK

In a moment I am going to begin the interview by following the interview framework which contains a list of questions which will guide us through the topics of interest. I anticipate that we will move away from the questions in places and this is absolutely fine. I would like to encourage you to give as much detail as you feel comfortable sharing. If you do not wish to answer a question simply tell me and we will move on.

1. What is your job title?

2. How long have you been working in your current school? (Where did you work previously?)

3. Could you describe the school(s) and/or setting that you work in?
    - age range of children, type of setting; Foundation Unit, Nursery
    - mainstream or special school

4. Could you briefly summarise what your job entails?
5. Could you describe a typical day working in school?

6. Could you explain how and when you use graphic symbols?
7. Probe: Could you describe that particular incidence of using symbols in more detail?

8. How do you decide which children you are going to introduce graphic symbols to?

9. Can you tell me whether you think there are any prerequisite skills children require when working with graphic symbols?

10. Could you explain how you *plan for* and *use* symbols; when you work alone with the children, and when you work with other professionals?

11. Do you think professionals use graphic symbols consistently in your setting?

12. *Speech and language therapists also use symbols …..*
13. If you have had the opportunity to witness speech and language therapists/teachers/TAs using graphic symbols, could you tell me about what you have seen?

14. What training, if any, have you had in the use of graphic symbols? What training would you find most useful?

15. Would you be interested in training alongside speech and language professionals, what would be the benefits/challenges?

16. How informed do you feel about the role of the speech and language therapist in school and their objectives?

Appendix 15a - SLT MAIN STUDY INTERVIEW TOPIC GUIDE

FRAMEWORK

In a moment I am going to begin the interview by following the interview framework which contains a list of questions which will guide us through the topics of interest. I anticipate that we will move away from the questions in places and this is absolutely fine. I would like to encourage you to give as much detail as you feel comfortable sharing. If you do not wish to answer a question simply tell me and we will move on.

1. What is your job title?

2. Could you describe the school(s) and/or setting that you work in?
    - age range of children, type of setting; Foundation Unit, Nursery
    - mainstream or special school

3. Could you briefly summarise what your job entails?
4. Could you describe a typical day working in school?

5. Could you explain how and when you use graphic symbols?
6. Probe: Could you describe that particular incidence of using symbols in more detail?

7. How do you decide which children you are going to introduce graphic symbols to?

8. Can you tell me whether you think there are any prerequisite skills children require when working with graphic symbols?

9. Could you explain how you *plan for* and *use* symbols; when you work alone with the children, and when you work with other professionals?

10. Do you think professionals use graphic symbols consistently in your setting?

11. If you have had the opportunity to witness speech and language therapists/teachers/TAs using graphic symbols, could you tell me about what you have seen?

12. Do any of the schools you work in have a school policy about symbols? How much input do you feel you have into these other school policies?

13. What training, if any, have you had in the use of graphic symbols? What training would you find most useful?

14. Does your work with symbols have any links with the Foundation Stage Curriculum?

15. Can you tell me if your speech and language therapy qualification covered; graphic symbols, or skills for working with other professionals at all?

Appendix 16 – Example anonymised transcript: Teacher 14

Interview 37 – T14
20/05/2008
Some sections have been removed for confidentiality purposes. Names and identifiable information have been anonymised.

Int – <script> Would you mind saying your job title please?

T14 – I'm a class teacher for Foundation Stage

Int – OK, <um> and how is your Foundation Stage organised?

T14 – We have, at the moment, well this year we have <um> a nursery F1 class and we have full time Reception F2 class.

Int – And you're teaching the …?

T14 – F2s

Int – OK. <Um> … And is the … is that a unit setting <um> with quite a lot of movement within that or is it two separate classrooms?

T14 – It's a unit setting, it's a Foundation Stage unit. And there's lots of opportunities and we're open to both sides.

Int – And did I hear that you were expanding?

T14 – We are expand, yes we're expanding in September. So, at the moment the nursery side of it is twenty one, twenty five places in the morning and twenty five in the afternoon and we're going up to sixty for each. And it's two Reception classes. … So potentially a hundred and twenty children … per session.

Int – Ok

T14 – So a lot bigger

Int – And you're taking on another teacher for that?

T14 – Yes, we've got another teacher

Int – Ok. So this is a primary school?

T14 - Yes

Int – So … <um> obviously … exploring the Foundation Stage settings, I've seen <um> … some infant schools and some primary schools …

T14 - Yeah

Int – … I mean, how much, how involved do you feel, as a Foundation Stage, with the rest of the school?

T14 - <Um> Fairly, I'd say fairly involved, some of the things <erm> … aren't necessarily appropriate for younger children sort of too long for them to sit and be involved in … but

wherever possible we integrate across all the year groups. … So it gives it … sort of a big family feeling.

Int – Mm hm. And your team <um> do you … work as a Foundation team with planning …

T14 - Yes

Int – … and all those kind of things?

T14 - … planning sessions and … sort of work it that way, as a team … across the whole unit.

Int – Mm hm. And in terms of the support, how much support and other adults to manage do you have as a teacher?

T14 – In my class specifically, I have one TA to support.

Int – Do you get many helpers and students and …?

T14 - <Um> Quite a lot of students come in, lots of work experience students tend to come in. <Um> We get people doing … college courses, we get PGCE students, degree students in … everybody, and parents as well sometimes, so it's quite hard to get parents in but … we get some who are really sort of supportive and come in regularly.

<section removed for confidentiality purposes>

Int – <Um> And how long have you worked in this school?

T14 – This is my third year here

Int – OK, and was that <um> did you, were you working in a school before or …?

T14 – No, I trained as a teacher, I changed careers … so, yeah.

Int – Oh right

T14 – So, yeah, did the PGCE before that.

Int – And <um> just as a kind of personal issue, how was the PGCE?

T14 - <Er> Full on (laughs), definitely. It's an awful lot to cram in … to those eleven months … definitely. A lot of it you learn on the job (laughs).

Int – Well I, I mean, lots of people have said that about various things to do with working in a school, it's, it's just …

T14 – Yeah, and every class is different. I mean, you do something one year and you have to change it completely for the next year, just depending on the cohort that you've got. It takes quite, it's really interesting.

<section removed for confidentiality purposes>

Int – <Um> So how would you describe this school?

T14 – In what way?

Int – Well, I mean, people often have kind of come back to me with that question, I mean, there's the obvious logistical practical things like, the special, levels of special needs and the

age range, but I'm also interested in what's it like to work here for you? <Um> So, you know, I mean, the atmosphere, the kind of team and … everything really.

T14 – Well I suppose, logistically, we're on the edge of <name of local area> … which is … you know, very deprived area of <name of city> so, we have … but also on the border of <name of another local area> which tends to have more affluent people, so we have a … very wide mix of sort of children coming into school, which can, I think makes it really interesting but also quite challenging as well. <Um> … But I think one of the things particularly at this school, I have been at other schools while I was training, is the team work within the staff and … it's a very supportive environment, because sometimes, you know, it is difficult children coming from very difficult backgrounds … but because you feel supported and you work together as a team … it makes it … it just makes it … really nice to work in that environment … even though it is incredibly busy … and, you know, hectic.

Int – So that support <um> for each other … how does that kind of show itself, I mean …?

T14 – It's sort of the incidental things, I think. It's … you'll see people in the corridor and have a chat and, you know, just even things in passing … you'll go and ask someone for help with something and … they will do, bend over backwards and everyone works together. And we sort of make sure that we socialise out of work as well. So we've got that balance as a staff … … And we, I think one good really successful thing is every morning and twenty five past eight we have a briefing in the staffroom for every member of staff and it'll be sort of going through, you know, sort of any … technical things for the day … you know, if people are in or out and what's happening in school. We have it on a board. But also it just gives you a time just to … catch base cos you, you know, you don't really get a break during the day, you might not see … many other people apart from the people you're working with immediately, but it just means there's a part of the day … when we're all together in the same place. And it kind of keeps that … team feeling, I suppose.

Int – And you're gonna keep coming back together and then separating again.

T14 – Yeah, yeah. But it means, you know, if there's an issue with a family or child, that everyone can be aware of it and look out for them and it kind of, you know, keeps it, keeps it quite tight in that respect.

Int – Yeah, I mean, I think it seems like a fairly large school …

T14 – Yeah and you are busy, you don't get to have hour-long lunches in the staffroom and things, so really it is just passing people in the corridor that you'll get to see them, so it's quite nice to start the day, you know, you just get to see everyone and … touch base really … which is nice.

Int – Brilliant, OK. <Um> And so it's a mainstream school …

T14 - Yeah

Int – … I mean, with your experience over the time you've been here but also the other schools you've been in, how would you describe the levels of special needs?

T14 – For the city, I think it's probably on par but I think sort of across the national average it's quite high. … and very varied.

Int – And is there any particular needs or area of need that seems to be strikingly … standing out?

T14 – No, I think … very varied. Very varied … and across all the age groups as well. Even with, we have loads of children coming in with extra support as well, so it's across the board.

Int – Yeah, OK. <Um> … (laughs) This is probably one of the most difficult questions to answer, it's basically along the lines of … summarising what your job actually is …

T14 – Right (laughs)

Int – … <um> and, I mean, through experience of interviewing people <um> I've found that it's a good idea to ask people kind of, what's a typical day like … so, you know, I mean, obviously when the children are here it's just everything but what's your main roles within a day as a teacher?

T14 – Main roles, obviously it'll be … teaching and being with the children, that side of it, <um> communicating with parents … is quite a major part of it … particularly for the age group I teach in, because you see them every day, the older children their parents aren't here so much. But it's, it's teaching is my, my main part of it.

Int – And before the day and at the end of the day, does it then extend out to other …?

T14 – Yeah, preparing, setting up, planning, preparing resources … marking, assessments … paperwork, every, yeah, everything … meetings.

<section removed for confidentiality purposes>

Int – <Um> So … I mentioned before that, that I knew of well known symbol sets like Makaton and other, others as well. <Um> … in some schools I've been to they make their own symbols sometimes… If I was to just ask you quite generally, how and when do you think you use symbols, what comes to your mind?

T14 - <Um> … We tend to use them quite a lot because obviously the children at my age aren't necessarily reading, so for them I often have a word with the symbol with it as well so they're kind of correlating the two. <Um> And I use sort of, I've got symbols for 'lips closed' for being quiet and for 'looking at the teacher', and those sorts of things. <Um> Like the sort of wandering, like if you wander around the classroom, there are quite a lot of … signs and symbols all over the place really. It's a visual aid to help the children as well.

<section removed for confidentiality purposes>

Int – … so is it that you … see symbols as having different purposes … or are they always kind of working on the same … was gonna say a similar way, I'm not putting myself across very well …

T14 – I suppose I … I suppose I use them as a way to support the children so that … in the classroom environment, I'll have … <um> I'm trying to give you an example … where the scissor go, there'll be the word 'scissors' so they recognise the written print, but the picture of the scissors as well and that is then giving them, they can see either the word or the picture and they can sort of like self help as well. They'll know where things go and where to get things from, from that side of it. <Um> And the behaviour side of it as well … is, it's a lot more effective sometimes just to show a sign, rather than me using my voice because they hear me all the time and it doesn't really make a difference but they kind of know … if you show them a sign, they know, you know, what that means.

Int – And you said that <um> you, you referred them, to them as visual … cues. <Um> Visual seems to be a … popular word at the moment, <um> is there any reason, what is it about having something visual that you think children respond to better than maybe … ?

T14 – I think … everyone has different learning styles and different preferences but I think, if you have, if you using more than one … style of getting your message across then … it's, you

know, it's open to more people. So I'm quite a visual learner as well … so that's probably why I …

Int – And is, is there any … even referring to using the term visual learning, is there any signs you look for and can recognise in children that make you think the symbols are … gonna be useful or, the symbols are working for this child, or not?

T14 - <Er> I wouldn't, there isn't, there wouldn't be a specific thing I'd look out for, it's kind of more a feeling and just, just having spent, spent time with them you kind of pick up on some of them really tune in when you're talking and they listen to things but others are really, you can tell they're really concentrating when there's something for them to look at. So it's just sort of … from that way.

<section removed for confidentiality purposes>

Int – And, I mean, the symbols that you use … say for example, when you've got a word and a symbol and it's … you use it in one way or another to help them learn the word … do you present them with a symbol first and almost teach the symbol or it more of an exposure?

T14 – I think it's more of an exposure … see both of them together so … what do you think this word says, or vice versa and do it that way, have them together most of the time. <Um> We've got the visual timetable that we have in the classroom … Makaton symbols down the side and things like that.

Int – OK, so how do you use the timetable?

T14 – Well, for mine they … you tend to use the symbols more <um> and just sort of see what, what we're gonna be doing in the day, so they can track for themselves … and for a lot of them they like the routine and to know what's happening next, they don't like too much uncertainty. So they'll look and they'll know we're gonna do the register first and we might be doing some painting and then it's play time and they can kind of, they can manage their day and they can understand what's gonna happen next, for themselves. And they can look and see, 'oh, this afternoon we're doing something else', and … they really like it.

Int – Yeah, yeah. And, I mean, again with those symbols, <um> do they tend to just pick it up, or do you start the year, for example, going through what each one means?

T14 - <Um> … I would go through it, sort of introduce and say, 'if you want to have a look for the day it's here', and we'll say what it is, and some days we'll go through what there is and other days … they'll, I'll just let, let them … sort of get on with it on their own, they might say, 'oh, what's that one, there's a new one', if there's new one gone up later on. They're quite fascinated when there's a new one. They do notice, cos I think sometimes it's in, you know, ends up being a bit background, in the background.

Int – Yeah, yeah. I think that's an interesting point … if they notice a new one, then you can introduce it, rather than putting it there and they'll just maybe … walk past it every day.

T14 – Exactly … but it's also remembering to change it every day before you get, you know, for the next morning or that night you've got to change what you're doing for that day and … keeping on top of it as well to keep it relevant. No point having Monday's timetable up on Thursday cos it's meaningless. So … it's got to be relevant as well.

Int – And do you … take them down during the day or are they just kind of there for the children to see …?

T14 – I leave it up for the whole day, so that they can work out … 'we've just had lunch, so it must be this next', or, 'is, you know, how long is it until we get to do … we have story,' or, 'is it

nearly home time?' They can sort of manage it for themselves. And for some children, they need that stability of knowing what's coming next and they don't cope well with change so it kind of gives them that security, have a look and work out … you know, what's happening.

Int – Yeah, especially with your children being the first age group that are here all day.

T14 – Yeah, it's a big shock to the system … The goal to get to is after lunch, 'is it nearly lunchtime?' 'Well lets have a look, we've got, we're doing this, then it's play time, then this, this, then it's lunchtime', and it kind of gives them an understanding of time as well. Cos for us it's a very abstract thing so they understand 'next', 'next we're doing this', so it's a nice way for them to kind of follow the day through.

Int – It's constantly reinforced … all the time.

T14 – Yeah, exactly.

Int – <Um> … Are there any children in your class …at the moment, that … that you think might not have some sort of development in order to understand what they're for or …?

T14 – This year, no. I think most of them are, are sort of very aware of them and pick up … their meaning quite quickly. Whether they respond to them all the time is a different … but they're certainly aware of them … in the environment, I think.

Int – <Um> I mean, how much … how much do you know about how symbols are used in the other parts of the school?

T14 - <Er> We all, I know we all use the visual timetables … and I know, the TAs if they're working with … particularly with children with special needs … will use a lot of signs and symbols as well. <Um> We've had support with that I think through speech and language as well, they've been in and done staff meetings and training on that side of it. So that everyone is very aware of it, throughout school.

Int – And, I mean, the timetables are they kind of … used consistently throughout …?

T14 – Every, every class has got one, obviously it's the same format as well for them … so, theoretically, yeah, they should be using them. If you go into any classroom, you'll see them.

Int – And do you think that they, they should be used consistently, or is there a more freedom ….?

T14 – I think it really depends on the class that you've got … because … if you've got a class who aren't paying any attention to it, then it isn't, it's, you know, it doesn't really have any value. Whereas, if you've got, even if it's juts one child who's really tuned in and using it then I think it's … you know, it's got it's place.

Int – Yeah, absolutely. … <Um> … So the, your use of symbols, is it, is it something that comes up in your planning or is it more an implicit part of …

T14 – I think it's much more an implicit part of it really. <Um> … Mm … I wouldn't necessarily specifically plan for it but then I haven't got any children with … I had a child last year with like … specific special needs who we used an awful lot of signs, signs and symbols, symbols particularly …

Int – And was there, was it particularly communication needs or …?

T14 – Yes … well across the board, everything. Even sort of signs for 'toilet', signs for … and it was introduced … it took a long time … for him to even start to use, well still doesn't use it a lot

now … but, sort of start to use them. I've had children, I've met children this year, who have individual visual timetables as well. So … sometimes use that either to show what we're gonna do throughout the whole day or, 'we're doing this now and then when we've done that' … there's like, sort of two options, 'then you can do this or this'.

Int – Very differentiated for that child

T14 – Completely

Int – I mean, so it sounds like … they would be used more … if there were more children with complex needs or … <um> … they tend to be used more …

T14 – I think they tend to be used more on an individual basis … with children with specific needs but … <um> … I think they're used sort of, well, across all the class, it benefits everybody as a whole, I think as well.

Int – Yeah … maybe that's one thing we don't know that much about … yet.

T14 – I think that's traditionally what they were used for though, wasn't it? So now looking at the wider picture and how we can benefit … everybody.

Int – OK. So, do you have speech and language therapists coming into your setting …?

T14 – Yes

Int – <Um> … how much of what they do when they come in has involved symbols, in your experience?

T14 - … … Some of it has, I wouldn't say all of it.

Int – And … with that kind of symbol use in mind, has that been something that you've been able to observe and learn from or is it …?

T14 – Not often, because quite often when they come in … you're teaching the rest of the class and they'll come in and they'll spend some time with a child or the child working with another group and do it with them then … and have, and feedback to me, later on … <um> so it's … not usually logistically possible to sit in on those sessions which I think is a shame but it's … you just couldn't manage it.

Int – I mean, has, has a speech and language therapist or speech and language service been a source of information for you about symbols at all, or …?

T14 – Yes, I think they've been in, I think they've been in and done a staff meeting and things, yeah. So they, they're, I mean, they are really helpful, if there's anything we can contact them directly and someone will come in and help, we've got a number of TAs that have been on sort of signs and symbols courses as well, so they're useful points of call for us as well.

<section removed for confidentiality purposes>

Int – I mean, as a teacher, how well informed do you feel of say, a, a therapist's objective on a day, or with, with a child?

T14 - <Um> I would, I would normally have quite a good grasp on who they're coming in to see and why … and sort of where … where we were at with that child last time and … you know, get the reports back and we'll talk about that side of it. So yeah, quite involved … also, because the special needs coordinator is the Foundation Stage coordinator … so we end up having probably the extra conversation … as part and parcel of the day and things that are going on, cos our

children are in … both classes are in that unit, so … I suppose I get extra opportunities to talk about … specific … specifics with her as well. It's useful.

Int – OK, well we're at twenty three minutes which is perfect, so that's wonderful. So I'll switch this off.

Appendix 17 – Selected Transcript Memos (notes made as memos in NVivo2 while engaging with individual transcripts)

Transcript Memo 54 / T7 – 14/08/08 (imported from NVivo2 project)

T7 mentions giving children something visually to 'hang on to'. This is an interesting quote because she seems to be referring to the idea that children can keep the visual image in mind for longer than an alternative, e.g. verbal. She seems to be talking about the permanence of symbols. This is in the context of having previously mentioned that all children can benefit from symbols. Is she also suggesting that this is something that changes with age? She says this is important 'at this age'.

Transcript Memo 72 / T11 – 26/08/08 (imported from NVivo2 project)

It comes across quite clearly in this interview that T11 is advised by the SLT about how to use symbols, which to use and so on. She also mentions that they work together developing resources. She makes a point of saying several times that the SLTs prefer Makaton and that they advise on which elements of the sentence to symbolise. It seems like they play an active role in how symbols are used in school.

Transcript Memo 84 / T13 – 01/09/08 (imported from NVivo2 project)

Interesting concept here: can't ask children to choose without showing them something with some 'meaning'. Implies the symbol has the 'meaning' and facilitates the children's choice making.

Transcript Memo 2.03 / SLT 4 – 06/10/08 (imported from NVivo2 project)

Making sure the child's needs are being met seems to be central to the SLT role in school.

Transcript Memo 2.19 / SLT 7 – 13/10/08 (imported from NVivo2 project)

SLT 1.7 uses phrases like 'so we agreed ...' when talking about her use of symbols in schools/settings. This could indicate collaborative working and reasoning with school staff. When she talks about using symbol books she says, 'so we agreed that would be acceptable' or something similar. This also

shows that she is looking to implement something that the school staff see as 'acceptable' which could indicate that sometimes there is disagreement about what is and isn't 'acceptable'. This could be an interesting point.

Transcript Memo 2.33 / SLT 11 – 23/10/08 (imported from NVivo2 project)

Perspectives and conceptualisations of collaboration, it's nature and the barriers, seem to be quite different for SLTs than they are for education staff. Different priorities, demands, pressures, available time, relationships etc.

Transcript Memo 2.34 / SLT 13 – 27/10/08 (imported from NVivo2 project)

The symbolic hierarchy, developmental progression idea seems to be conceptualised as either a 'backwards' and 'forwards' progression, or an 'up' or 'down'. There is evidence of both in the specific language the SLTs use when talking about it.

Transcript Memo 2.41 / SLT 16 – 31/10/08

There seems to be a lot of examples of negotiation around the use of symbols. I suppose this is because of different objectives within the role of the therapist and the teacher. It seems that in some cases there is some negotiation and in a few examples the practitioners are able to agree that the long term goal is participation or effective communication. This is only a one-sided representation of that though, in this case we do not know if the teacher really agreed or not.

Appendix 18 – Selected Node Memos (notes made as memos in NVivo2 when engaging with the node systems)

Node Memo 3 – 06/11/08 (imported from NVivo2 project) 'Children's understanding of symbols' could be a theme, it is key to the data.

Node Memo 5 – 09/12/08 (imported from NVivo2 project) Tension between the concepts the teachers want symbols for, e.g. curriculum concepts, and what the SLT perceives as suitable for the child's level of understanding. For example, here the SLT is saying that the curriculum concepts are frequently too complex for the child's level of understanding. This leads to compromise.

Appendix 19 – Selected Thought Memos (notes made as memos in NVivo2 at any stage during the analysis)

Thought Memo - 14/07/08 (imported from NVivo2 project)

Starting to notice a theme building in the visual timetable nodes referring to children liking and needing to know what's going to happen. There have been frequent references to this and participants seem to have a certain amount of agreement that children like to know what's happening next and like to see when things are going to happen.

Thought Memo – 14/07/08 (imported from NVivo2 project)

Starting to notice links between the nodes 'children's understanding of symbols' and 'symbol - referent connection', slightly disjointed at the moment because participants have used different terms in different contexts but these nodes will come together at some point.

Thought Memo – 07/08/08 (imported from NVivo2 project)

It's interesting that this the 16th main study interview I've analysed (TTA1) and this is the first time I have coded to 'iconicity'. As expected this was not the term used by the participant but rather I noticed something in her dialogue that suggested a reference to iconicity. For example, I use them (symbols) for thing that are more obvious like animals, I don't use them for 'on' and 'in'. Etc. (Implicit knowledge and understand without the terminology). This is becoming an element of theory - not sure how much evidence I have for that yet though.

Thought Memo – 07/11/08 (imported from NVivo2 project)

When teachers and TAs talk about symbols it feels as if their view is quite insular or narrow even. They are very good at talking about what they do in their own classroom or setting and why. I don't always get the impression that they see much wider than that though. With the therapists it's clear that they are thinking about the individual child and their close and wider environments, the communication opportunities and partners within that. The teachers and TAs seem very focused and this is a difference I notice when going from educational interviews to therapist interviews. I think the coding reflects this too.

Thought Memo – 27/11/08 (imported from NVivo2 project)

Do SLTs use the term collaboration more than educational practitioners? The term 'liaison' is used a lot by both but that definitely doesn't imply collaboration. Have they moved past the sharing of information? Are they just going in and doing their jobs and trying to work 'around' each other rather than collaborating?

Thought Memo – 11/12/08 (imported from NVivo2 project)

There is a lot of data and nodes about implementation of systems in schools and relationships, ways of working and tactful skills for working in schools. I think this shows just how much the school context and working relationships affect the use of symbols in schools. This justifies my research areas and questions; symbols and collaborative working!

Thought Memo – 08/01/09 (imported from NVivo2 project)

As I now begin to develop themes, I see that 'learning to read' may qualify as a significant use of symbols. This is particularly true of the educational interviews and less significant for the SLTs. However, there is some evidence of SLTs referring to symbols and literacy and stories. I think they see this as a way of compromising with educational practitioners. I think this difference underlines the differences in remit and objectives of the contrasting professional groups.

Appendix 20 – Example node report exported from NVivo2

NODE CODING REPORT
Node: Progression through levels – coded to SLT interview transcripts

77: objects …, photographs …, symbols, line drawings, so that's a sort of developmental pattern for … which bit of that can, could that child access
Passage 2 of 5 Section 0, Para 93, 312 chars.

93: depending on that child's developmental level, cognitive level, you would think, do we need to be using photographs here … because they're, they're easier for the child to look at. … The symbol is a, a graphic representation of … an object, a photograph, the symbol is the sort of more abstract … representation.
Passage 3 of 5 Section 0, Para 97, 479 chars.

97: And you could start off at a much lower level so you would probably assess their ability to understand objects … so a first stage would be object matching, then assess their understanding of objects … and then assess their understanding of the … photographic form of those objects, and if at any of those points you're thinking, 'yeah, they're, that person is still developing, I can still see that they're getting it', you would then think, 'right, let's try them on symbols'.
Passage 4 of 5 Section 0, Para 105, 134 chars.

105: And some children may not actually get onto symbols, as in … the graphic symbols[]. They may … be communicating using <um> objects …
Passage 5 of 5 Section 0, Para 122, 68 chars.

122: or you may be thinking that child needs to move on to the next stage

Document 2 of 68 Int42_SLT1~5
Passage 1 of 6 Section 0, Para 54, 110 chars.

54: And quite often I'm going through a process with children of … objects of reference, then photos, then symbols
Passage 2 of 6 Section 0, Para 82, 121 chars.

82: it's all, all about the child's level really, what they can access <um> … some children, you can go straight to symbols …
Passage 3 of 6 Section 0, Para 82, 307 chars.

82: and that you could, taking one away when you add the next one in, but there's some overlap. So, for example, if I've got objects of reference … we'll introduce the photographs but keep the objects of reference … when we're confident the child can recognise the photos, we take the objects of reference away
Passage 4 of 6 Section 0, Para 82, 125 chars.

82: We're hoping that we move from symbols to the spoken or the written word and that you can gradually … withdraw those supports
Passage 5 of 6 Section 0, Para 85, 105 chars.

85: But we had to use the crisp packet to start with before we could then take a photograph of it and move on
Passage 6 of 6 Section 0, Para 85, 121 chars.

85: are they able to understand that this photograph represents that particular object and then moving on to a line drawing.

Document 3 of 68 Int43_SLT1~6
Passage 1 of 3 Section 0, Para 106, 94 chars.

106: but … for some visuals they're only useful, a certain percentage of children it's too hard for
Passage 2 of 3 Section 0, Para 114, 199 chars.

114: We also use the same principles with <um> objects of reference, which is, basis of an object of reference is just an object instead of a symbol, they're just at a much earlier stage to understand it.
Passage 3 of 3 Section 0, Para 114, 275 chars.

114: I would … be using <um> … more likely objects of reference for that child because they would not have the understanding to enable them to use symbols. I'd then move forward onto photographs … and then on to symbols. So it depends on the level of the child's understanding.

Document 4 of 68 Int44_SLT1~7
Passage 1 of 6 Section 0, Para 121, 63 chars.

121: I always start with photographs ... and, and move on to symbols
Passage 2 of 6 Section 0, Para 121, 313 chars.

121: I was trying to think if there's anybody that I started with photographs and moved onto symbols before they got to age five when they're going into school. <Um> ... I think there was one child ... <er> but this is, this is sort of home-based ... So they're nursery age but they're at home, they're not at nursery
Passage 3 of 6 Section 0, Para 141, 442 chars.

141: because children will start with just understanding what's going on in the context <um> simple things like the 'ping' of the microwave means the food's coming. <Um> And then gradually it moves on to verbal understanding <um> but verbal understanding starts with <um> familiar concrete items ... and then moves on to ... obviously more complex, moving on to verbs, moving on to words that describe, you know, 'hot', 'cold', that sort of thing
Passage 4 of 6 Section 0, Paras 159 to 161, 155 chars.

159: you were saying that you weren't sure if any of them had ... gone, got to symbols before five ... or ...
160:
161: SLT 1.7 Yeah, I've got one ... one child who did
Passage 5 of 6 Section 0, Paras 163 to 165, 123 chars.

163: Is it with your, the needs of your children, quite unusual that they'd be at that stage then?
164:
165: SLT 1.7 <Um> ... It varies
Passage 6 of 6 Section 0, Para 169, 84 chars.

169: We started using symbols with him quite early on, cos he had very good understanding

Document 5 of 68 Int45_SLT1~8
Passage 1 of 5 Section 0, Para 130, 27 chars.

130: it does seem to be easier
Passage 2 of 5 Section 0, Para 130, 41 chars.

130: So it does seem to be ... easier for them
Passage 3 of 5 Section 0, Para 142, 209 chars.

142: .. I mean, only cos I would just expect to follow ... the kind of sequence of concrete, 3D, replica ..., right through to 2D, black and white, symbol. I would expect to, them to move from one to the other ...
Passage 4 of 5 Section 0, Para 146, 71 chars.

146: kids with autism they learn them in any old, it could be any old order,
Passage 5 of 5 Section 0, Para 146, 104 chars.

146: maybe ... the object, the symbols are easier for them because the symbol isn't identical to the object.

Document 6 of 68 Int46_SLT1~9
Passage 1 of 4 Section 0, Para 69, 52 chars.

69: So there's like a symbolic <um> ... hierarchy really
Passage 2 of 4 Section 0, Para 101, 349 chars.

101: if they're still very young you might use photographs instead of ... sort of symbol representation like line drawings,[] cos line drawings aren't, aren't very meaningful until children get ... can cope with, I think it's past the age of sort of three and a half ... that's when they start beginning to understand more sort of <um> abstract symbols.
Passage 3 of 4 Section 0, Para 101, 186 chars.

101: But usually of children are developing within normal limits, they'll probably by the age of sort of four, have an understanding of a, you know, of a symbol ... and understand photographs
Passage 4 of 4 Section 0, Para 113, 232 chars.

113: they'll have been looking at the stepping stones or <um> the EYFS and looking, 'oh they understand photographs' and tying it in with their developmental age, or ... responding to pictures and they'll know that it's different ages.

Document 7 of 68 Int47_SLT1~10
Passage 1 of 8 Section 0, Para 125, 111 chars.

125: And to give them a kind of bridge to language really, particularly ... a bridge to signing or a bridge to words
Passage 2 of 8 Section 0, Para 153, 43 chars.

153: I don't know whether there's any theory ...
Passage 3 of 8 Section 0, Para 209, 223 chars.

209: Those would be the ones that you would think, 'well if we start to use this I hope that it will be … a bridge or a stepping stone towards them being able to use single words', and then kind of build it up from there really.
Passage 4 of 8 Section 0, Para 221, 33 chars.

221: they're very easy to understand …
Passage 5 of 8 Section 0, Para 221, 91 chars.

221: I have a bit of a hierarchy in my head about how easy things are for children to understand
Passage 6 of 8 Section 0, Para 221, 153 chars.

221: And <um> I don't know how evidence-based it is particularly but it's something that I've kind of learnt … and it's evidence-based from what I've used it

Passage 7 of 8 Section 0, Para 221, 201 chars.

221: So … for instance, the children who aren't understanding, I try symbols first … children who aren't understanding symbols, I might take a step backwards and try photographs or objects of reference with

Passage 8 of 8 Section 0, Para 221, 140 chars.

221: Children that are understanding and using symbols, I might then try and step forward <um> and use signs with, then hopefully move onto words

Document 8 of 68 Int48_SLT1~11
Passage 1 of 2 Section 0, Para 177, 343 chars.

177: there is a hierarchy of what children understand ... and words are more difficult for children to understand than ... you know, than pictures ... <um> ... and so that's obviously a big ... you know, a big issue really, that if she's not actually able to understand the words ... then the symbols are going to be easier for her to understand.

Passage 2 of 2 Section 0, Para 177, 227 chars.

177: I do think as well sometimes, the ... one of the decisions about, say for example, between signs and symbols ... and this for any child ... is around the fact that often symbols are easier for the adults to work with than signs

Document 9 of 68 Int49_SLT1~12
Passage 1 of 2 Section 0, Para 141, 196 chars.

141: whereas, and then the last thing is kind of moving onto symbols which are just ... a symbol of, you know, it might look like, might be a picture of a cup but it won't look like the cup that he has

Passage 2 of 2 Section 0, Para 185, 208 chars.

185: And it can be a challenge, you know, it's challenging for everybody that's working with a child to kind of work out what level they're at ... and you know, where they need to be and that sort of thing, so ...

Document 10 of 68 Int50_SLT1~13
Passage 1 of 8 Section 0, Para 102, 27 chars.

102: and build it up to symbols

Passage 2 of 8 Section 0, Para 154, 201 chars.

154: it is a progression <um> ... from what I, you know, understand, obviously ... seeing the object is the easiest thing ... to understand, you know, you see a cup ... you might think it's time for a drink

Passage 3 of 8 Section 0, Para 154, 42 chars.

154: That's the very easiest representation ...

Passage 4 of 8 Section 0, Para 154, 113 chars.

154: and then it moves up through <um> you know, from photographs and symbols and the written word and the spoken word

Passage 5 of 8 Section 0, Para 154, 127 chars.

154: That's kind of the levels that it moves up and ... so obviously I need to assess a child ... to see what they're understanding

Passage 6 of 8 Section 0, Paras 154 to 158, 205 chars.

154: if a child's got a book full of symbols but they don't understand what they represent ...
155:
156: Int Mm
157:
158: SLT 1.13 - ... then you need to say, 'OK, do we need to take photographs', cos that's the next step down

Passage 7 of 8 Section 0, Para 166, 59 chars.

166: and then find, you know, a way to pitch it at their level.

Passage 8 of 8 Section 0, Para 178, 134 chars.

178: You know, you might go in and say, 'OK, they're at this level, they're doing this beautifully ... can we move it on to the next level'

Document 11 of 68 Int53_SLT1~16

Passage 1 of 9 Section 0, Para 29, 72 chars.

29: from pictures to signs, gestures, through to high-tech electronic things

Passage 2 of 9 Section 0, Para 137, 118 chars.

137: so you could start looking at ... objects then real photos and moving on to symbols ... with a bright CP child of two

Passage 3 of 9 Section 0, Para 141, 112 chars.

141: they may need to hang onto symbols before they get to text or they may need to hang onto symbols to support them

Passage 4 of 9 Section 0, Para 145, 208 chars.

145: but making sure that what they do ... can stand them in ... that they're learning useful skills for the stage that they're at, that you're giving them ... some communication for the stage that they're at ...

Passage 5 of 9 Section 0, Paras 147 to 149, 161 chars.

147: I mean, you mentioned <um> objects, photos, symbols ... and it sounds like you see that as a progression ...
148:
149: SLT 1.16 That some children need to go to ... some

Passage 6 of 9 Section 0, Para 149, 101 chars.

149: then ... I would check, work up the symbolic ladder as it were ... rather than jump in with symbols

Passage 7 of 9 Section 0, Para 153, 46 chars.

153: How, how their symbolic thinking has developed

Passage 8 of 9 Section 0, Para 185, 132 chars.

185: by showing them where symbols fit into that ... it sort of gives them permission ... to focus on the level where the child is at ...

Passage 9 of 9 Section 0, Para 189, 172 chars.

189: I think at that early age ... if we're talking ... for children of ... sort of SLD and low cognitive ability ... we're probably still going to be talking about real objects

Appendix 20a – Example node report exported from NVivo2

NODE CODING REPORT
Node: Symbols and specific children – coded to educational practitioner transcripts

318: the people that certain, had this child pass through the classroom are more aware, it's kind of they know, for example, when he moves up, they know he's coming up. So I think they get more aware of the signs and symbols, symbols.
319:

Document 2 of 137 Int11_TA6
Passage 1 of 2 Section 0, Para 220, 344 chars.

220: And participate in obviously everyday school <um> and then if you notice whether a child isn't doing that and you can just see a blank look on their face whenever you ask them to do anything, move around the classroom and things like that, then you think, 'well this could be an area that we need to look at, to go in the directions of symbols'
Passage 2 of 2 Section 0, Paras 238 to 240, 154 chars.

238: are symbols used consistently throughout the school?
239:
240: TA6 They are … if you've got a, a child with those needs within their class, then yes they are.

Document 3 of 137 Int12_NN1
Passage 1 of 6 Section 0, Para 439, 71 chars.

439: Specific children will use, will learn to use them in Foundation One. …
Passage 2 of 6 Section 0, Para 439, 135 chars.

439: Those children will then carry on using them in Foundation Two and they will move up with them, they will have their own set of symbols
Passage 3 of 6 Section 0, Para 443, 43 chars.

443: Children which have specific special needs.
Passage 4 of 6 Section 0, Paras 445 to 447, 54 chars.

445: so they actually carry their symbols around?
446:
447: NN1 Yes
Passage 5 of 6 Section 0, Para 447, 109 chars.

447: support worker has a folder and they take their own, from what I understand they take their symbols with them
Passage 6 of 6 Section 0, Para 451, 45 chars.

451: Until they stop using them … whenever that is

Document 4 of 137 Int13_NN2_
Passage 1 of 4 Section 0, Para 137, 88 chars.

137: I think it was just mainly used for those children who … difficult … behaviour problems
Passage 2 of 4 Section 0, Para 137, 23 chars.

137: New to the school maybe

Passage 3 of 4 Section 0, Para 137, 29 chars.

137: not specifically for everyone
Passage 4 of 4 Section 0, Paras 155 to 157, 127 chars.

155: has anybody ever explained to you what the symbols are for?
156:
157: NN2 Yeah, they've briefly told me that this is for these children

Document 5 of 137 Int14_TA7_
Passage 1 of 2 Section 0, Para 210, 89 chars.

210: obviously as we see a situation or, or a child comes in and you think, yeah it would help
Passage 2 of 2 Section 0, Para 254, 130 chars.

254: And it's hard finding out things as well. Unless you're actually working with a specific child and you come across the problem.

Document 6 of 137 Int15_TA8_
Passage 1 of 4 Section 0, Para 138, 124 chars.

138: And the ones I use for <child's name> which is the little girl with special needs. She has her own box that they're kept in
Passage 2 of 4 Section 0, Para 138, 33 chars.

138: for when we go out to do her work
Passage 3 of 4 Section 0, Para 274, 59 chars.

274: She's the sort of child where she needs a symbol to look at
Passage 4 of 4 Section 0, Para 286, 45 chars.

286: Cos I'm using them here on a one to one basis

Document 7 of 137 Int16_TA9_
Passage 1 of 3 Section 0, Para 102, 46 chars.

102: or using signs and symbols with those children
Passage 2 of 3 Section 0, Para 146, 42 chars.

146: generally it was set up for this one child
Passage 3 of 3 Section 0, Para 288, 171 chars.

288: Mainly the TAs that are on one-to-one will use the symbols a lot more <erm> …yeah, we do. It's normally the TAs that are one-to-one (ing) that use the symbols a lot more.

Document 8 of 137 Int17_T5_
Passage 1 of 2 Section 0, Para 114, 107 chars.

114: with the new children coming in it's certainly security, stability, learning the routines about the nursery
Passage 2 of 2 Section 0, Para 114, 307 chars.

114: I mean, children that are coming into our <er> setting with no English <erm>, it must be frightening. <Erm> And if they can see symbols of the toilet and the sinks, of milk and snack, they can see visually what is happening, even if they can't understand a word I say. <Um> So it's very important to them

Document 9 of 137 Int18_T6
Passage 1 of 1 Section 0, Paras 277 to 281, 181 chars.

277: but we decided if the child had had somebody doing that (signs hello), is better than a picture of somebody doing that.
278:
279: Int … So in that case, you preferred the signs?
280:
281: T6 - Yes

Document 10 of 137 Int26_T8
Passage 1 of 2 Section 0, Para 106, 162 chars.

106: But then the next class along didn't because they didn't have a special needs child … that was identified as needing that sort of thing … like autism or something
Passage 2 of 2 Section 0, Para 134, 98 chars.

134: he knew he couldn't do … the computer until he'd done those and then he could remove them himself.

Document 11 of 137 Int28_T10
Passage 1 of 1 Section 0, Para 182, 79 chars.

182: So I think it's the foundations … for … moving him on in his language as well.

Document 12 of 137 Int29_NN3
Passage 1 of 5 Section 0, Para 126, 61 chars.

126: Got a little boy who … ninety percent sure he's going on them
Passage 2 of 5 Section 0, Para 134, 119 chars.

134: I don't particularly like using pictures unless … it's a specific need for a child to have the picture in front of them
Passage 3 of 5 Section 0, Para 134, 123 chars.

134: The nearest I get to that is, a couple of … well … some of my special needs children have got their own little target cards
Passage 4 of 5 Section 0, Paras 144 to 146, 130 chars.

144: So was there something about that particular child that made you think, I think this would, they were useful here … or?
145:
146: NN3 Yeah
Passage 5 of 5 Section 0, Para 146, 38 chars.

146: but he was still using them at five …

Document 13 of 137 Int30_T11
Passage 1 of 4 Section 0, Para 18, 29 chars.

18: cos it suits these … children
Passage 2 of 4 Section 0, Para 174, 44 chars.

174: if the child needs <um> a specific … picture
Passage 3 of 4 Section 0, Para 262, 27 chars.

262: they don't all need them.

Passage 4 of 4 Section 0, Para 270, 95 chars.

270: so he, he's, we might say the children who need symbols … might have more learning difficulties

Document 14 of 137 Int35_NN4
Passage 1 of 2 Section 0, Para 154, 240 chars.

154: … I think probably … the ones that come to mind that … seem to really … latch onto it … were probably the ones that … perhaps did have … the … the lowest communication skills … perhaps … and confidence as well, often it's a confidence thing
Passage 2 of 2 Section 0, Para 206, 158 chars.

206: and looking at a pictures and the symbols and things perhaps quietly … and see whether you can perhaps encourage … or find out a little bit more by doing that

Document 15 of 137 Int36_TA17
Passage 1 of 3 Section 0, Para 162, 58 chars.

162: … I don't think we've got any that need them at the moment
Passage 2 of 3 Section 0, Para 162, 85 chars.

162: At the moment … <um> I think there's a little boy in the part-timers that uses them.
Passage 3 of 3 Section 0, Para 190, 183 chars.

190: as children move through various classes then things will be <er> changed cos <er> the Down's boy is a Year One, so there'll be things in his … environment … and as he moves through …

Document 16 of 137 Int37_T14
Passage 1 of 6 Section 0, Para 174, 100 chars.

174: it's kind of more a feeling and just, just having spent, spent time with them you kind of pick up on
Passage 2 of 6 Section 0, Paras 226 to 230, 262 chars.

226: Whereas, if you've got, even if it's just one child who's really tuned in and using it then I think it's … you know, it's got it's place.
227:
228: Int Yeah, absolutely. Yeah, I mean, if we aim to … make a positive difference to one child, then …
229:
230: T14 It's worth it
Passage 3 of 6 Section 0, Para 234, 136 chars.

234: I had a child last year with like … specific special needs who we used an awful lot of signs, signs and symbols, symbols particularly …
Passage 4 of 6 Section 0, Para 238, 120 chars.

238: it took a long time … for him to even start to use, well still doesn't use it a lot now … but, sort of start to use them
Passage 5 of 6 Section 0, Para 246, 94 chars.

246: I think they tend to be used more on an individual basis … with children with specific needs
Passage 6 of 6 Section 0, Para 262, 103 chars.

262: they'll spend some time with a child or the child working with another group and do it with them then …

Document 17 of 137 Int7_T3_
Passage 1 of 2 Section 0, Para 135, 244 chars.

135: I have in the past for children who've had communication difficulties but whether that be, different language, so we've had, we have quite a few Polish children, so we have a picture of a toilet with the word 'toiletta' underneath and show that
Passage 2 of 2 Section 0, Para 143, 54 chars.

143: I can't think of anybody who's using it at the moment.

Appendix 21 – Research journal entry showing ideas for themes that were not prevalent enough to become part of the thematic framework

30/06/09
I have decided to note the following unsubstantiated themes that I thought may become themes but are not prevalent enough alongside the other themes. I will present these in the thesis.

Several unsubstantiated or 'non-research-question-specific' trends in the data were acknowledged during coding and were stored for the duration of the analysis, including the following topic areas:
Manual signing
Assessment and observation
Behavioural and emotional
Developmental delay
Group work
Parents

The thematic framework that was developed was based on the most prevalent, 'research-question-specific' trends and patterns in the data. The themes and subthemes that were developed were also suitably related to one another that they formed a logical network of ideas, grounded in the data and related to the research questions.

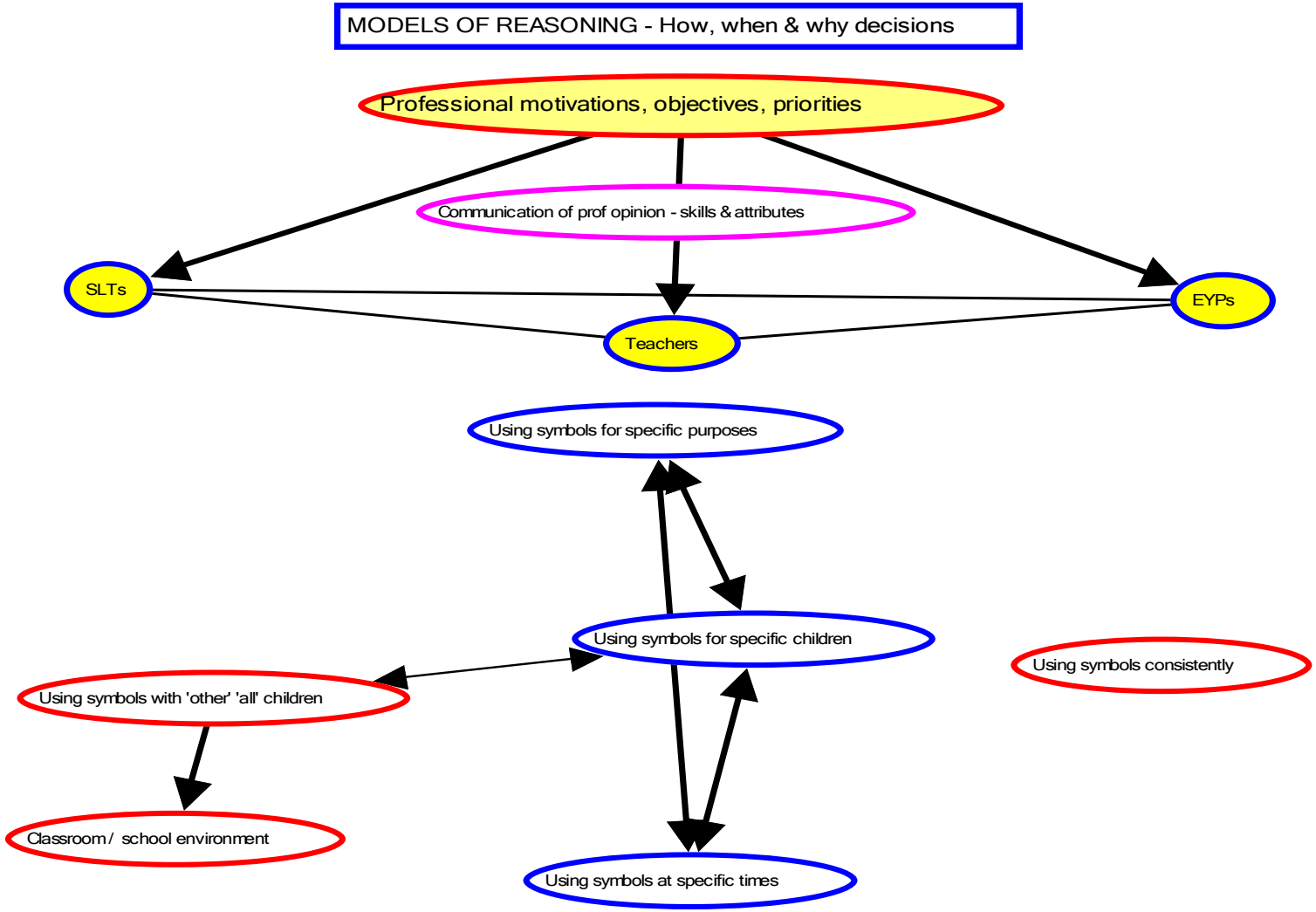
Appendix 22 – Research journal entry showing the researcher's reflection about findings that were surprising, supporting reflexive bracketing

30/06/09
I have also decided to make a note of my own reflection about surprising findings and provide this in the thesis as well to support my reflexive bracketing processes.

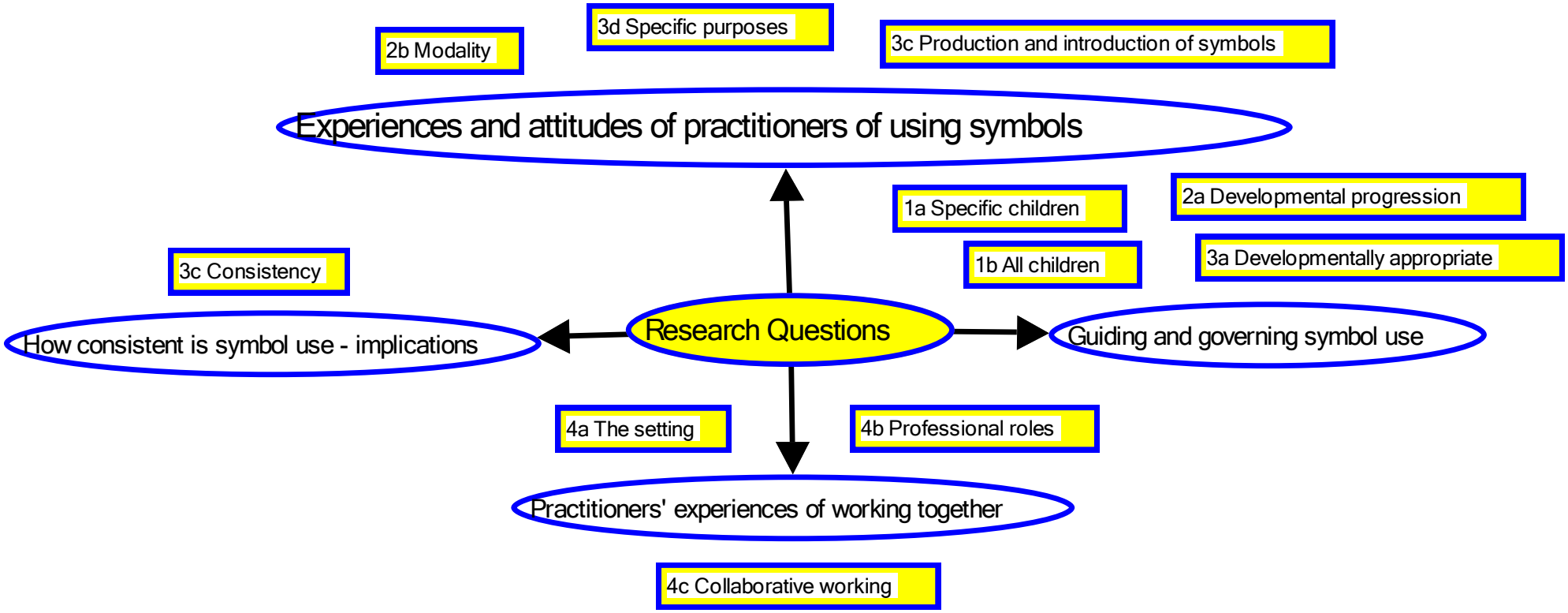
Findings that were a surprise to the researcher
The researcher was surprised that so many EYPs gave accounts of positive experiences of working in schools. The researcher was aware of the influence of her own negative experiences of working as a TA and reflected openly on this to identify when personal experiences might have influenced interpretation of the data. By acknowledging that the EYPs interviewed gave surprising accounts of working in schools, the researcher was able to bracket her own presuppositions more effectively.

The researcher was surprised that so many participants gave accounts of SLTs and EYPs working together in schools. This finding was not reflected in the literature and previous research surrounding collaborative working neglected EYPs almost entirely. The researcher had not observed SLTs and EYPs working together in her own experience in schools and was surprised by this finding.

Appendix 23 – Model created in NVivo2 to develop the theoretical construct, 'models of reasoning'



Appendix 24 – Model created in NVivo2 to explore the relationships between the themes and the research questions



Appendix 25 - Table of commercial and charitable organisations associated with graphic symbols

Commercial and charitable organisations and projects	Website
Makaton	www.makaton.org
Widgit Software Symbols Inclusion Project	www.widgit.com www.symbolsinclusionproject.org
Mayer Johnson	www.mayer-johnson.com
Blissymbols UK	www.blissymbols.co.uk
ISAAC UK / Communication Matters	www.communicationmatters.org.uk
BECTA	www.becta.org.uk

Appendix 26 – Executive summary for distribution to research sample and interested parties (format changed for the thesis)

‘Using graphic symbols’: PhD Research
Executive Summary

Researcher: Louise Greenstock, Faculty of Health and Life Sciences, De Montfort University

Methodology

Ethical approval received from De Montfort University, NHS and PCTs
53 semi-structured interviews
Three professional groups: Teachers
Early Years Practitioners (EYPs) (teaching assistants, learning support assistant and nursery nurses)
Speech and Language Therapists (SLTs)
Data analysed using thematic analysis

Findings

A theoretical framework was developed, encompassing; a set of inter-related themes and subthemes and two original theoretical constructs

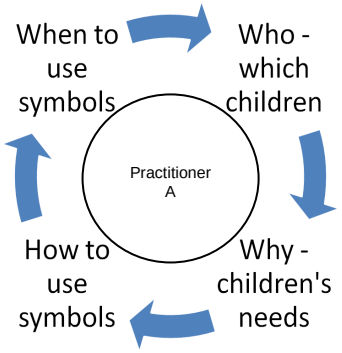
Theme	Subthemes
1. Practitioners’ beliefs about which children to use symbols with	a) Specific children b) All children
2. Practitioners’ thoughts about children’s understanding of symbols and representation	a) Developmental progression b) Modality
3. Practitioners’ accounts of the ways symbols are used	a) Developmentally appropriate b) Production and introduction of symbols c) Consistency of symbol use d) Using symbols for specific purposes: i. Visual timetables ii. Expressing choices and exchange systems iii. Learning to read / literacy skills iv. Rules of the setting and expectations of behaviour
4. Practitioners’ experiences of implementing symbols in schools	a) Roles b) The setting c) Collaborative working

The following two original theoretical constructs were developed to explain the data:

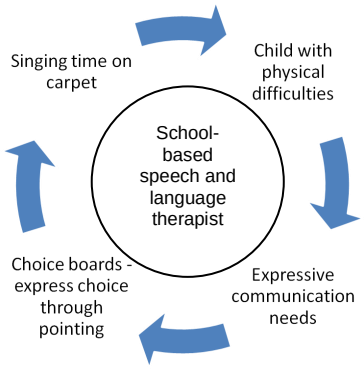
- A **‘model of reasoning’,** a framework demonstrating how practitioners appeared to think and make decisions when using symbols

Blue arrows represent the reasoning and decisions making processes of the practitioner

Model of reasoning

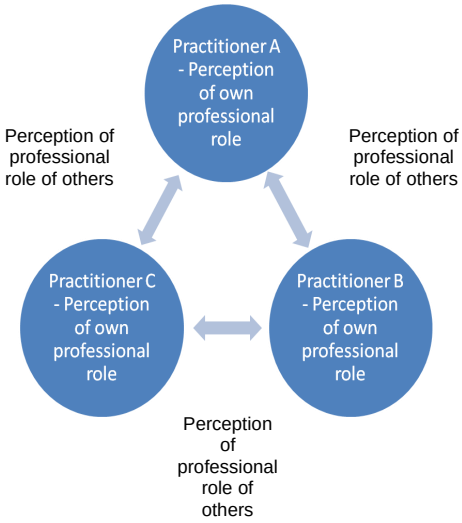


Applied to a practitioner



The processes of reasoning that practitioners experienced were unique and individual. There were some trends among professional groups but also some patterns that occurred across all three professional groups.

- Framework of practitioners' **'perceptions of professional roles'** to demonstrate the ways in which practitioners perceive their own professional role and the roles of others and the influence of these perceptions on the implementation and ongoing use of symbols.



Conclusions and implications:

Practitioners have different reasons and objectives for using symbols in certain ways

There were some differences in the experiences of using symbols between the three professional groups but also some shared views

Implementation of symbols in schools can be a complex process and involves shared understanding of the roles of those involved

Practitioners are guided by children's needs, as well as their professional roles and objectives and Government frameworks and policies

Further information:
For more information about the research, including a more detailed explanation of the findings, please contact the researcher by email: lgreenstock@dmu.ac.uk

The findings of the research were discussed in the following article which is available from the publisher:
Greenstock, L. (2009) Symbolic voices, *Speech and Language Therapy in Practice*, Summer, pp. 12-14

Information about symbols can be found on the following websites:
www.makaton.org
www.widgit.com
www.mayer-johnson.com
www.blissymbols.co.uk