

**FACTORS
WHICH MAY
IMPROVE
CHILDREN'S
EARLY LANGUAGE
DEVELOPMENT**

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Abstract:

Using case study method comprising multiple cases developed over four years, this research identifies and explores factors which may have a positive impact on the standards of speech and language of children in the first year of Key Stage 1 in one school serving an area of high socio-economic deprivation.

The study is framed within the context of national concern regarding the perceived low level of children's speech and language skills on entry to Nursery and Reception classes, alongside the project school's perception of the failure of the *National Literacy Strategy* and the more recent *Primary Strategy* to address and redress this problem during the lifetime of this research.

The research identifies the critical role of oracy in language development and tracks three Year 1 cohorts by measuring the impact on the children's speech and language scores of a specifically devised teaching intervention and a Foundation Stage approach to curriculum delivery. Interpretation of the numerical results is developed through the analysis of qualitative data from interviews, observations, document scrutiny and description of the intervention.

The findings suggest that the re-instatement of a less formal, constructivist, oral-rich early years curriculum, up to and including Year 1, which includes dedicated time for supporting children's language skills through social interaction may positively contribute to improved standards of speech and language, to improved learning in literacy, to children's attitude to learning as well as to their view of their own learning competence.

The book argues that a too-early start to formal literacy learning actually impedes effective language development. It is suggested that the implementation of the revised *Strategy Frameworks* should encourage schools to decide when to introduce formal teaching of literacy on the basis of their learners' needs.

Acknowledgements

This book could not have been written without the constant support of very many colleagues, friends and family members. My family, and particularly my children, Floyd and Kayleigh, have made it possible for me to spend the necessary time and have encouraged me since I embarked on this doctoral journey, for which I am truly grateful.

Heartfelt thanks go to Mike and to Kayleigh for training me to use spreadsheets and databases and for patiently helping me to input the data without complaint over the 6 years this work has taken me.

Very special thanks are owed to all the children and staff involved in the study, who each gave so much to make sure it was successful and who allowed me to observe, develop and guide the work alongside them.

I am grateful to Sheena Davison for bringing the intricacies and relevance of early speech and language development to my attention and for helping me to identify and develop this opportunity to improve the school curriculum for our learners; to Dr. Avril Loveless of the University of Brighton for much-appreciated support and guidance in the putting together of the book.

Finally, I want to express my enormous gratitude to Dr. Carol Fox of the University of Brighton for her patient encouragement, validation and clear-sighted support over the last 6 years. Throughout my long journey she has guided me over mountains and has shone an unwavering light onto my pathway with her infinite knowledge, wisdom, understanding and kindness. Without her confidence in my ability to achieve this, I know I never would have.

Dedication

The book is dedicated to those who have loved, helped and encouraged me to achieve this goal in my life and, most especially, to:

My father-in-law, who was proud of my aspirations and believed I could succeed - in my darkest moments, remembering this kept me determined to do so; my Grandad Donnelly, for never forgetting me and for my cherished encyclopaediae which laid the foundations - without these precious books, my attitude to learning may have been very different and consequently this book may never have been conceived of; my Nanna, who showed me what a brave, courageous and determined woman could achieve - I wish it had been completed in time for her to have read it; my parents, who selflessly made sacrifices in order that I would understand the power of education and benefit from it my whole life; above all, my children, who always inspire me with their unassuming intelligence and their engaging conversation.

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Introduction

Much has been written in the last 200 years about the development of young children's speech and language. Various schools of thought have proposed hypotheses that all identify language as central to human development. The key theme underpinning much of the work focuses in particular on the vital importance of language to the child's social and intellectual development.

Since the 1950s, there has been a marked upsurge in interest around the subject of children's language. Some theorists have argued that language develops predominantly through the child's imitation and approximations of the parent or carer's verbal forms (Skinner, 1957); some that language is acquired according to a pre-determined, inherent framework and universal understanding of grammatical structures (Chomsky, 1957a), whereas others have hypothesised about a hierarchy of ages and stages of development of children's receptive and expressive language (Piaget, 1950) which can be enhanced or impoverished by exposure to the culture of the child's world (Vygotsky, 1978).

Key theories have been analysed and compared in the struggle to understand what language is, how children learn, develop or acquire it, what its benefits are to the growing child and how it can be harnessed to improve learning, enhance children's social and intellectual development (Dockrell & Lindsay, 2001) and assist the child's perpetual search for *self* (Winnicott, 1971).

Although there has been relatively little research on the relationship between children's early speech and language development and their subsequent performance in literacy as a whole, clear links have been established in the last 30 or so years (Palmer, 2004; Snow, 2001; Schneider, 1993; Goodman & Goodman, 1979). Further, the link between children's level of competence in literacy skills and their future learning success in general has been demonstrated by researchers (Raban, 1991); as the wider school curriculum is accessed in the main through the spoken and written word, these developments have particular relevance for educators.

Aims of the Study

This 'professional' thesis sets out to contribute to publicly available knowledge of educational theory, educational policy and educational practice (BERA, 2003, p.2, 2.1.b); the intended audience is policy-makers and practitioners (*ibid.*, 2.2).

My theoretical stance at the outset is that the place of oracy in the early literacy curriculum has been subjugated in recent years by the increasingly early teaching of reading and writing, leading to a decline in the quality of education offered to our children in the early years and into Key Stage 1 (KS1). I am seeking to demonstrate and advocate the educational importance of improving the standards of young children's speech and language and of ensuring that this vital aspect of the literacy curriculum is afforded suitable recognition and learning time within their everyday school experience.

As a piece of professional, dynamic, practitioner-based enquiry, this study highlights an area of great concern to those working within the modern primary school which, as will be seen, has been widely reported. It is a particularly important area to study since there is very little *British* research into this problem. A clear rationale for investigating the research problem is presented in the first chapter, outlining the national, political and local context as well as the specific context of the project school. A further rationale is then identified for the explicit teaching and learning of speech and language skills.

The research explores factors which may enhance and improve children's speech and language skills throughout the early years and focuses particularly on the impact of extending this into Year 1, the first year of KS1; as the thesis progresses, it describes methods used in classrooms in the project school throughout the life of the study in the pursuit of achieving such an essential outcome. Wider issues are examined around the themes of school management decisions and judgements such as those of curriculum design, educational philosophy, pedagogy, policy and practice in addition to pragmatic outcomes of these, such as the effective allocation of resources. Further, the study aims to investigate whether there is a need for the project school, and other concerned schools, to divert resources from the expectations of the *Primary Strategy* (DfES, 2003; formerly *National Literacy Strategy*, DfEE, 1998) in order to fully meet the needs of all of its pupils.

All findings of the 3 studies and assertions made in the thesis, including contextual and background information, are grounded in educational and related theory and are supported by relevant data. Drawing on the findings of the study will assist the school's managers in their determination not to become '*unwitting accomplices in sustaining forms of knowledge that actually*

work against their own best interests' (Smyth, 1991). From the outset of this study, there existed the scope to alter policy and practice in the project school in the light of the findings. Beyond this, it is hoped that improved educational policy and practice will be facilitated by this research within the wider education community (BERA, *ibid.*, 1.1.b). Where pedagogical practices have moved away from approaches which recognise the centrality of oral language to children's learning, this thesis will argue for these practices to be reviewed in the interests of all learners and their best chances of success at school.

Part 1 of this thesis aims to:

- Define the research problem to generate a workable research question;
- Critically interrogate the literature to identify and compare significant theories of language acquisition and language development;
- Demonstrate why and how effective language skills are crucial to children's learning success;
- Identify the benefits of good oral skills to children's general literacy attainment, demonstrating the link between this and learning in general;
- Identify particular barriers to children's development of effective language skills and rigorously challenge the premise of these barriers;
- Elicit from the literature, key fractures and issues in the current literacy teaching and learning programmes of Year 1 (first year of KS1);
- Gather research data through case study method and analyse these in the light of the literature;
- Elicit from the data, the key factors which appear to have impacted on children's standards of speech and language with particular emphasis on the factors which improve this;
- Critically evaluate the relationship between the literature and the findings, drawing on comparisons and conflicts between these;
- Evaluate relevant aspects of the school's practice within the context of the research question;
- Define how this research could impact on the policy and practice of the school, drawing on the research evidence;
- Outline the contribution this research makes to knowledge within its field.

Reflexive analysis of the researcher's impact on the research product is threaded throughout the main thesis. Reflective analysis of the impact of the research on the researcher forms Part 2.

Chapter 1 - Identification of the Research Problem

1.1 Rationale for the study – the national and political context

The *National Oracy Project* (1987-1993) was established to develop approaches to the teaching and learning of talking and listening in the classroom. The project illustrated the key relationship between talking and learning across the curriculum and in particular the learning of literacy (Norman, 1992). This work, along with other publications (Olson, 1991; Wells, 1986), was responsible for a generation of teachers deeply committed to the value of talk to the developing child. The *National Curriculum for English* (DfE 1993; DfES, 1991) identified *speaking and listening* as an attainment target (AT1) in its own right sharing equal status with reading, writing, handwriting and presentation (the latter two aspects were subsequently merged with writing as AT3 in 1995).

However, when the *National Literacy Strategy* (DfEE, 1998) was launched in primary classrooms nationwide, literacy was defined as consisting of reading and writing. Oracy was now simply a sleeping partner to the process of literacy (Haworth, 2001). Some oral techniques, mainly presentation, drama and role-play, were promoted as vehicles for the delivery of the new curriculum but there was no explicit teaching or learning of oracy nor its related skills. The terminology used in school also changed – *Language Co-ordinators* became *Literacy Co-ordinators*, embedding the shift of emphasis. This demise of the status and centrality of speaking and listening to the literacy curriculum was heavily criticised by schools and was equally heavily defended by the strategy's authors. Schools were repeatedly told that the word, sentence and text level components of the *Literacy Hour* were sufficient to develop the children's necessary competence with spoken language; since these components would be delivered orally, their oral skills would inevitably be developed. The oral delivery of other national curriculum subjects would apparently enhance this further. Nevertheless, teachers were very clear that this redistribution of emphasis in their teaching was a negative step, after such powerful emphasis on the skills of oracy in the early 1990s.

Not only was oracy now subordinated in the early education curriculum, potentially putting children's oral competence at primary level at risk, but further issues arose from the expectations of delivery of the *National Literacy Strategy* (DfEE, 1998; hereafter *NLS*) in Reception classes, historically the domain of play, stories, songs, rhymes and opportunities for exploratory talk and learning since the 1960s (Norman, 1992; Wells, 1986; Plowden *et al.*, 1967). Since children generally enter the Reception class in the year in which they are five, many of these are still only four on entry to the class; a small proportion of children do not turn five until late July or August after completing their Reception year. The *NLS* expectation is for all children to take part in the full

literacy hour in the final term of Reception class. Ginsborg and Locke (2002) cite research evidence suggesting, as a result of the pressure to prepare children for literacy SATs in Year 2, Nursery classes now offer limited exposure to spoken language and limited opportunities for using it. This factor, combined with *NLS* expectations for Reception children, means that:

'in comparison with American children and those in many other European countries, therefore, they lose, in effect, two whole years in which to consolidate their understanding and use of spoken language' (ibid., p.4).

At the outset of this research project early in 2003, concern about the lack of a speaking and listening curriculum was very much on the education professionals' agenda. Prominent researchers brought the issue to the fore and were regularly expressing their anxiety about the impact of this '*shameful neglect*' (Corden, 1999) in journals and publications. The concern was not limited to the impact of this lack of oracy in early education, but also focused on the effect on children's development and attitudes to learning of the increasingly dominant reading and writing curricula, shown now to be evident even in Nursery and Reception classes. With the emphasis on more formal methods to prepare children for the KS1 curriculum, opportunities to enhance vital linguistic skills are not appropriately developed. The emerging conference papers, research and articles articulated the potential harm to young children's future academic success in literacy and across the wider curriculum (Aubrey, 2002; Wood and Bennett, 2000; Anning and Edwards, 1999).

Coupled with these concerns, a national decline in standards of language skills in pre-school children before entry to early years provision was being widely reported, compounding the importance of effective language development opportunities at school. An analysis of 350 Ofsted inspection reports by the *TES* (30 January 2004) found that inspectors were concerned about the speaking and listening skills of half the four and five-year-olds starting school in September 2003. A survey carried out in Wales by the Government's Basic Skills Agency in 2003 found that two-thirds of teachers questioned believed that the speaking and listening skills of children on entry to early education had deteriorated in the past five years (Riley *et al.*, 2004). Alan Wells, Director of the Basic Skills Agency, blamed busy parents of all social classes, social deprivation, too much television viewing and the use of computer games for the serious decline caused by the '*daily grunt phenomenon*' (*Sunday Telegraph*, 1 June 2003). Following a survey of headteachers' perceptions of a decline in entry standards of oral language (NLT, 2001), the National Literacy Trust developed the *Talk to Your Baby* campaign to set up projects to work with groups of parents and carers promoting activities to encourage speaking and listening skills from the youngest age; one-to-one conversations were identified as lacking in young children's linguistic experiences at home. *Sure Start* (DfES, 2004) and *WILSTAAR* (Ward, 1992) programmes were established across the country, particularly in areas with high levels of socio-economic disadvantage, as part of a

multi-disciplinary education and health-care approach to providing all children with the best possible start in life.

While the *NLS* cannot be held responsible for all aspects of the decline in children's oracy competence, in the context of this national index of language need (highlighted by and targeted with expensive nationwide programmes), perhaps the dominance of reading and writing objectives in the pursuit of higher standards (and the implicit lack of focus on oral skills) in the early years of education is, at the very least, somewhat Panglossian.

Since it is '*a truth universally acknowledged that successful development of literacy depends upon language and listening skills*' (Palmer, 2004), neglect of such a key aspect of children's development (particularly when children are arriving in school without the necessary oral competence) seems, perhaps inevitably, to have led to a deterioration in children's standards of literacy confidence and competence in KS1 where children appear to be falling behind rather than catching up (Locke & Ginsborg, 2003; Ginsborg & Locke, 2002; Locke *et al.*, 2002) – the very thing the *NLS* had set out to tackle! Ofsted (2003a) found that standards of writing at the end of KS1 at level 2+ had shown no improvement from 2001 to 2002, where it remained at 86% and had then fallen to 81% in 2003; this level did not improve in 2004 but improved very slightly by 1% to 82% in 2005. These national cohorts of children would have experienced the *NLS* from Reception class (and possibly from the Nursery class). I would ask whether depriving the early literacy curriculum of its rich oral context may be having a negative impact on the standards of writing achieved at the end of Y2.

Conversely, when the *NLS* was in its early stages and had only recently been delivered to Y1 and Y2 children, their progress was significant (as shown in the 1999 and 2000 test results); could this have been because they had benefited from good early oracy provision in the Reception and Nursery class and were developmentally ready to learn and make accelerated progress? Perhaps it is time to look at the link between the decline in the role of oracy in the early curriculum and the decline in standards at the end of KS1?

Despite the ever increasing pressure on schools and children and the raft of expensive new *NLS Primary Strategy* initiatives to tackle standards which squeeze more and more formal learning into the early curriculum, standards remain intransigently below those from 2001. In response to this, Alan Johnson, Secretary of State for Education and Skills, stated in press release (DfES, 24 August 2006) '*We are determined to improve standards at KS1 where I am concerned that we are not building fully on earlier success*'. He goes on to say that new early reading initiatives will be

developed within the *Primary Strategy* in the coming academic year; at the same time, local authorities must now set targets for learners in their Reception year. Despite research evidence staring policy makers in the face, it seems that they still value early formal learning more than developing oracy.

However, Alan Howe, English strand director for the Key Stage 3 (KS3) Strategy and former NOP officer, wrote in March 2003:

'Research tells us that talk is vital to learning and pupils' social and intellectual growth. The national aspiration to raise standards for all, in all subjects, needs a set of keys to unlock the potential in all pupils to achieve. And talk - the effective teaching and use of talk in all subjects - is one of those keys' (Howe, 2003, p.3).

In his article, he talked about '*learning lessons*' (*ibid.*, p.1) from the *Primary Strategy* where the oracy curriculum had been omitted; conversely, the KS3 Strategy identified speaking and listening objectives alongside reading and writing objectives.

Sue Palmer, discussing her own oracy project in Cornwall's schools, *Foundations of Literacy* (Palmer, 2004), suggests that schools need to address their oracy provision and adds that, given the growing national concern about children's apparently inadequate language development,

'You would expect in the early years of schooling for there to be heavy concentration on speaking and listening. Unfortunately, there isn't. Instead, the 'pencil and paper' culture engendered by national testing has extended downwards in many schools to influence practice in Reception, and sometimes even Nursery; instead of oral language development, very young children are increasingly expected to struggle with reading schemes and worksheets' (*ibid.*, p.1).

Further concern has been expressed about the effect of a '*too-early*' start to formal education on the learning of boys and disadvantaged children from socio-economically deprived areas (Locke & Ginsborg, 2003; Halpern, 1992; Resnick & Goldfield, 1992) where children might make poor academic progress or be labelled as having special educational needs despite having '*the potential for normal language development*' (Locke *et al.*, 2002, p.13). This is likely to further propagate the cycle of young people from disadvantaged areas leaving education at the earliest opportunity without qualifications, thus extending the likely pattern for the next generation. However, starting formal education later has been shown to reduce numbers of children leaving formal education at the earliest opportunity (Sharp, 2002).

Professionals on the 'chalk face' were also growing concerned about the situation. Delegates at the Association of Teachers and Lecturers conference in March 2003 called for the formal school starting age to be put back to six to allow for a better informal curriculum which could focus on

children's oral language skills. Members of ATL felt that the existing curriculum was damaging children's attitudes to learning and school. In particular, they felt that boys become disruptive when forced to start formal lessons too early. They recommended following the European model of beginning formal education at six (some start at seven).

Scottish research by the Centre for Educational Sociology (Croxford, 1999) at Edinburgh University identified that some very young children entering formal education never catch up with their primary peers. It speculated that immature boys were likely to be particularly disadvantaged. It is interesting that a similar pattern can be seen in New Zealand where reading is taught early, as in Britain. The country suffers from many of the same educational problems: girls perform better than boys; there is a large gap between the best and worst pupils and general literacy standards are disappointing at 11 and 15 years of age. Trinidad and the Republic of Ireland, which have similar approaches, also reportedly have similar problems (*Times*, 23 June, 1999).

The Welsh Education Secretary, Jane Davidson, highlighted the problem in Welsh schools after growing concern about the impact of existing provision on children's longer term academic success and attitudes to education. She visited a number of other countries, including Cuba, and examined their education provision for under-sevens. Cuba was chosen because its early years agenda is very much focused on child development for the youngest children. Other countries visited (including European countries, the Basque Country, Canada, Australia, among others) were selected by examining the figures from those countries with high rates of literacy and numeracy and with large numbers of students remaining in education after the statutory age. Common to all countries visited was a far less formal approach to early years education, promoting child development before the commencement of formal study. Davidson argued that starting formal education too early can be damaging to children's longer term academic success because they '*get turned off it*' (*Guardian*, 9 July 2002).

The *Learning Country* paving document (NAW, 2001) which emerged as a result, identifies the need for an extended Foundation Stage to the end of Year 2; a project began in September 2004 in many Welsh infant schools to put this idea into practice with the aim of a national roll-out by 2008. Wales abolished the end of KS1 tests in 2001 in recognition of the pressure on teachers to prepare their pupils for the tests, which may have presented a barrier to the proposed sweeping changes becoming embedded in daily practice. A similar approach is being developed across Northern Ireland as a result of service-wide reviews of provision (SEELB, 2003).

Ofsted (2003) published a review and international comparative study of the education of six year olds in Denmark, England and Finland (the top nation for achievement in literacy) indicating acknowledgement of the issue at inspection level. It found that whole-class teaching of six year olds in England was '*instructivist*' (McQuail *et al.*, 2003, p.14, 5.4) and was restricted by closed questions, brief answers and little extended interaction, while in the other two countries it was '*constructivist*' (*ibid.*, 5.5), thus more open and speculative, leading to much more confident spoken contributions from the children, particularly in Denmark. English teachers were less certain of the purpose of the Year 1 curriculum than their counterparts and felt there was a conflict between the requirements from the end of the FS and those of the KS1 curriculum, particularly the tests in Year 2. The English curriculum was found to be '*much more centralised and closely defined*' (Aubrey, 2004, p.654) with much more expected of English children in reading, writing and mathematics; tasks were more tightly structured and focused on knowledge and skill compared with the other two nations. The results showed that English 6 year olds performed better than their counterparts in reading and writing but that by 15 years of age, they had fallen behind.

Writing in the *Times Educational Supplement* (4 April 2003), Palmer identified the English perspective on the teaching of literacy (and numeracy) as being underpinned '*by the sooner the better culture*' (*ibid.*). She raised the question of whether this was the most educationally sound approach, given the findings of Ofsted's comparative study and evidence from across Europe. Drawing on a study where a mixed ability class of inner city Hungarian children were given a translated KS1 maths test after only a year of formal education (which followed 2 years of kindergarten education), she demonstrated the principle that a solid foundation of oral work in the early years to develop key concepts rather than focused teaching of reading and writing (and in this particular case, maths) promotes better understanding and an accelerated acquisition of skills once formal education begins; half the class achieved level 3 while the rest all achieved high-scoring level 2. Such results outstrip the achievement of most English classes of seven year olds. The Hungarian children had taken to their formal lessons with confidence, good attention skills and positive collaborative and social skills which resulted in effective learning for the majority of them. Early years teaching in Hungary is done orally with extensive use of music; Nurseries have strict guidelines not to deliver literacy and numeracy lessons but instead teach children how to listen, pay attention and remember shapes, sizes and sounds (*Times*, 23 June, 1999). This contrasts starkly with the English approach, where children learn formal literacy (and numeracy skills) at a much younger age and where many children have appeared, as already stated, to struggle thereafter.

Ofsted (2004) and key researchers proposed the idea of making Year 1 a *transition year* between the Foundation Stage and the national curriculum. This would facilitate further opportunities to focus on oral work before requiring children to

'put pen to paper, bringing us nearer to most other European countries, where a 'kindergarten curriculum' involves a structured course of pre-literacy activities, before children begin formal literacy at six or seven years of age' (Palmer, 2004, p1).

Even if it was tentative, a shift towards rethinking the place of speaking and listening was becoming evident following the 2003 Ofsted review and there was news that it was about to be reintroduced to the curriculum. When the *NLS* became the *Primary Strategy* (May 2003), it was the perfect opportunity (in the light of all the evidence and research) to review the balance of objectives and perhaps follow the Welsh model of extending the FS and abolishing the KS1 tests in order to give teachers the opportunity to redefine the emphasis in the early years approach to literacy. The *Excellence and Enjoyment* document does highlight the importance of 'explicit' teaching of speaking and listening; it also outlines revisions to create a more teacher-centred assessment-based approach to KS1 testing. However, when Stephen Twigg, education minister, spoke to a large group of headteachers in July 2003 at an introductory meeting for the *Primary Strategy*, he made it very clear that England would definitely not be considering an extended FS or abolishing the end of KS1 tests. This stance keeps our education system out of kilter with our neighbouring British systems of education as well as with the majority of European countries. The *Primary Strategy* document states:

'The standards that children achieve at the age of seven, particularly in reading, are strongly associated with future progress, and we are determined that children be assessed rigorously and effectively at this age' (DfES, 2003, 2.26).

It rejects arguments suggesting the tests are inappropriate:

'We do not accept that the tests and tasks which are set to children at the age of seven, at KS1, are too difficult or stressful for children to do' (ibid., 2.27).

The document also reiterates the expectation that Reception children will have formal literacy (and numeracy) lessons by the summer term (*ibid.*, 4.16). Ofsted (2004) reported in their evaluation of the transition of pupils from Reception to Year 1 that careful and 'judicious' (*ibid.*, p.17) use should be made of the *NLS* in order to offer the best age-appropriate teaching; it also called for teachers to plan more opportunities for children to develop language skills and criticised poor teaching which did not allow Year 1 learners to 'talk and listen in a variety of groups' (*ibid.*, 14).

In November 2003, a resource pack entitled *Speaking, Listening and Learning* (DfES, Nov 2003) was sent to schools which included literacy and cross-curricular speaking and listening objectives, some of which are based on the principles from the National Oracy Project. Training materials for the implementation of the pack were released five months later in April 2004. The objectives, like the reading and writing objectives, are prescriptive and assessment focused although the guidance states that teachers can use these flexibly. However, with no changes to expectations of standards attained by the end of Year 2, no changes to expected coverage of the reading and writing objectives and no real changes to the teaching expectations of the strategy in Reception classes, it is difficult to see how schools would be able to successfully implement and benefit from the speaking and listening objectives: the same factors that influenced Nursery and Reception teachers to prepare pupils for the Year 1 curriculum still apply. It could be argued that the objectives are a 'bolt-on', rather than a literacy curriculum 'redesign' intended to develop oracy as an underpinning of literacy, particularly in Year 1. Compared with the stance taken by Wales, the English revision of the literacy curriculum falls well short of the expectations many teachers and headteachers may have had.

Given the national and political climate surrounding the debate on the importance of the teaching of speaking and listening skills and the relative lack of it in our schools, the initiation of this study in 2003 was pertinent, timely and relevant. Clearly, the rationale for designing the study was based on a wealth of supporting evidence.

1.2 Rationale for the study - local context of the project school

Evidence in this section is supported by relevant literature held at the offices of the local council; however, in order to maintain anonymity of the project school, some of these cannot be cited.

The school is one of two primary schools situated on a city-fringe council estate within an area of significant social and economic deprivation; it has been identified as a school in one of the 5% most socially deprived areas in the country (Rooker, 2004). The school's political ward is listed as one of the government's 10% most deprived areas according to the *Multiple Deprivation Index* 2004 (ODPM, 2004) based on the *Super Output Areas*. The *Harman Index of Multiple Deprivation* (DETR, 2000) identified it as the 6th most deprived ward nationally and as the most deprived in the city. Almost all of the school's 240 pupils live within the estate which, as a result of its level of deprivation, has been targeted for specific government funding (*New Deal for the Community*) to regenerate it totalling £47.2 million over a 10 year period. A regeneration framework was devised in 2000 and is currently being implemented involving all key services - environment, police, health, education, social services, childcare, youth work, business partnerships, voluntary organisations and resident-led projects. The following descriptions of the local context are provided to assist the reader with issues of generalisability of the research evidence. The research commenced in 2003, which is important to note when reading dates of the reports used below.

The 2001 census (ONS, 2001) reported 16,777 residents in the ward within 6,638 households. 36% of households have dependent children. The census reports the population as being young, with just under 50% being under 30 years old and 36% being under 19; 27% of the population is under 16 which is 7% higher than the national average. Overcrowding in local authority housing is a particular problem in the area, 4% compared with 2% nationally (*NDC Report*, 2000); it is one of the two least popular areas of council housing in the city (*ibid.*) although 45% of residents are in council accommodation compared with 13% nationally and 10% in the rest of the city. The number of owner occupiers is half that found nationally (ONS, Census 2001). As soon as residents become more successful they move out the area (*NDC Report*, 2000).

Geographically, the estate is sited on a '*steeply-sided downland valley, accentuating its physical remoteness*' (DETR, 2000a, p.33), making it '*physically and socially isolated*' from the rest of the city (*ibid.*). The estate is separated from the town centre by the Downs and, other than to visit friends or relations, there is no reason to go to or through it (*ibid.*). The *Guardian* (9 August 2005) recently described the estate as:

'Hidden from view on the edge of the seaside resort ... by any definition a sink estate, riven with poverty and disaffection. It has seen progress ... but still falls into the 5% of England's most deprived neighbourhoods.'

Because of the topography, the streets consist of steep hills, resulting in *'less than fit people or encumbered people living in the higher roads and streets having obvious problems getting to and from buses and trains'* (DETR, 2000a, p.33). The city's main train station is three miles from the estate while the nearest regional station is over two miles away. Over 46% of residents do not have use of a car (ONS, 2001 Census). The government report into social exclusion and public transport (DETR, 2000a) identifies these factors as significant *'as the area contains a very high proportion of older people and lone parents with buggies - in 2003, 25% of school leavers were pregnant'* (*ibid.* p. 33). The report goes on to explain:

'There are no banks, pharmacies, hairdressers or support services within the estate.... Like the estates peripheral to major industrial cities, it is effectively invisible. Its general decline is due to the closure of major local employment opportunities, and the concomitant decline of everything else in the neighbourhood. Work is a problem: there appear to be a certain number of service opportunities in... the city... that are accessible by bus, but many of these are extremely low-paid and seasonal. There are some jobs further afield ... but these are very difficult to reach by public transport. Public transport is almost good enough to cover most non-work needs, although leisure opportunities are few because of timetables.'

Within the local health authority, the ward has the highest rates of lung cancer and coronary heart disease (*NDC Report*, 2000). The Mental Illness Needs Index shows that residents in the area have a greater risk than the rest of city of suffering mental health problems (*ibid.*). Life expectancy is seven years below the national average (*ibid.*). Children in the project school are significantly shorter than their peers in more middle-class areas.

There is a higher than average suicide rate in the city with many deaths associated with drug and/or alcohol misuse particularly amongst young adults (Council Report, 1998). Drug and alcohol abuse is considered a major problem for most of the residents, either through personal or family involvement or from the resulting neighbourhood nuisance (Council Report, 1999). Drug related crimes are viewed as a high priority in the ward (*ibid.*).

83% of residents taking part in a survey in 1999 reported that crime was a big issue in the area. The police believe that 6 out of 7 crimes in the area go unreported (*NDC Report*, 2000). There is a serious racial harassment issue in the ward. Families often move out of the area to get away from severe harassment and when incidents occur, respondents to the survey (citation withheld, 2000)

reported that the police do not turn up on the scene quickly enough. Many of the ethnic minority women are housebound because they feel unsafe (*ibid.*)

The area's council tenants suffer the highest rates in the entire city of harassment and racial harassment as reported to the housing officers (*NDC Report, 1999*). The British National Party is active in campaigning door-to-door on the estate and several high profile members live on the estate, some of whom have family members in the school.

Recorded cases of domestic violence increased by 17.5% between 1996 and 2000 (citation withheld, 2000) although it is thought that many of these incidents also go unreported. At an action planning meeting in April 1999, residents of the ward expressed their concern about the levels of violence in the home (*NDC Report, 1999*). Council tenants suffer the highest rates in the city of domestic violence as reported to the housing officers (*NDC Report, 1999*). 200 cases of domestic violence were dealt with by newly appointed community safety officers in the first 2 years of the New Deal project (*Local newspaper, 25 June 2002*). In the school's ward, sex offences represent a particularly high percentage of the total for the city as a whole (*URBAN, 1998*). On average, there are 2 reported murders per year on the estate. In 1973, a 7 year old girl was battered to death in an infamous child-abuse case - the house where she died is less than five minutes walk from the school. The area was reported on nationally during May 2000 as a result of local riots on the streets around the school.

The ward contrasts starkly with the rest of the city in terms of economic deprivation. It is in the top 5% for deprivation in terms of child poverty in England (*LA Education Development Plan 2002 – 2007*). 14% of households are headed by a lone parent (double the local and national rate), 50% of whom are economically inactive (*ONS, Census 2001*). Residents are more likely to be out of work - often for a long period of time. Within the ward, 50% of residents are economically inactive (compared with 36% locally and nationally) and 83% of those unemployed are aged under 50, 10% have never worked and 38.5 % are long term unemployed (*ONS, 2001 Census*). 41% of households receive income support compared with 20% for the rest of the city and only 21% of people are in full-time employment compared with 34% in the city as a whole (*NDC Report, 2000*). In 2000, it was reported that 59% of households had an income of less than £10,000 per annum compared with 24% in England as a whole while around 75% of young people were living in '*workless homes*' (*ibid.*).

People are more likely to leave school with fewer qualifications and to go straight into unemployment after leaving school (*ibid.*). Expectations for employment amongst school leavers

are low with 20% of leavers going directly into unemployment compared with 8% for the rest of the city (*NDC Report*, 2000). 43.5% of 16-74 year olds have no qualifications compared with 22% in the rest of the city and 29% nationally while 10% are educated to degree level, compared with 29% in the city and 20% nationally (ONS, Census 2001).

It is clear from the school's context that its children are subjected to significant deprivation and poverty and all of the difficulties that those factors encompass. The children served by the school are precisely those whom the research states are most at risk of being educationally compromised by an early years provision which is too formal (Palmer, 2004; Locke & Ginsborg, 2003; Ginsborg & Locke, 2002; Sharp, 2002; Croxford, 1999; Hart & Risley, 1995; Halpern, 1992; Resnick & Goldfield, 1992). The school, therefore, is an excellent starting point for this study, in the light of evidence from the national and political rationale.

1.3 Rationale for the study - educational context of the project school

The school has one-form entry and is of religious character. It has had a turbulent recent history. Placed in special measures in 1997 after a poor Ofsted report, the school was subsequently removed to the category of *serious weaknesses* in 1999. In this time the school underwent a period of significant change, with 3 headteachers coming and leaving. On appointment in September 2000, I was the fourth Headteacher in four years and remain in post at the present time. The school passed its most recent inspection in March 2001, with the team acknowledging the difficult context and specific history of the school (Ofsted, 2001).

Despite being a Church of England (aided) school, more than 98% of children do not come from church-going families. It has an above-average number of children with statements of special educational needs (2%) with a significantly higher than average number of children on the special educational needs register (46%) compared with 17% nationally. There are more girls (54%) than boys in the school, although the ratio of girls to boys with special needs is 1:1. The number of children who are entitled to free school meals is more than three times the national average (53%) and is in the highest band measured nationally (more than 45%). There are a number of children with English as an additional language (6%) – this is in line with the local population which is 95% white British or Irish (ONS, 2001). Bengali is the most commonly spoken language other than English. One child has asylum seeker status. There have been no traveller children on the school's roll for the last 4 years.

Within the local education authority, the highest levels of unauthorised absence are found in schools on the estate although the project school's most recent rates have dropped steadily over the past 3 years from 1.8% and now stand at 0.3% (LA average is 0.6%, national average is 0.5%). Attendance has risen from 88% in 1999 to 91% in 2003 (this has since been maintained but has not improved further). Because of the transience of council tenants in the area, the school has high mobility of pupils, which impacts on standards and statistics at all levels. Children often arrive during 'test' terms with low levels of achievement. Sometimes the school is their third or fourth school in two years. In May 2000, 35% of Year 6 children achieved level 4 (no level 5) in their English SATs. In May 2002, this had risen to 82% with 24% achieving level 5 (latest results immediately prior to the commencement of the research project). The school was part of an Education Action Zone (EAZ) from 1999 to 2003 and is now part of an Excellence in Cities (EiC) cluster. Improvements in results at the end of KS2 attracted *School Achievement Awards* for 2001 and 2002.

As well as the usual measures found in schools, a range of initiatives support the inclusion of all community members, such as use of learning mentors, nurture groups, a subsidised breakfast club, free and confidential pupil, parent/carer and staff counselling, SEN family groups, family learning, a drop-in careers service, a parent/carer and toddler group as well as free-at-point-of-service homeopathy, osteopathy and art therapy. There is a clear teaching and learning policy in place throughout the school and staff have regular professional development. *Investors in People* (2004) granted IiP status (renewed 2007) and found that all staff are totally committed to the school's primary aim, inclusion is a practice not a mantra and there is equality of opportunity for all – adults and children alike. The school has recently been awarded a *Bishop's Commendation* for the quality of Religious Education and collective worship. Additionally, it has achieved a *Silver Level Healthy Schools Award* and a *Princess Diana Memorial Award* for its child-centred work on anti-bullying within the school and local community.

1.4 Rationale for the study - context of the research problem in the project school

At the outset of the study, the school had the highest number of statements (per capita) for speech and language difficulties in the local education authority. The most prevalent difficulty facing the project school is the standard of speech and language on entry since children arrive with generally poor speech and language skills. In the three years leading up to the study, routine language screening using the *Renfrew Action Picture Test* (Renfrew, 1997; detailed in Chapter 4) consistently revealed that on average 50 - 70% of children have moderate to severe language delay on entry to the school's Nursery; the national average is below 20%. This level of deficit is not evident in the general cognitive ability or baseline assessments of the cohorts where, despite obvious minor fluctuations year on year, children present as a broadly average group of children.

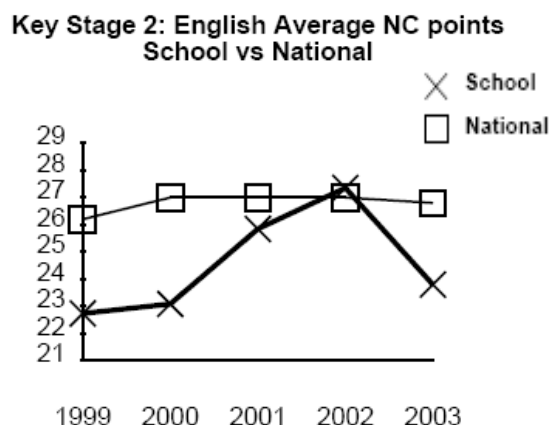
For the purposes of this study, the group of children who are deemed as having language delay does not include those with an articulatory or mechanical speech difficulty. Screening using the *Renfrew Action Picture Test* (*ibid.*; hereafter *RAPT*) identifies children's language as *above average*, *within normal limits* or *delayed*. Children whose delay **would** trigger therapeutic intervention *are* included unless they were referred to the SLT during Nursery or through the local community (*e.g.* clinic). Children are also included whose delay would not trigger intervention because their test scores may be within normal limits but there is a *significant* (see section 5.1) differential between their vocabulary development (information) and their development of word order and sentence structures (grammar) - this pattern of language delay indicates that children's language is generally not developing 'normally', forming a *sub-clinical* group. Where this differential occurs, it is often the grammar score which is significantly below meaning that children are not developing the appropriate level of syntactic language, which may impede their ability to use language for complex purposes within school. Further explanation of the use of the term *language delay* is provided in section 3.4.

Unlike many of the schools cited in Section 1.1 (Rationale for the study – the national and political context), considerable oral work has been done in the Nursery and Reception class to tackle the problem with specially designed programmes which are delivered by trained staff. These small-group programmes, in place since September 2001, consisted of vocabulary development and teaching the skills required for the social use of language and have been effective in reducing the numbers of children with delay. School language screening data reveal that at the end of 2002-2003, 33% of the Reception class still had moderate to severe language delay compared with 70% when the cohort entered Nursery; many, but not all, children entering the Reception class had attended the school's Nursery. However, a staggering 83% of learners at the end of the Reception

class in 2003 were demonstrating *atypical* language (see section 5.4.4) - as such, their language was not developing normally.

It is reported within the school that Reception teachers since 2000 have felt pressure from staff within the school to prepare the children for a more tightly structured Year 1 curriculum and have progressively made the curriculum more formal (*i.e.* explicit teaching of reading and writing objectives) from the spring term, and more particularly in the summer term of the Reception year. Pressure has come from the education authority's literacy team and advisory staff to ensure the *literacy hour* commences by the summer term of Reception, which has recently been compounded by news that all schools in the authority will have to set Foundation Stage targets for children's attainment at the end of the Reception year.

There has been a considerable emphasis on the delivery of the *NLS* (now Primary Strategy) in the school since its inception in September 1998. Despite a predicted cohort-related slump in 2003, this strategy appears to have contributed to very good improvement in results for English at the end of KS2 (see section 1.3). As shown in Figure 1.A, the school PANDA¹ report gives evidence of rapid improvements in teaching and curriculum (while using the *NLS*) which took attainment in English to above national standards by 2002.

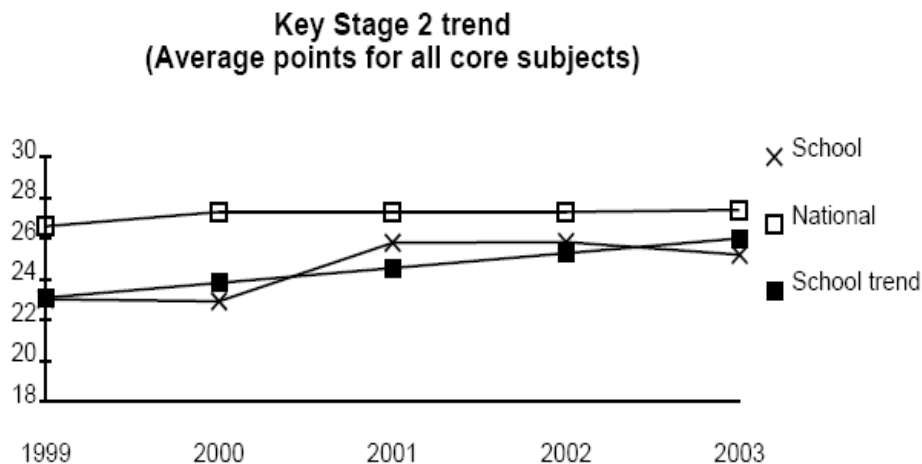


(Source: School PANDA, 2003)

Figure 1.A Average Points Scores 1999-2003 for KS2 Tests in English

Although 2003 results in English were lower than the previous two years (they rose again in 2004 by 20 percentage points), the overall trend improvement in terms of national curriculum point scores for all core subjects was greater than the national trend over the previous three years (Humphrey, 2003). This is shown in Figure 1.B:

¹PANDA is an acronym for Ofsted's **Performance AND Assessment** reports; the reports give an overview of each school's performance in relation to other schools using data from Ofsted and the Qualifications and Curriculum Authority (QCA); they are designed to support schools in their self-evaluation and feed into inspections.

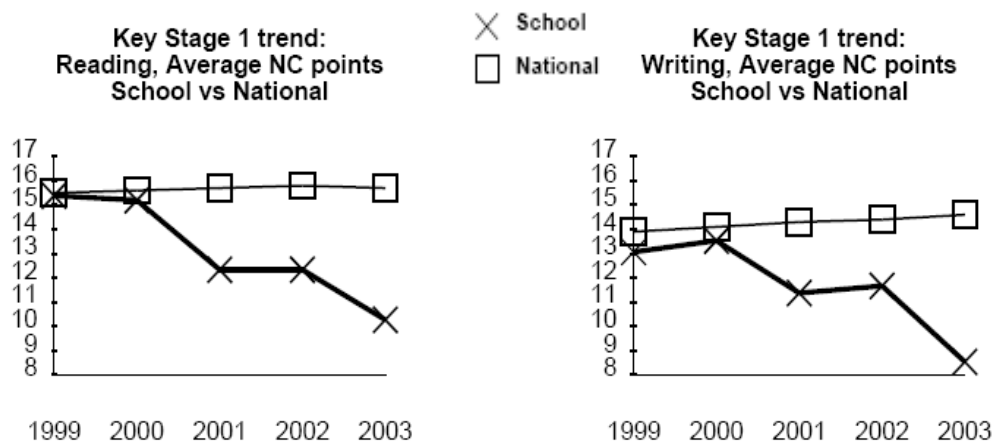


(Source: School PANDA, 2003)

Figure 1.B Average Points Scores 1999-2003 for KS2 Tests in Core Subjects

Planning, teaching and assessment, using the *NLS*, have been rigorously monitored by the senior leadership and management team across the school to ensure consistency and this has been externally recognised by HMI: *'The rigorous approach to monitoring, assessment and tracking procedures and performance management is clearly making a significant contribution to these overall improvements in attainment'* (Humphrey, 2003).

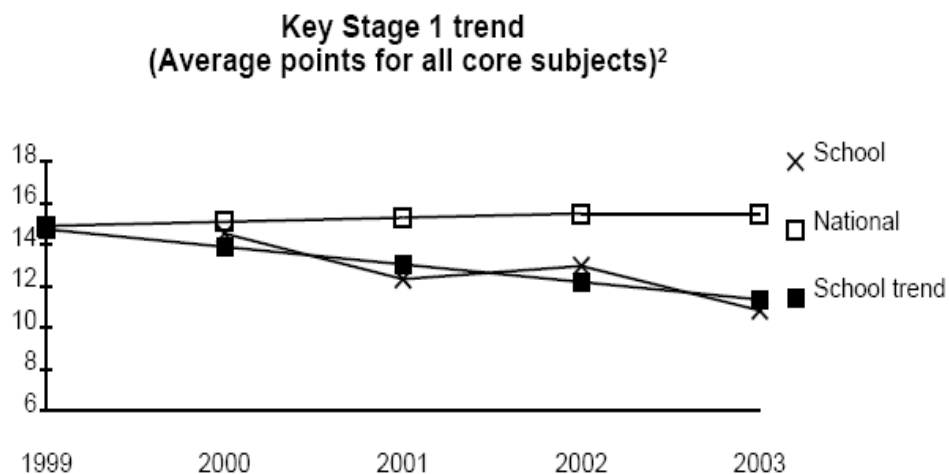
Within the remit of the *NLS*, teaching in the Year 1 class was, for the 3 years leading up to the research, deemed as well-planned, well-differentiated and well-monitored. This was endorsed by Ofsted inspection in March 2001 and subsequently was confirmed by visiting HMI, inspecting the impact of the EAZ in schools in January 2002 and December 2003. LEA consultants have worked specifically with the Year 1 classes of 2001-2002 and 2002-2003 and have concluded that the lessons are well-taught, and are delivered in line with the intentions of the *NLS*. However, the fact remains that the result of delivering this syllabus in the project school has been virtually no progress throughout KS1 for most learners. There was a significant decline in KS1 results from 2001 for all classes who had been taught according to the *NLS* since Reception class (1998 – 1999; 1999-2000; 2000-2001). Figure 1.C below shows the decline in average points scored in the end of KS1 tests for reading and writing from 1999 to 2003.



(Source: School PANDA, 2003)

Figure 1.C Average Points Scores 1999-2003 KS1 Tests in Reading and Writing

Unlike the results at the end of KS2, which showed an upward trend year on year, results at the end of KS1 declined steadily, as shown in Figure 1.D.



²Please note: Spelling is not included in all core subjects.

(Source: School PANDA, 2003)

Figure 1.D Average Points Scores 1999-2003 for KS1 Tests in Core Subjects

At the end of the academic year 2002-2003, 11% of the class left Year 1 on track to achieve level 2+ at the end of Year 2 in writing - the remaining 89% had failed to make the necessary progress; 25% left Year 1 on track to achieve level 2+ at the end of Year 2 in reading – again, the remaining 75% had failed to make the necessary progress. This has left the children ill-prepared for the Year 2 section of the *NLS* – they neither have an adequate grasp of the expected reading and writing

skills to work within the Year 2 objectives, nor have they had the opportunity to adequately develop or acquire the necessary oral language skills on which to build and develop their reading and writing. Inevitably, this has resulted in poor results at the end of KS1. Additional pressure then is placed on the children and staff in KS2, where there is much focused work and little room for flexibility or capacity to mediate for poor teaching, if this should occur due to temporary staff appointments in circumstances where permanent staff leave or are absent through illness. At the conclusion of this research, the cohort have just entered Year 5; they are still struggling to meet the demands of the curriculum despite significant use of catch up programmes and small group work – currently around 50% of the class are on track to achieve level four in the English test at the end of KS2, approximately 30% below the national average.

There is a perception by the Headteacher and senior managers that the Year 1 curriculum appears to be failing the pupils in the Year 1 class. This is illustrated by pupils' relative lack of progress in literacy and in learning in general which obviously has a serious negative impact on their sense of self-esteem. Children who constantly struggle have a very poor image of themselves which affects their attitudes to learning. Five year olds in the school have told their teachers that they are '*thick*'. Obviously, the school view is that this is totally unacceptable. A recent study, by Caroline Sharp of NFER (Sharp, 2002), says an early introduction to formal schooling can increase anxiety and have a negative impact on children's self-esteem and motivation to learn. The downward trend in attainment at the end of KS1, which dropped steadily in the three years up to and including the start of the project, is in line with the decline in standards found in Wales (2001). Thus, the school clearly demonstrates a definite need to address the issues referred to throughout the rationale for this study, making the study relevant and potentially ground-breaking.

1.5 The research question

If relatively good progress is made with speech and language in the Foundation Stage, why are the children stalling in the first year of KS1, *i.e.* Year 1? Why is the good progress made not being developed and built upon in Year 1? Why are standards at the end of Year 2 dropping each year in a school that has made such enormous progress in KS2? The answer to these questions lies, perhaps, in the nature of the KS1, and more especially the Year 1, curriculum.

The literature reveals a general sense of the unsuitability of the early introduction of the literacy strategy, with its focus on reading and writing objectives rather than on developing children's oral language from the age of four for many children. The initial evidence would suggest that this formal focus may have been the cause of the decline in standards at the project school within and at the end of KS1 since other variables, such as teaching, planning and differentiation (as stated above), have been robustly investigated and triangulated by Ofsted, HMI and LA advisors and have **not** been found to fall short of expectation.

So, the research question centres on whether the school's current Year 1 curriculum is indeed failing the children. This study is concerned with trying to find out *what is missing* from the curriculum offered. Would an extended Foundation Stage, based on principles of assessment for learning, good practice and tried, tested and known approaches based on research and sound educational philosophy help to rectify the problem?

Thus, the research question has become:

What are the factors involved in improving standards of speech and language in Year 1; to what extent, how and why do these impact on children's attitudes to learning, language development and later literacy standards?

Chapter 2 - Literature Review

2.1 Introduction to the literature review

The literature reviewed for this thesis covers a vast area of study from the last 200 years with particular reference to key developments over the past 50 years.

Sources have been drawn from classic, current and cogent research in the fields of child development, education, psychology, sociology, linguistics (including developmental psycho- and socio-linguistics), semiology (or semiotics), anthropology and epistemology.

Inevitably, including research from such a wide field of knowledge poses difficulties in terms of organising, presenting, challenging and comparing the various theories uncovered. The common theme shared by these fields, however, is that they have the human being at their core together with the nature of his development and his pursuit of knowledge.

Therefore, instead of reporting on these as discrete units of thought and ideology, the review is presented under the headings of the three key questions which prompted the literature searches. In this way, the fields of research can be analysed, synthesised and presented with recognition of their inevitable overlap, in keeping with their human subject.

These three questions underpin the scope of the enquiry considered necessary to frame the research and its findings and to provide the reader with a clear understanding of the context of the literature review.

This structuralist approach does not imply inferiority of the individual areas of knowledge but is simply an organisational device to present the whole picture whilst recognising the relationship of each component to the entire system (Rubel & Rosman 1996).

My own experience of 'living' the theories as a primary classroom teacher over a period of 15 years will have an influence on their interpretations. Hence, it is recognised that, in taking this approach, the post-structuralist argument applies – that is, that the researcher's interpretations of these areas of knowledge directly impose her perceptions onto the analyses offered. However, I would argue that one's own history, values and experiences have an impact on all qualitative research.

Thus, the literature review is divided into the following three areas of enquiry:

1 *How do children acquire or develop spoken language?*

In order to go on to discuss how standards of speech and language can be improved, it is important to identify how children's spoken language develops or is acquired. Only with this understanding is it possible to then carefully tailor effective teaching and learning to best promote the process.

2 *How does a good level of spoken language benefit children and how does language delay hinder them?*

The question is considered in terms of general cognitive and emotional development as well as being linked to future success at school, both within a curriculum delivered mainly through spoken and written language and more specifically within literacy. If a child's level of spoken language competence is shown by the literature to be important as an indicator and/or predictor of later learning success, it is important to understand *why* and *how* spoken language is so crucial to this success. Furthermore, if the thesis is to argue for schools to spend curriculum time on improving standards of speaking and listening in Year 1 (consequently reducing the time spent on other aspects of learning in the school day), it is essential to show what the benefit may be to the child in general and specific terms and what the detriment may be not to do so.

3 *What are the barriers experienced by children in developing the necessary spoken language skills they need in order to succeed at school and beyond?*

Are the barriers which exist biological (nature) or environmental (nurture) - or both? Discussion on this issue has been contentious since the 1960s but it is important to try to understand the key barriers encountered by our children in order to be able to develop teaching and learning strategies that will deconstruct these barriers, or at least diminish their effect. This may include investigating ways to compensate for any environmental barriers wherever possible, whether these originate from within the institution of 'school' and its constrictions or from the wider societal framework (Bernstein, 1971; Labov, 1971).

Identification of factors which may improve standards of speech and language in Year 1 and consideration of potential best practice, drawn from the theories discussed, are argued for throughout the review. Links between the research undertaken for this thesis and its potential impact and cogency in approaching the teaching and curriculum of Year 1 children in my school and beyond are discussed in Chapter 6.

2.2 How do children learn, acquire or develop spoken language?

There are certain tenets that modern teachers understand when discussing children's language development: young children acquire language to express their thoughts, feelings and desires and to understand the world around them (Halliday, 1973); language develops through interactions with adults and other children, and through a continuous exchange of information between the child and his surroundings (Vygotsky, 1978). Teachers know that children need to develop effective communication skills in order to access the primary curriculum and in order to make a positive contribution to the community of the classroom. In addition to the key question above, there is a sub-question to be considered: do children develop language or do they acquire it? Further, is there a difference beyond semantics in this issue?

The background to children's language acquisition and development is complex and contentious and there is an argument for teachers to have considerably more training in this area in order to meet the needs of the current generation of children arriving in pre-school and Reception classes without sufficient grasp of their language (Locke, 2002a). While it is unrealistic to expect teachers and student teachers to undertake a detailed course in linguistics, a factor in improving children's standards of speech and language could be a higher level of teacher knowledge and understanding of the relevant key elements. Locke (*ibid.*) suggests that these elements should include the development of verb tense structure, the processes involved in asking questions, and the ways of extending sentences to add clarity and precision to meaning.

The facets of language studied by modern day linguists are: the system of sounds (phonetics and phonology); the system of meaning (semantics and lexicology); the grammatical structure (syntax and morphology) and the study of the rules of social language (pragmatics and discourse). This sounds highly complex – and yet, by the age of three, children have usually begun to fathom these elements and are applying them on a daily basis with no formal or explicit teaching of the components. How is this possible?

At the turn of the twentieth century, Saussure, the attributed founder of modern linguistics, and his revolutionary structuralist approach to semiology (otherwise known as semiotics or the science of signs) dominated thinking about how *langue* (the system and structure of a language) and *parole* (the units of meaning used within a language) developed. Prior to Saussure, linguistics was largely a philology concerned with establishing the superiority of certain language forms and their origins (Fleming, 2004).

Interest in the theory of language development gained momentum and three distinct and opposing schools of thought have emerged since the early 1950s. In fact even the word *development* has become problematic and contentious when applied to children's growing use of language; the theorists' position on language acquisition *or* development is dependent upon their beliefs about language structure and use.

2.2.1 Behaviourist theory

Skinner (1957) rejected the concept of *langue* as an abstraction and determined that the only aspect that can be examined scientifically is *parole*. Skinner maintained that language development is strictly behaviourist and that language is *learned* only through imitation, reinforcement and conditioning. Children encounter language with no pre-existing framework or disposition to facilitate its acquisition. While there is certainly a degree of imitation in all aspects of children's learning prior to associative understanding, inference and conceptualisation, arguments against this theory focus largely on the issue of the child's ever-developing use and knowledge of grammatical constructions – grammatical errors are not generally corrected by parents and carers, so how can their increasing grammatical competence and understanding be explained? Children are able to form unique sentences and apply words in different contexts from those they have been exposed to, therefore there must also be a degree of dynamic intelligence involved in the using and applying of those constructs.

2.2.2 Nativist theory

Chomsky (1968) turned Skinner's thinking around and looked at the issues of language acquisition from a rationalist perspective. Not dissimilar to Saussure in terms of describing how language is structured (although rejecting Saussure's definition of *langue*), he proposes that language is comprised of two elements – *competence* (the underlying system of rules mastered by the native speaker; knowledge of the language) and *performance* (the speaker's actual use of language; the various acts of verbal behaviour with all their inconsistencies and errors). Chomsky's view is that the role of the linguist is to study *competence* (Fleming, 2004). In his doctoral thesis (1955), Chomsky developed the concept of transformational-generative grammar (deep structure) which he later defined as a set of psychological processes which cannot be adequately investigated or revealed by analysing the *performance* (surface structure) of children's (or adults') *real language* (Fox, 1987):

'The deep structure is not represented directly in the form of the speech signal; it is abstract. Second, the rules that determine deep and surface structure and their interrelation in particular cases must themselves be highly abstract. They are surely remote from consciousness, and in all likelihood they cannot be brought to consciousness' (1969, p.131).

Chomsky bases his theory on the concept of an innate, native ability to learn language which is biological and genetically pre-programmed and not dependent on the child's intellectual ability or environmental stimulus (Chomsky, 1965). All children have this built-in *Language Acquisition Device* (*LAD* - latterly referred to as *Universal Grammar*) to which they import and apply their own mental processes and generalisations while listening to speech. Chomsky insists that this framework is not affected in any simple way by perception or reasoning (Pinker, 1994). In contrast to Skinner's view, the *quality* of the environment, culture and stimulus (Chomsky, 1965), no matter how poor, has little effect on the child's capacity for language acquisition. (1994) concurs and, in response to a handful of cases where children have been found who have not acquired language (as a result of being feral or neglected), argues that mute children reared in total language deprivation are not able to apply the *performance* aspect of language because they do not have the phonology or morphology (Newport & Gleitman, 1977). Chomsky and Pinker agree that with even the most limited input, children are able to make their own language in order to communicate, even if it is not the conventional language of their society, such as in the case of the emergence of Creole (Bickerton, 1975), and that there is an ideal time, or window of opportunity, in a child's development for these skills to be facilitated.

Chomsky's theory dismisses the idea that a child's cognitive ability, environment or social interactions have an impact on the acquisition of language within the knowledge framework inherent in the child. It also provides an explanation for the reality that children do acquire their native language with all its complexities '*regardless of differences in intelligence or background, so rapidly and at such a young age*' (Fox, 1987, p.15).

If language acquisition is exclusively innate and exempt from external influence, even in the most deprived environment (other than one that is entirely devoid of language), how does this correlate with perceptions from modern teachers that there has been a marked decline in the language and communication skills of pre-school and Reception class children (Riley *et al.*, 2004; Locke *et al.*, 2002; NLT, 2001) over the past five years? There is clearly a gap between the nativist theory of language acquisition and the recently reported perspective of a considerable number of contemporary teachers, headteachers, researchers and politicians. This gap throws up some troubling questions for the researcher to interrogate within this review: what role does intelligence play in determining language acquisition?; can the child's environment play a part in securing or inhibiting effective language acquisition?; is the child's cultural framework a relevant aspect in how successful he becomes in applying knowledge about language to any inherent, '*hard-wired*' (Chomsky, 1965) ability for acquiring it?

The third school of thought is presented in an attempt to answer some of my concerns. It is based on constructivist theories which emerged during the 1960s and '70s, although some of the work was much older in origin. Political restrictions meant that the work of Vygotsky, in particular, did not gain prominence until long after his death (1934). Likewise, Piaget's work came to the public's attention long after it was begun in the 1920s.

2.2.3 Constructivist theory

While behaviourist theory centres entirely on the impact of the child's environment on his learning (without recognising a biological or genetic ability or predisposition to acquire language skills) and nativist theory centres entirely on the child's innate, genetic ability to acquire language (without recognising the influence of environmental or cultural factors in any way other than as enabling), this third school of thought combines the two theoretical elements. However, there are significantly differing approaches to the theory of language acquisition even with this field. Some constructivist theorists argue that the ability to develop grammatical knowledge results from the way the human mind analyses and organises information and is not necessarily innate (Johnston, 2005). In general, the common theme of constructivist thought is that children actively engage in constructing their learning according to external environmental influences on them.

Froebel, the educationalist who opened the first *Kindergarten* in 1837, recognised that the '*human mind was an active participant in the learning process which had to reorganise incoming information, to deduce, to discard and to recreate*' (Leibschner, 2001, p.130). Piaget, as a biological constructivist, was critical of much of Froebel's work because it did not develop this concept further nor fully recognise the dynamic nature of intelligence. Piaget (1950) subscribed to the biological perspective of learning language and argued that children develop skills according to a pre-determined framework; as the child reaches the next stage of biologically determined development, he is able to learn the next concept at each point of cognitive conflict (arising from the child's experience) either through assimilation of the new information within the existing framework, or accommodation of the information into a new framework (schema). Piaget believed that language is a representational system which does not really develop beyond egocentric speech until the child enters the concrete operational stage at around the age of seven. At this point, the child is able to abstractly conceptualise with increasing sophistication. Thus, Piaget's perspective differs from behaviourist theory because he acknowledges a biological framework inherent in the mind and differs from nativist theory because he acknowledges (in his later work) the impact of the child's environment on his learning, even if he confines this simply to the cognitive conflict presented by new situations as a stimulus.

Vygotsky, as a social constructivist, subscribed to the environmental perspective of learning language (1978). He criticised Piaget's work for ignoring the social and cultural influences on a child's development; he was concerned with the effect of social interaction on maturation and of social cognition, that is, with understanding the '*nature, evolution and transmission of human culture*' (Wood, 1998, p.38). He recognised the impact of biological influence (nativist theory) or the *natural line* as well as environmental influence (behaviourist theory) or the '*cultural line*' (Wood, *ibid.*) on human development, but his work focused mainly on social and cultural factors. He asserts that culture is the prime determinant of children's individual development. Therefore, a child's learning development is affected in ways large and small by the culture, including the culture of family (or school) environment, in which he or she is enmeshed. Bernstein (1962) held the view that the child's developmental competence is '*simultaneously cognitively inscribed and socially constituted*' (Inghilleri, 2002, p.473).

Vygotsky (1978) argued that where the child's learning activities and environment are insufficiently challenging or supportive, learning and development will not take place thus leading to inequalities in educational outcomes for children of equal ability (Bernstein, 1971). Conversely, where there is appropriate support and scaffolding of children's learning and development, children will make progress beyond their previous achievements. In other words, the child can acquire skills and concepts tomorrow that are not yet reflected by their '*completed*' knowledge, as shown in typical tests (Vygotsky, 1978); this is known as Vygotsky's *Zone of Proximal Development Theory*. The child needs the appropriate support to move from his actual level of development to the potential level within the process of cognitive maturation. This level of support should come from either the home or the school environment (or ideally both) for the child to develop his biologically-potential language and cognitive ability. Bernstein (1971) proposed that adults were:

'not simply enablers or facilitators but potentially shapers or, to greater and lesser extents, determiners of children's consciousness, within the zone of proximal development ... [and he] ... emphasised the diverse cultural sources (and resources) of both the meaning-makers and the meanings that were made since it was possible for an adult socialiser to bring meanings (and the rules for their articulation) that were not shared by the child and vice versa' (Inghilleri, 2002, p. 476).

This supports the idea that children who have come from a language-deprived background, whether this is attributable to social deprivation (discussed in section 2.4), to busy, working parents of any class or to a *too formal* Nursery environment, may not develop the language skills they need prior to their entry to Nursery or school (Anning & Edwards, 1999). A child who is not functioning within a developmentally appropriate environment may not make the necessary developmental advances and might become frustrated, potentially causing learning and/or

behavioural difficulties or a poor attitude to learning. This is particularly the case if neither the home nor the school environment offers the appropriate support. Children who are learning to read and write before they have good oral language skills are being deprived of the opportunity to underpin their learning appropriately and thus risk serious disadvantage later in their schooling.

Vygotsky argued that all cognitive processes, including language, thought and reasoning, are developed in the child through social interaction. Although sound, sentence structure and meaning was generally accepted as part of language learning, Vygotsky believed that language is a '*whole*' concept which includes word meaning, intonation and the dynamics of the social context in which language takes place as key factors (1962). He argued that language is social and communicative. This idea was taken on by Bruner (1972) who established the *social-interactionist constructivist* school of theory. Bruner regarded interaction as the major form of assistance provided by adults for language development (Bruner 1983). Language formats (predictable routine language repetitions used by adults at meals, bath-times, in action songs and reading books together) help children to learn how to use language. Bruner's *Language Acquisition Support System (LASS)* highlights the importance of adults supporting children's language development in accordance with their need – leading conversations and interactions but gradually handing back responsibility to the child for each interaction as they become sufficiently experienced.

Tomasello (2003) states that language emerges as a consequence of children exercising their social and cognitive abilities within their learning culture. Like Bruner, he argues that children can learn language only by entering into discourse with more mature language users; children do not learn words through passive association (behaviourist) but through active attempts to understand adult speech alongside a variety of actions and conversation contexts. Halliday (1973) also focused on the social aspects of language and discussed language as having macro functions: ideational language helps children to represent and understand the world around them; interpersonal language is used for conducting social relations; textual language is used for organising the message or information. He argued that language form or structure (grammar) is inextricable from the content and social relations.

French and Woll (1981) argue that children come to learn language through conversations. People involved in conversation rely on the context to interpret each other's utterances. Through social interactions involving conversations where linguistic and non-linguistic contextual cues are used by both participants, children learn about language. Locke (2002a) regards this as crucial to supporting and scaffolding children's language development and says that.

'teachers need to appreciate the importance of context and different levels of learning experience in helping children understand the language used by others. Similarly, context will be crucial in supporting children and encouraging them to extend their language skills' (ibid.).

Oral language is clearly a crucial part of children's development. Teachers need to scaffold and support it through providing quality interaction with adults and other children but the current dominance of independent activities in the English Reception class (and sometimes even Nursery class) limits the use of social interaction to develop language skills further. By contrast, other European approaches to early education are founded on the use of collaborative small and large group work, which serves to enhance the language development opportunities of children.

Chomsky's *Poverty of the Stimulus* argument (1968), identifies that the permutations of grammatical constructions are so various that children could not possibly experience the entire range in advance of using these - they do not need to be 'taught' a construction or sentence type before they can understand or use it; rather they are extrapolating the 'rules' and applying them on a trial and error basis. Their innate ability to understand the structure of language means that they can use and understand forms of language they have not been exposed to. If children across the world are mastering the complex components and milestones of language by the age of three (Colledge *et al.*, 2002; Stromswold, 2000; Bates *et al.*, 1995; Pinker, 1994), there must be some basis in this. Since all children who are exposed to language do acquire it (albeit with varying degrees of comprehension and complexity) and spontaneously engage in pre-verbal (Garton & Pratt, 1989) and verbal behaviour, there must be, it would seem, a certain innateness to the ability to learn it whether this stems from a specific language innateness or a wider cognitive, organisational innateness. This is particularly likely since, *'all but the most seriously handicapped children succeed in constructing their knowledge of their native language in an almost identical sequence'* (Wells, 1986, p.68). However, the effect of the environment and the quality of its social interactions has been shown to have an impact on the quality of children's language development (Hatch, 1983). Wells (1986) cites research by Barnes, *et al.* (1969) and Cross (1978) which demonstrates that children's language develops more rapidly where adults specifically extended the meaning and content of children's utterances.

It seems clear that the ability to learn language structures may well be innate and that children's communicative competencies are developed in social situations. What has been shown is that, however one is persuaded that language is learnt or acquired in the pre-school years, young children need the right opportunities to further develop and extend it. This is the work of the infant classroom.

2.3 How does a good level of spoken language benefit children and how does language delay hinder them?

The development of language is '*central to the educational process*' (Plowden *et al.*, 1967, p.19) because '*language and learning are indivisible*' (Wallwork, 1974, p.160). Spoken language acts as a '*cognitive amplifier*' (Bruner, 1972) and is essential for children's general cognitive development (Edwards & Westgate, 1994). It facilitates their ability to express their needs, fears, feelings and thoughts. Thought is at the centre of the child's learning and, consequently, of his success at school. But what is the relationship between spoken language and thought – and between thought and learning?

2.3.1 Language, cognitive development and learning

Saussure argued that thought is a shapeless mass, which is ordered only by language. He proposed that no ideas pre-exist language but that language itself gives shape to ideas and makes them expressible. In other words, from Saussure's point of view, thought cannot exist without language (Fleming, 2004). However, Koehler (1926) discovered a pre-linguistic phase of thought during his experiments with chimpanzees (especially with Sultan), which at the time had been ignored as a result of the dominance of behaviourist theory. This, combined with Buehler's findings that young children between 10 and 12 months develop a capacity for pre-speech thought (which is itself preceded by an understanding of the social function of speech, as early as the second month of life), fuelled Vygotsky in his work on investigating the relationship between thought and speech. Vygotsky (1962) concluded that thought and speech originate from two separate genetic roots and continue in two distinct lines. Not only is there a pre-linguistic phase of thought, but also a pre-intellectual phase of speech: this phase of speech is largely considered an essential aspect of the child's emotional and social development and is grounded in socio-psycho-linguistic theory. For this reason it is of crucial importance that parents and carers talk to babies from the very earliest age to encourage the emotional security and social interaction they need in order to grow into literate children. Vygotsky (*ibid.*) goes on to explain that these two lines of development continue independently until, at about age 2, the child realises the purpose of speech and the lines meet to create a new phase of linguistic-based intellect. Contrary to Saussure's argument that thought cannot exist without language, Vygotsky showed that speech cannot be 'discovered' without thought.

Taking his own work further, Vygotsky (*ibid.*) argued that, through the media of egocentric speech and inner speech, spoken language is essential for cognitive development. He examined the work of Piaget and other psychologists of the time. Piaget (1959) had described the concept of

egocentric speech and its link to a child's learning, developed in accordance with a pre-determined, developmental framework. Learning is only possible, according to Piaget, where there is assimilation and accommodation (adaptation) which result in equilibrium and the creation of new schemata (changes in the organisation of thought), within which the ability to think abstractly gradually develops. As the child matures, the schemata become less sensory and more numerous and complex. A new schema is formed when existing schemata are no longer sufficient for full understanding; this happens infrequently and usually requires significant cognitive focus. He argued that a child's cognitive structures limit what he is able to say at any stage of his development.

Egocentric speech is private speech, or a voicing of the child's thoughts for his own purposes and it disappears at the end of the pre-operational stage of development (up to 7 years of age) at which point it is replaced by social speech. Widespread misunderstanding over Piaget's use of the term *egocentric*, with Freud's interpretation predominating, led people to assume that he meant the speech was not intended for an audience. What Piaget had meant, and later clarified, was that this type of speech occurred when children speak aloud alone or in the presence of others (Piaget, 1959); that is, they sometimes adapt their speech to take into account the presence of the listener but at other times their remarks are not aimed at anyone in particular and there is no evidence that they are trying to engage the listener or include them in the conversation.

Vygotsky argued that children were capable of thought for which they may not yet have the necessary language and felt that the concept of egocentric speech was insufficient to fully explain the conceptual link between language and thought. He proposed a new hypothesis: egocentric speech (or private speech) does not simply disappear at the pre-operational stage but develops into inner speech and is then used by the child to create thoughts. Once it has become internalised, speech serves to apply regulation to the child's mind, that is, control over his own cognitive processes (such as thoughts and memories). This understanding was missing from Piaget's work and is an important aspect in the learning journey of young children. Inner speech is characterised by abbreviations and predications and is a vital stage of a child's cognitive development. Rather than a child's developmental stages determining his learning, Vygotsky proposed that a child's development and ability to move into a new phase of understanding stemmed from his learning.

Despite these significant contradictions in their work Piaget and Vygotsky concur that children are active learners from birth and that the motivation to learn is intrinsic. Both arguments have had significant impact on modern education. Both arguments clearly identify the significant relationship

between spoken language skills and cognitive development. Thus, both theorists found that the young child's level of oral competence is of the utmost importance if he is to develop cognitively and to cope with the intellectual demands of a wider early curriculum delivered mainly through oral language. Despite its dominance in teaching methods, teacher talk is only effective if children can follow and understand it; many children fail to learn because they cannot remember or make sense of the long and complex sentences that may be used by teachers (Locke, 2002a).

Children's language competence is part of a wider developmental competence and research evidence suggests that the child's level of language acquisition should be treated as an important barometer of success in complex, integrative tasks (Johnston, 2005) across the school curriculum. Without adequate language skills, the child is then clearly hindered in the school environment. If language screening on entry to school identifies language delay (through poor scores on specific language testing) which is not tackled because the pedagogy does not offer scope for its further development, the gap between the demands of the curriculum and the child's intellectual ability will widen and this is likely to lead to a poor self-image.

2.3.2 Language, emotional development, play and learning

Is there a link between language skills and the child's emotional and social development and his self-esteem – and if so, how does this link affect learning potential? Poor language skills not only inhibit cognitive development but also stand in the way of the emotional and social development of children (Dockrell & Lindsay, 2001). This negatively impacts on children's attitudes to learning and, inevitably, on their ability to succeed at school:

'Major epidemiological studies have demonstrated that children diagnosed with ... delays in language acquisition (without sensori-motor impairment, affective disorder or retardation) are at high risk for academic failure and mental-health problems well into young adulthood' Johnston (2005, p.1).

As well as enabling cognitive development, children's confidence and competence with spoken language allows them to express themselves. Children who cannot express themselves become frustrated at school, often behave badly and eventually become so disaffected that they cannot engage in learning or in the institution of school. Children with low self-esteem who feel they are *'thick'* (section 1.4) by the time they enter Y1 will find it increasingly difficult to expose themselves by putting in effort which they deem will not lead to success. Such fear of failure damages children's chances of reaching their learning potential.

Piaget (1951) defined learning as a creative activity, wherein the child constructs learning from the experiences that he brings to the situation and from what the environment provides. If children

are not willing to take risks for fear of failure, they are far less likely to be creative in the school environment and consequently, less likely to succeed academically. Winnicott adds that what makes life worth living is the '*ability to be creative*' (1971, p.65) and that it is this ability which creates happy human beings. He states that only through play is the child '*free to be creative*' (*ibid.* p.53) and it is only in being creative that the individual can discover the '*self*' (*ibid.* p.54). He distinguishes between the '*ego and the self*' (p.55), in that the '*self*' is the child's whole personality and motivation - their *raison d'être*. This concept of the search for the self was developed in the work of Virginia Axline, one case study of which she narrates in the story of Dibs (Axline, 1964), a young boy who is led to find his *self* through play therapy; over time, he is able to progress from a debilitating state of almost mute, emotional anxiety and distress into a gifted, articulate and successful adolescent. How was this possible? Freud argues that children's play (which is succeeded by adult fantasy) is an escapist evasion of reality. He regards play as a method to gain pleasure and argues that adults and children engage in play and fantasy in order to avoid pain (Child, 1981). His daughter, Anna Freud, pioneered the use of play therapy which Melanie Klein used as the basis for her *Psychoanalytic Play Technique* (from 1919) to relieve children of tension and to provide a catharsis from their trauma.

The Vygotskian stance highlights the relationship between play, cognition and affective dimensions of development (Iturrondo & Vega, 1994). Play is a natural catalyst for the emergence and mastery of egocentric or private speech (Vygotsky, 1962; Piaget, 1951). Vygotsky (1978) showed that a growing sense of self effects the transition from egocentric speech to inner speech, which in turn affords children the ability to take control of their cognitive processes and start thinking about their learning, thus moving to a higher stage of cognition. Symbolic play facilitates this internal transformation in children which is fundamental in the developmental process because its inception heralds the onset of imagination as a new mental tool (Vygotsky, 1978). Play belongs in the *zone of proximal development*: '*In play, a child always behaves beyond his average age, above his daily behaviour; in play it is as though he were a bit taller than himself*' (Vygotsky, 1978, p.102). Therefore, play becomes the best means through which to foster optimal development in infants (and toddlers), regardless of their developmental levels (Iturrondo & Vega, 1994).

The opening in 1837 of Froebel's Kindergarten for pre-school-age children marked a significant turning point in understanding the educational value of play to the developing child and its function in a child's life (Liebschner, 2001). Froebel recognised that play is the product of a purposeful life which in turn enhances the child's life and learning; from this recognition stemmed his belief that play is the work of the child and that play enlists the whole being. Froebel asserted that the child should experience the freedom of play in the course of learning. Montessori

disagreed and felt that, although play is important, work is what enlists the child's whole being (1975). However, her definition of work was very similar to modern concepts and definitions of play, which generally identify that play is self-motivated, freely chosen and pleasurable.

Piaget, as a developmental, cognitive psychologist, Vygotsky as a social psychologist and Bruner as a constructivist, social psychologist share a constructivist perspective of the role of play in the developing child. The common theme of their work is the importance of play to the development of learning and of the whole child in the broadest sense; play helps a child to make sense of his world and to form meanings and personal constructs. Play is observed as moving from the concrete and functional to the iconic and symbolic. Imaginative play is a crucial step in literacy development since it allows children to develop their concepts of symbolic representation; speech and language delay has been associated with delayed imaginative play as a result of the child's difficulty with symbol use. Piaget was convinced that the role of play in learning was attributable to the predominance of assimilation over accommodation; in play there is no requirement to accommodate to the real world. Within the context and the language of play, Piaget (1951) identified that the child can explore very complex social, emotional and intellectual issues such as rules of games, justice, punishment and right versus wrong. Although Vygotsky did not agree with the specifics of Piaget's model, he agreed that play is the key vehicle for a child's understanding of self and of the world and was the highest level of preschool (up to age 7) development (Vygotsky, 1978).

Further, Vygotsky was clear that a child's learning development is affected in ways large and small by the culture, including the culture of family (or school) environment, in which he or she is enmeshed (Wood, 1998). Part of the child's culture is the language (and the language traditions) of the child's world (Bruner 1972). Montessori (1975) advocated the use of fairy tales and rhymes in her *Children's House* to develop the use of expressive and symbolic language in her pupils from a very young age because she was convinced that at the *sensitive times*, psychic maturation is possible through exploring fairy tales and make-believe play, resulting in advanced progress. Children '*create and inhabit a culture of play which is largely linguistic and is powerfully constitutive of the world they inhabit*' (Kress, 1995 in Grugeon, 1999; Fox, 1993). Therefore, to facilitate such cognitive, emotional and linguistic development, part of the school's role must be to provide opportunities for children to explore the *self* through play in an engaging environment (Vygotsky, 1978; Montessori, 1975), in which the children trust and feel safe. Since learning develops from the interactions between the child and the object of play, or the play environment and the people in it, a school's provision must be developmentally appropriate. With appropriate

opportunities to play in a social context, schools can ensure that children are able to develop into creative beings who are happy (Winnicott, 1971), and are therefore in a better mental state to learn.

2.3.3 The Year 1 curriculum

Piaget and Vygotsky, although differing in their explanations of how and why, both found that play promotes learning development in the years up to the age of six or seven. Is this what is happening in the average English Y1 class? Does the *literacy hour* allow for this type of development to take place? The rationale for this thesis shows that in general, at the outset of this research, there is an abyss between theory and practice. Most learning undertaken in the *literacy hour* in Y1 is individually constructed. Even in the independent section of the lesson, children generally undertake an individual activity whilst probably sitting within a group. This *parallel* level of learning does not make adequate use of the social context of the classroom and is out of line with the central approaches to early literacy development throughout the classrooms of Europe. Social cognitive processes '*constitute the child's primary tools for exploiting his or her cultural heritage, for these constitute the cognitive mechanism of social learning*' (Damon in Flavell & Ross, 1981, p.162). An effective Y1 curriculum needs to work to empower learning through the social use of language because '*there can be no social man without language, and no language without social man; to recognise this is no mere academic exercise: the whole theory and practice of education depends on it*' (Halliday, 1973, p.12). Without the opportunities for associative and co-operative learning, children's emotional, social and intellectual development is limited. Genuine opportunity for group work is largely missing from the current Y1 literacy curriculum. However, where children do not have the language skills necessary to learn within a peer-interactive setting as promoted by this research, their learning is further negatively restricted unless their skills are actively improved and broadened through effective teaching. The solution is not *just* to teach the current framework and Year 1 curriculum through group work – children's language needs, and the types of language they can confidently use, must be planned for and delivered in order to mean that group work will have a positive impact on their learning.

2.3.4 Spoken language and literacy development

Since spoken language has been shown to be so crucial to the development of general cognition and intellect, it must also follow that it has a key role to play in the progressive ability of the child to communicate through other standard literacy forms. The school curriculum is delivered and developed through both spoken language and, increasingly, written language, demanding that children must be able to keep up in order to be able to continue their learning journey

successfully. As this review will show, there are a number of factors which link early oral skills with the later development of effective literacy skills (Snow *et al.*, 1995; Snow, 1991).

In the last 20 years, research has shown the inter-relationship and mutual reinforcement of reading, writing, and language development in the early years (Kavanagh, 1991; Snow, 1983; Goodman & Goodman, 1979). Recent research has highlighted the importance of speaking and listening skills in supporting early literacy development (Catts & Kamhi, 1999). Oral skills in the early years are explicitly linked to later reading and writing skills (Griffin *et al.*, 2004). Clark and Clark (1977) also emphasise the relationship between the acquisition of spoken language and the emergence of reading and writing, which are complex processes involving the integration of a variety of strategies and skills (Clay, 1979).

Children acquire language and literacy through the linguistic context of play (Fox, 1993). Early symbolic play facilitates the emergence of literacy through the conceptual understanding of symbolic signifiers to represent meaning (Vygotsky, 1978). The reported demise of play in the average Reception class at the outset of this research project appears to actually inhibit this conceptual understanding particularly where children do not have good literacy models or readily available books at home (Chaney, 1994). Parents who use the play context as an opportunity to encourage their 3-4 year-olds' language use and to stretch their language abilities by using more sophisticated words have been shown to increase their children's vocabulary (Crain-Thoreson *et al.*, 1999).

Bruner found that book reading by mothers and their children aids the development of grammar, of communication and of later literacy skills (Bruner, 1983). Conversely, Hay *et al.* (1986) argue that limited social interaction between parents and children leads to language delays and language development problems which are related to later reading difficulties. It is, therefore, essential that a rich language environment is encouraged in the home and in early education to provide the foundations of word reading skills (Sylva *et al.*, 2003; Snow, 2001).

Oral language developed from adult/child book sharing predicts later writing development (Crain-Thoreson *et al.*, 1999). Children growing up in oral-rich environments experience 'storying', which they then replicate in their play (Dombey, 1988; Paley, 1981) adding to their framework for internalisation of literacy structures and grammar constructs (Olson, 1991; Wells, 1986). Extension of vocabulary and verbal artistry (Grainger, 1997) come naturally with oral storytelling, which makes a significant contribution to children's later literacy development (Wade, 1984). The use of oral storytelling at home or in the early-years classroom can advance children's knowledge of literacy conventions and form as well as linguistic styles and plot to a level more common to that

of mature readers and writers (Fox, 1993). Wells (1986) found that children's early knowledge of story is the most influential indicator of later educational achievement. The brain's cognitive structures apply organisation to acquired information and to its own constructs - the sequencing skills which are implicit in 'storying' are a vital aspect of this organisational development; knowledge of ritual 'story parts' such as beginnings and endings help children in later years with compositional elements of their written work (French & Woll, 1981). In addition, the understanding that stories are enjoyable and accessible gives early readers a positive view of books and of reading, which is an important lure when the teaching of reading begins. 'Love of story' can lead to 'love of books' which has been shown to accelerate reading progress.

Current knowledge of how children learn to read links several linguistic and meta-linguistic components (Dickinson & Smith, 1994; Phillips & McNaughton, 1990) and identifies how these develop and contribute at different moments to the process of becoming a competent reader (Poveda *et al.*, 2005). Phonological awareness (Snow *et al.*, 1998) and the ability to identify and segment the internal components of words is an essential aspect in learning to decode alphabetic print (Bryant *et al.*, 1990). There is a strong correlation between poor language acquisition (in particular phonological awareness) and delays in the acquisition of literacy skills (Catts & Kamhi, 1999; Catts 1997; Hatcher *et al.*, 1994). However, phonological awareness and the ability to decode words in isolation will not ensure that the child has a comprehension of what he is reading (Locke *et al.*, 2002); comprehension depends on an understanding of literacy structures and grammatical constructs and these are directly linked to the child's level of spoken language competence (Sticht & James, 1984 in Locke *et al.*, *ibid*). Young children's experiences of the world and their evolving language awareness (playing with sounds, noticing print in the environment and attributing meaning to these signs and letters) are crucial elements in their developing understanding of the function and use of reading and writing (Goodman, 1985). Early readers use their growing background knowledge as part of an interactive process as they try to construct meaning and make sense of text (Smith, 1985). Beginning readers and writers need to learn to use many sources of information including memory, experience, pictures and their knowledge of spoken language including sound / symbol connections.

Discourse skills gained from social contexts (for example, in play) that begin to develop between the ages of 3 and 6, such as the capacity to use '*decontextualised*' language (Poveda *et al.*, 2005), play an important role in reading comprehension (and writing skills) in later years of literacy development (Snow & Kurland, 1996). Effective readers are in control of the grapho-phonetic (letter/sound), syntactic (structural or grammatical) and semantic (meaning) aspects of language (Clay, 1979) and have a wealth of background experience and knowledge.

Meek (1991, p. 13) identifies that literacy is about language and that the primary form of language is speech. Children need opportunities to listen to others speaking and to develop a wide vocabulary in their own speech (Nation & Snowling, 2004). Speech is the best starting point for children's development and future literacy ability. An effective Y1 curriculum needs to build on this concept and to recognise that it may be necessary to adjust the focus on early reading and writing to facilitate the optimum developmental opportunities.

2.4 What are the barriers experienced by children in developing the necessary spoken language skills they need in order to succeed at school and beyond?

Concern over the perceived drop in the standard of children's language competence on entry to primary school has resurfaced in recent years and is widely reported to be a significant issue for headteachers (NLT, 2001). This perception of a reduction in standards applies across the social classes but is more pronounced in the most deprived areas and amongst the most disadvantaged children (Riley *et al.*, 2004; Locke *et al.*, 2002). The *Effective Provision of Pre-School Education* (EPPE) study (Sylva *et al.*, 2003) found that '*background factors such as parental education and social class remain powerfully associated with variations in young children's attainment when they start primary school, especially for language*'.

2.4.1 Verbal deprivation – reality or myth?

The verbal deprivation theory dominant in the 1960s and enhanced (unintentionally) by the work of Bernstein in the 1970s, was largely dismissed in the 1980s following extensive research in British schools and nurseries (Tizard *et al.*, 1988; Wells, 1986; Tizard & Hughes, 1984).

Perhaps the most dangerous aspect of the verbal deprivation theory of the '60s was its implicit link with the various natural inferiority theories, which had been dominant over the previous two centuries (and on record even since Aristotle). Throughout history, these natural inferiority theories (based, in principle, on the primacy of nature over nurture) had been used to justify slavery, apartheid, imperialism, child labour, repression of the working classes and the non-emancipation of women. There was an assumption that the working classes, in particular (and more so, non-white working classes), did not have the necessary intelligence to use complex language forms and that as parents, they were not able to provide a rich linguistic framework for their children. Previously, during the 1950s, the British debate around intelligence had focused on the nature/nurture question of whether intelligence is genetically inherited and innate or whether it is principally determined by and/or affected by the environment (Inghilleri, 2002). Sir Cyril Burt led the thinking that,

'the major component of intelligence (which he defined as an innate, general, cognitive mental capacity) was connected to an individual's genetic constitution, that this was biologically inheritable, and that it was the differential distribution of genotypes that accounted for lower performances on general intelligence tests amongst the working-class population' (Inghilleri, 2002, p. 469).

This rationale was cited and accepted for the perceived limited language forms of the working classes.

New interest in a genetic cause for speech and language difficulties has been promulgated through recent research. Campbell *et al.* (2003, p.354) found that '*studies have consistently shown a substantially greater prevalence of affected relatives among children with speech and language deficits than among children in control groups*' (Bishop, 2001; Stromswold, 2000; Felsenfeld & Plomin, 1997; Felsenfeld *et al.*, 1995). However, Campbell *et al.* (2003 p. 354) also report that '*several investigators have proposed that developmental speech delay in young children **cannot** be attributed to a single factor, and that multifactorial approaches are required to estimate the cumulative risk for speech deficits*' (Shriberg *et al.*, 2000; Paden *et al.*, 1989). They conclude that although,

'recent molecular genetic studies have implicated specific genes in certain speech and language phenotypes, familial aggregation alone does not provide sufficient evidence for a genetic cause of speech delay. As noted by Bishop (2001, p.270), familial aggregation findings could be linked to cultural transmission variables including the abnormal speech patterns of affected relatives, or to environmental influences that are shared by family members' (Campbell *et al.*, *ibid.*).

Thus, despite renewed interest in and argument around the genetic causes of speech and language delay, it is clear that current scientists acknowledge the impact of the environment on the child's ability to develop language skills. While Piaget's work had also focused on a genetic, biological pre-disposition to a cognitive framework and capacity with inherent limits, the social constructivists (as we have seen) demonstrated that social and cultural influences were, in fact, the most reliable predictors of children's learning success and the lines by which effective teaching results in effective learning. Whatever the genetic pre-disposition may be, the environmental influences at home and at school seem to hold the key for children's future academic success.

However, there remains considerable debate over the extent to which learning success is impoverished or enhanced as a result of social class.

2.4.2 Institutional elitism

Bernstein's work (1962) on the language codes of working class and middle class families was misinterpreted by opponents such as Labov (1971) as proposing that the working class code (Restricted Code) is a deficit code when compared with the middle class code (Elaborated Code). However, as will be shown, there was more common ground in their work than Labov had recognised. Motivated by libertarian and emancipatory intentions, Bernstein had set about

formulating an exploratory framework based on his observations (Lawton, 1968) which he later came back to and refined.

Some people responded to Bernstein's work by linking it to Burt's theories of working-class intellectual inferiority, saying that it proved the working classes to be inherently ineducable, culturally deprived and needing remedial education or a more technical education than the middle classes. Having set out to eliminate the linguistic oppression of the working classes, this interpretation was at odds with Bernstein's views and misunderstood the inherent premise of Bernstein's work. The findings of the Plowden Report (Plowden *et al.*, 1967) called for children's education to be centred around their physical, social and developmental needs as well as for a pre-school focus and positive discrimination. In the light of Bernstein's work, this message was also misunderstood leading his contemporaries to unleash a tide of compensatory education schemes across Britain and America, further linking his work to the view that working class children were naturally less able.

In fact, Bernstein believed that the perpetuation of working class academic failure was a direct result of the school's determination to transmit its culture and knowledge through an elaborated code and to act almost as a museum of middle class values. He argued that for the culture of the teacher to become part of the consciousness of the child, the culture of the child must first be in the consciousness of the teacher (Bernstein, 1970). In a society based on class divisions where the working classes are discriminated against (in part) by virtue of their mode of speech, schools could not compensate for society but that it was society itself (and the sociological structure within schools) which needed to change.

Both Bernstein and Labov blamed teachers' low expectations of working class children for their low levels of academic success; Rosenthal and Jacobson (1968) defined this as the *Pygmalion Effect*. Both Bernstein and Labov were opposed to the idea (held by teachers and schools) that one form (or dialect) of language (usually standard English) is superior to another form (or dialect) of the same language, in Labov's case the (then) AAVE (African-American Vernacular English). What both men argued was that the 'institution' of school needed to challenge its own defects rather than focus on what may or may not be the defects of the child. Further, schools should examine their values and methods of language use in order to ensure that working class children are more able to succeed academically, since there was a difference between the respective established codes: for Labov, the difference was in the explicitness of vocabulary and not in the ability of ghetto children to use language to develop conceptual and logical thinking (Labov, 1971); for Bernstein, the difference became the deficit in the context of macro-power relations (Sadovnik, 2001).

Bourdieu (1991) developed this idea within his work on *langue* and *parole* and stated that in using language, one constructs a symbolic reality that reproduces, challenges or subverts the social power structure into which we one has been born and socialised.

2.4.3 Social, cultural and linguistic capital

Against the contentious backdrop of theories of cultural deprivation, Tizard and Hughes (amongst others) set out to disprove the idea of language deficit (1984). Their study found no evidence to support the deficit agenda and, like Wells (1986), their conclusion was that class differences in levels of language use in children's homes existed but were small and few and were essentially to do with how language is used within different home cultures for different purposes. Labov (1971) found that the ghetto children he studied had a rich linguistic culture; this was not evidenced in formal *test* situations, but where the social setting was *safe*, unthreatening and contextually familiar (this included the adults leading the situation), the evidence was undeniable. Wells (1986) proposed that it was the testing methods (and their implicit use of the *standard English* dialect) which were unsound and not the linguistic abilities (and dialectic forms) of working class children. Like Labov, he emphasises the difference in quality between children's spontaneous talk and the talk which is designed to be assessed by teachers. Like Bernstein, he identifies that the culture of schools inhibits the success of working class children.

These findings lead me to pose the question: is the reality that children's poor 'performance' of language competence in the school environment means not that they do not have the necessary language skills, but rather that they do not display them in less familiar contexts (Law *et al.*, 2000) or more explicitly, that they do not use the same framework at home to enable them to apply their acquired skills in the school context? The works of Halliday and Bernstein imply that we need to look not at children's language *per se* but at what it is being used for and what functions are prevalent; these can then be set alongside the requirements of education - which may be different from many home requirements – and developed through an appropriate curriculum.

Shirley Brice Heath (1983) argues that children learn oral and written language through socialising within the specific society they are a part of, according to the values of that society. She identifies that:

'the different ways children learned to use language were dependent on the ways in which [members of] each community structured their families, defined the roles that community members could assume, and played out their concepts of childhood that guided child socialisation' (ibid., p.11).

This process is essential for children to get along with the people they live with and to accomplish social goals. Heath goes on to suggest that there are several features in children's social and linguistic environments which vary significantly from one community to another and that for all children to achieve success in school, the **ways** children use language to learn must be given as much consideration as the specific language they speak.

While finding no evidence to support the verbal deprivation theory, Tizard and Hughes (1984) did find that '*middle-class mothers used language for complex purposes significantly more often than the working class mothers*' in their study (*ibid.*, p.114); they also found a wider vocabulary in use and more adequate responses to their daughters' '*why?*' questions. Hart and Risley (1995) found that children from 'professional' families heard nearly three times as many words each week as those from 'welfare' families; further they found that aspects of this parental language predict language scores at age nine.

Bourdieu (1986) identifies the central role of language and *linguistic capital*, on a child's educational experience and ultimate success - ways of speaking and using language (*linguistic habitus*) are defined as a form of embodied *social* and *cultural capital* which can negatively or positively influence future success since '*during the first years of school, comprehension and manipulation of language are the first points of teacher judgement*' (Bourdieu *et al.*, 1994, p. 40). Linguistic habitus underpins the types of language children confidently use – but research shows that poverty can have a profound effect on this linguistic habitus.

2.4.4 Financial deprivation

Recent evidence suggests that the social profiles of schools (such as the project school) may have shifted since Tizard and Hughes completed their study, further separating the lived language experience of working class children and the language required to deliver teaching programmes like the *literacy hour*. The 1980s and '90s saw a huge increase in unemployment and the associated socio-economic factors as well as in the proportion of single-parent families or families on one income or no income. At the time of their report, Tizard and Hughes defended their study against the argument that it did not draw from the lower social class (since two-thirds of their working class sample had fathers that were skilled workers) by stating categorically that '*families with fathers in semi-skilled or unskilled occupations never constitute a majority in any school, even in deprived areas*' (1984, p.130). This assertion cannot be made of families from the project school, where almost 50% of families depend on state benefits and the majority of the remaining 50% are from the semi-skilled and unskilled groups. Many single parent families do not have a

father figure at all. In addition, the Tizard and Hughes study did not look at the language of boys since it focused on the language development of girls alongside the use of mothers' language.

Could this realignment of the social profile mean that other factors may be further affecting children's linguistic development? Can poverty, rather than social class, influence linguistic development? Smith *et al.*, (1997) identified that physiological or neurological impairments in speech development may be associated with inadequate health care and nutrition resulting from poverty. Needleman *et al.*, (1990) concluded that increased exposure to environmental toxins (such as lead) in low-income homes could plausibly delay or disrupt the acquisition of the process involved in speech production (Campbell *et al.*, 2003).

It has been argued that reduced social interaction between parents and children, particularly those under financial stress, may lead to language delays (Hay *et al.*, 1986). Hart and Risley (1995) found that, contrary to the findings of Wells (1986) and Tizard *et al.*, (1984) relatively lower amounts of language input are provided to children by parents whose socio-economic status (SES) is low, resulting in less perceptual and motor experience with early phonological forms (Campbell *et al.*, 2003). Hart and Risley (1995) are convinced that children, and most especially boys, '*reared in poverty tend to have poorer spoken language skills*' (Riley *et al.*, 2004, p. 659). This was also found in studies by Clegg *et al.* (2005), Brownlie *et al.* (2004) and Locke *et al.* (2002). Whatever may be the specific impact of SES, the extent to which parents and carers are able to support their children's speech and language needs is crucial (Law *et al.*, 2000, p.2). Dealing with an increased level of economic deprivation, and all of the factors which are concomitant with that level, may make it harder for parents to support these needs.

A key aspect found in research is the centrality of the role of the mother in the child's language development. Early studies in this area (Cross, 1977; Snow, 1972) found that mother's speech facilitates (predominantly using the exaggerated pitch of '*baby talk*') and, in some cases, hinders the language development of young children. Campbell *et al.* (2003, p.354) explain that,

'a male child who has a positive family history of developmental communication disorder and whose mother did not graduate from high school was almost 8 times as likely to have speech delay at age 3 as a child who had none of these characteristics.'

Wells (1986) and Tizard and Hughes (1984) also found that the mother's role was crucial, although they found little overall difference in the quality of mothers' talk based on social class other than in the more complex uses of language, where there was some difference although they found considerable overlap between the mothers of different classes. 15 month-old children who know a

greater number of early words have mothers who engage in more teaching activities such as helping, demonstrating, facilitating, pointing and giving (Stevens *et al.*, 1998). The rate of language development at 30 months is related to the proportion of mother's speech to the child during shared activities such as joint book-reading, play or sharing household chores (Wells, 1987). Murray (2001) found profound effects of post-natal depression in the mother on cognitive functions of the infant while the mother is depressed, for example a depressed mother is less likely to use baby talk. Further, it was found that some of these effects may have lasting consequences for cognitive growth. While post-natal depression occurs across the entire social system, mothers living in poverty may well be more likely to suffer from prolonged depression, which could negatively influence their ability to communicate with their children and to undertake joint reading, playing or sharing tasks, resulting in language delay and negative implications for motor skills and behaviour (Murray, *ibid.*).

2.4.5 Implications for schools

Could the modern socio-economic profile magnify working class children's difficulties and further disrupt young children's language acquisition? Environmental influences are ineluctable in the arguments presented and have significant impact on the language confidence and competence of children entering the institution of school. The social gap in language use appears to be a considerable challenge to many working class children as they enter school. Tizard and Hughes (1984) found an interesting difference in girls' use of language at school compared with their language competence in their home environment, suggesting that they are not comfortable to expose their use of language within the classroom.

In order for working class children to succeed in school, teachers need to recognise their own linguistic, social and cultural capital (Bourdieu, 1986) and be aware of the impact of this on the learners in their class (Bernstein, 1970). At the same time, children may have to adapt to language structures and patterns of usage that are different from those they have been using at home (Barton *et al.*, 2005; Street, 1995; Heath, 1983). Acknowledging this does not mean acknowledging that non-standard English forms are less valid or less complex. Nor does it mean that working class children (or adults) are less intelligent or less able to develop highly effective linguistic skills. What appears to be a 'universal truth' is that those who hold the power in society are those who can access and use the standard form of that society's language (Bourdieu, 1986) and as such, schools have a duty to facilitate this linguistic mobility and linguistic capital for all children, whatever their home language experience.

So what should schools now do to address the problem so that the more socio-economically disadvantaged children are not even further disadvantaged by the pedagogy (and government initiatives) put in place to raise standards? Does the *literacy hour* - and its formal standard English literacy curriculum (from age four) - accommodate the needs of socio-economically disadvantaged children, such as in the project school, and does it ensure or perhaps jeopardise their future academic success? The formal structures of the *literacy hour* and its requirements for delivery are largely unfamiliar to four year olds on entry to school, with or without a pre-school experience.

Goodwin (2001) cites that although there has recently been widespread knowledge of the importance of talk, modification of practice in schools has been very gradual. An important question was posed by Halliday:

'given that (a) native wit is not determined by social class, and (b) all children now receive equivalent basic schooling, why are those children who fail to become educated almost all from the lower working class?' (Halliday, 1995, p.127)

The message from Bernstein and Labov is that schools must look at whether the institution and its methods discriminate against working class children and address this if it is shown to be the case – I argue that the current methods and requirements of the *literacy hour* from age 4 absolutely discriminate against working class children. Tizard and Hughes, Heath and Street suggest that children may use language for different purposes at home than are required at school and so less socially-advantaged children may find the language used for learning presents a barrier to accessing that learning, unless teachers specifically develop their oracy within their lessons – would argue that the intervention programme developed through her research may help to address this because it bridges social language gaps through a variety of approaches, including some triadic dialogue (Radford *et al.*, 2006; Nassaji & Wells, 2000; Lemke, 1990) structures which can meaningfully support and extend children's oral development.

The evidence shows us that we should be working towards encouraging children to feel sufficiently confident to bring their own language to the classroom by developing children's trust in their school environment (Winnicott, 1971) and teachers (Labov, 1972). From this starting point within an oral-rich learning culture which is unthreatening, embracing and scaffolded, children will gradually acclimatise to, and begin to use, the standard English conventions of teacher talk and its formal literacy expectations. This is the premise of the alternative programme presented through this research.

Chapter 3 - Methodology

"All research ultimately has a qualitative grounding." Donald Campbell

"There's no such thing as qualitative data. Everything is either 1 or 0."

Fred Kerlinger

(Miles & Huberman, 1994, p. 40)

3.1 Introduction to the research paradigm

In the quest for the 'truth' and 'knowledge' implicit in any particular research problem, one is required to choose the most appropriate methodological paradigm since *'the form of the new knowledge that is sought determines the form of the research tradition'* (Bourner *et al.*, 2000 p. 236). Further, the chosen paradigm determines *'the criteria according to which one selects and defines problems for enquiry and how one approaches them theoretically and methodologically'* (Husén, 1997, p. 31). Therefore, the research question is as framed by the selected paradigm as the paradigm is by the selected research question. This cyclical development was at the core of the selection process for the research question and the appropriate paradigm within this specific study, as will be shown.

Quantitative methods are modelled on the natural sciences with an emphasis on empirical quantifiable observations, (Husén, 1997; Kuhn, 1962); using mathematical measurement techniques, they uncover causal relationships stemming from natural law under the assumption that social reality has an objective ontological structure whereby individuals are merely responding agents to the objective environment (Morgan & Smircich, 1980). However, Denzin and Lincoln (1994) argue that objective reality can never be captured through positivist research suggesting that the pursuit of '*laws*' which can be explained is less critical than understanding what contributes to a given set of circumstances. Geertz (1973) furthers this case by arguing for '*thick description*' of everyday life through naturalistic research to enable such understanding to take place. Until relatively recently, it was the norm for researchers to believe that one paradigm had superiority over the other in the '*ways of knowing*' stakes (Oakley, 2000), often resulting in researchers working exclusively within one or other of the paradigms. Since the 1980s, qualitative approaches have largely been favoured for social research. It is now more widely accepted that a researcher may move between paradigms depending on the specific context of each research project being conducted and may even, at times, combine these.

3.2 Selection of the research paradigm

Much consideration was given to the arguments for each paradigm when conducting the cyclical process of defining both the final research question and the final paradigm. The following sections outline my reflexive journey towards choosing the appropriate philosophical approach for this thesis.

3.2.1 *What is the purpose of this research?*

Defining the purpose of the research was crucial to the refining of the research question and paradigm. The purpose of this research is twofold:

Firstly, to explore the rationale and statistical evidence within the project school for my view and proposal that current government-recommended approaches to literacy teaching in the early years, and more specifically within Year 1 classes, in this socio-economically deprived area are inadequate in meeting the learners' language needs, in the context of children's developing ability to understand and use the language of learning.

Secondly, in order to address this perceived systemic, institutionalised deficit, alternative teaching approaches have been devised and developed throughout the three-year life of the study based on the findings from the literature review and the ongoing data findings; these require description, comparative evaluation of the differing teaching approaches and an understanding of what was successful (or not) and why that may be in order to identify what are the **factors** which may improve standards of speech and language in the first year of KS1. Ideally, this understanding and identification of factors should come from the researcher's analysis of the data as well as from the perceptions of the children and adults whose work and views have created the data. From these understandings, I hope to generate theory which is grounded in the findings.

The scope of the research, now defined, formed the final question which became:

What are the factors involved in improving standards of speech and language in Year 1; to what extent, how and why do these impact on children's attitudes to learning, language development and later literacy standards?

Identification of the purpose and scope of the research gave a clear direction and focus to the pursuit of the most appropriate paradigm.

3.2.2 Which paradigm for this research - quantitative or qualitative?

The philosophical approach taken needs to embrace my wish:

- i) to test the hypothesis that the *NLS*, up to and including Year 1, has been inadequate in meeting the language development and learning needs of these socio-economically disadvantaged children
- and
- ii) to test the validity and effectiveness of the alternative curriculum and intervention programme proposed in order to generate theory about effective language intervention.

Immediately there is a tension and potential conflict here. To enable me to make a direct comparison between the impact on children's speech and language of the opposing teaching approaches, it is necessary to design research which is in some way norm-referenced and quantifiable with pre- and post-tests and matched groups and contexts. Curriculum-based research is often criticised for being insufficiently experimental and scientific; curriculum programmes are often criticised for not having been fully and properly evaluated and '*proven*' (Tobin, 1988) before implementation (such as the *NLS*). In order to address some of these criticisms in part and to ensure that the teaching programme proposed as an alternative to the *NLS* is not simply another untested polemic, the research must have an element of standardised, normative evaluation based on numerical data; this might then afford the research some degree of generalisability and predictability in other similar settings and contexts and puts the **product** (*i.e.* the results) in a central position.

The two most rigorous, relevant and recently published studies which respectively investigate the poor standards of children's early speech and language development and skills in Nursery and Reception classes since the introduction of the *NLS* (Locke & Ginsborg, 2003) and the impact of a specifically-devised intervention on standards (Riley *et al.*, 2004), both focus on quantitative, normative measures to demonstrate their findings within an experimental framework using appropriate controls and comparisons. Riley *et al.* (*ibid*) do describe their programme, which is based on research and teacher-led experience, but do not look for heuristic, informant based explanations as to how and why it appeared to achieve improved results (at the most recent point of reporting on these projects, although Locke and Ginsborg's study continues). Thus, in keeping with previous similar research, perhaps the appropriate paradigm for this research would be quantitative?

However, as already stated, this research seeks to suggest ways to improve practice and policy and there is concern surrounding the usefulness to practitioners of knowledge created by experimental education research, which can be decontextualised in the pursuit of objectivity and therefore may have limited impact on improving educational action (Hammersley, 2003; Bassey, 1995). Since the previously cited research into this area has already comprehensively shown that targeted language interventions are effective, there would seem to be little value in simply recreating a research project which replicated these findings; for this piece of research to be worthwhile, it needs to add to the knowledge previously uncovered and to do this, must look at understanding the process behind the intervention and its longer term impact on children's learning.

The research question, ***what are the factors involved in improving standards of speech and language in Year 1; to what extent, how and why do these impact on children's attitudes to learning, language development and later literacy standards?***, demands a more qualitative approach in order to generate theory which is grounded in the research (Glaser & Strauss, 1967). In other words, it is not sufficient in this particular piece of research to simply discover ***whether*** or ***if*** the devised intervention actually improves children's spoken language skills (as in Riley *et al.*, *ibid.*) but to probe further into ***what*** improves standards and ***to what extent, how, and why*** this may be – putting the ***process*** of the research and of the intervention into the central position. Therefore, although vital for this research in determining 'proof', a purely experimental, quantitative method will not solve the whole research problem in this case. Further, the knowledge sought through the research centres explicitly on ***factors*** which ***may*** improve children's standards of speech and language in Year 1 and which consequently may advance children's learning and attitude to learning in general; these factors are the significant elements of the work although, somewhat problematically, they may not be individually quantifiable since they cannot be separately evaluated as discrete, individual components because of the dynamic, interactionist and constructivist nature of learning (Vygotsky, 1978). Alongside the numerical quantification, the impact of the intervention programme could also be interpreted qualitatively, possibly to generate some theory about effective language learning within the context of the project school; this requires an inductive approach using informants' perceptions of the programme and its inherent shortcomings and benefits. To achieve this, the factors deemed effective in improving children's spoken language skills (and thereby their learning) by staff working on the project need elicitation through shared constructs, before, during and after the project.

A further consideration of the attributes of the research paradigm was required at this point. The impact of the intervention on children's *attitude* to learning in general (and literacy specifically) needs to stem from the children's own perceptions of their place as learners within the learning system and requires the researcher to gather information which has a direct bearing on the research objectives by providing access to what is inside a person's head (Tuckman, 1972). Therefore the knowledge sought is that which is created subjectively by human beings who are involved in negotiating, modifying and sharing meanings (Guba & Lincoln, 1998) and the '*reality*' of the knowledge being sought depends '*on the perceptions of the informants who create it and on the natural social context within which it is set*' (Holloway, 1997, p.136); as such the reality sought comprises multiple, constructed and holistic perceptions.

Thus, alongside a numerical, quantitative and comparative approach, an inductive, heuristic, qualitative paradigm is required to explore the perceptions of the participants and the researcher of the relative merits of the different aspects (or factors) of the teaching method promulgated. Although I had wanted to select and use either a purely qualitative or quantitative strategy, I could see that there were difficult professional choices to make (see section 3.2.5) as the philosophical conflict made selecting one pure paradigm over the other rather difficult and required me to look for other solutions. This is discussed further in the next section.

3.2.3 The third wave

Notwithstanding the unquestionable need for the quantitative evidence in this study to demonstrate whether actual gains are to be made in switching teaching approaches, the process of improving children's spoken language is considered to be of more importance to the work. Unpicking the teaching and learning process will reveal what specific teaching methods and strategies may improve children's oral skills, allowing educationalists to deepen their understanding of successful approaches to this contemporary problem which can be developed further across education settings and contexts. What is needed is a research paradigm that embraces the demonstrable need for both quantitative and qualitative data but puts the emphasis on the qualitative, lived-experience of the actors in determining the outcomes of the research.

While this conflict creates a real tension within the research, Hammersley (1992) argues that the paradigm divide is artificially polarised and that no one method is necessarily ideal, with the selection of one over the other inevitably leading to losses as well as to gains. Others claim that researchers should not be preoccupied with the quantitative-qualitative debate because it will not be resolved in the near future, and that epistemological purity does not get research done (Miles &

Huberman, 1994). Further, Chris Jones (2004) of Lancaster University states that *'in applied research the use of the two approaches in the same project is accepted'*. He continues, *'evaluation studies are often multi-method in their approaches'* (*ibid.*). The intervention itself evolved, as stated, throughout the life of the three-year study based on ongoing findings from statistical data and participants' perceptions - hence there was an ongoing interplay between inductive and deductive approaches in framing the principles of the intervention. The decision was made, at this point, to adopt a mixed methodology approach to the study.

3.2.4 Strengths of a mixed method paradigm

The selected approach required me to blend qualitative and quantitative methods of research in an ethical way to *'produce a final product which can highlight the significant contributions of both'* (Nau, 1995, p.1). Choosing any methodology requires that relative strengths and weaknesses be considered and both of the single methodology approaches have strengths and weaknesses in *any* context (Hammersley, 1996; 1992) but particularly, as has already been outlined, in the context of *this* research question.

It has been widely suggested that the combination of methodologies can, in fact, focus on their respective strengths (Bryman, 2001; Cohen *et al.*, 2000; Cresswell, 1997; Husén, 1997; Yin, 1993; Jones, 1997). Table 3.1 outlines the strengths and weaknesses of mixed method research as identified by Johnson and Onwuegbuzie (2004):

| Strengths | Weaknesses |
|---|---|
| Words, pictures, and narrative can be used to add meaning to numbers | More time consuming thus more expensive |
| Numbers can be used to add precision to words, pictures and narrative | Methodological purists contend that one should always work within either a qualitative or a quantitative paradigm |
| Qualitative and quantitative research used together produce more complete knowledge necessary to inform both theory and practice | Some of the details of mixed research remain to be worked out fully by research methodologists (<i>e.g.</i> , problems of paradigm mixing, how to qualitatively analyse quantitative data, how to interpret conflicting results) |
| Can provide quantitative and qualitative research strengths | |
| Can add insights and understanding that might be missed when only a single method is used | Researcher has to learn about multiple methods and approaches and understand how to mix them appropriately |
| Can answer a broader and more complete range of research questions because the researcher is not confined to a single method or approach | Can be difficult for a single researcher to carry out both qualitative and quantitative research, especially if two or more approaches are expected to be used concurrently |
| A researcher can use the strengths of an additional method to overcome the weaknesses in another method by using both in a research study | |
| Can provide stronger evidence for a conclusion through convergence and corroboration of findings | |
| Researcher can generate and test a grounded theory | |
| Can be used to increase the generalisability of the results | |

(Adapted from Johnson & Onwuegbuzie, 2004, p. 21)

Table 3.1 Adequacy of Mixed Method Research

A key argument for this approach is that if the contrasting methods in a mixed method enquiry uncover similar findings, then there is more legitimacy in the study since the results are potentially more reliable (Cohen *et al.*, 2000; Keeves, 1997; Jick, 1979). If they uncover different, challenging findings then this differential can be analysed and examined to explore themes which may otherwise have remained unexplored, thus giving the study more credibility in its rigour. The quantitative tool is used to mutually reinforce the study and assist in eliminating bias (Cresswell, 1997).

Within the context of this particular piece of research, it is important to consider the impact of the potential strengths and weaknesses of the mixed method approach (as shown in Table 3.1) to its outcomes. The relative strengths identified in Table 3.1, compared with the research needs, have been implicitly discussed in the previous sections of Chapter 3 outlining the journey leading to the decision to select this approach.

3.2.5

Weaknesses of a mixed method paradigm in the context of the research

The inherent weaknesses of the mixed method approach needed careful consideration in order to secure an effective piece of research which has credibility and impact. The research was carried out both to answer a professional problem and to lead to an academic thesis for a doctoral degree; in achieving this, the costly and time-consuming nature of mixing the methods did present something of a difficulty. I had a good time-frame within the degree structure and was able to combine the academic and professional needs of the work and to draw on the quantitative data produced for professional purposes (with consent – see section 3.6). However, the dual roles of researcher and headteacher of a challenging school did lead to time and workload pressures and the emergence of some difficult choices as a result of the *professional* needs of the study which are discussed below (see also section 5.1).

A great deal of literature research into mixed method enquiry was required in order to fully understand its complexities, requirements and potential pitfalls. This additional work was time-consuming and convoluted, adding significant time to the research process in ensuring methods used were valid and justifiable. However, the process was informative and worthwhile to the research and to the demands of the doctorate degree. Understanding the principles of the qualitative analysis of the quantitative data was reasonably straightforward; since its purpose was to assess the impact of the intervention programme on the standards achieved by the children, improved scores might reasonably imply improved standards of speech and language, particularly if this improvement were sustained and was beyond what might be expected when compared with

previous levels of improvement. Furthermore, this apparent improvement (if it is shown) could then be confirmed or disconfirmed by the qualitative data and analysed to produce evidence. This is discussed further in Chapter 5 (Findings).

The debate around purity of a mixed methodology (outlined in sections 3.2.2. and 3.2.3) gave me much concern as a relatively inexperienced researcher. I knew that I needed to establish the impact of the interventions in a measurable and quantifiable way if I was to influence policy makers and this meant that the quantitative data were essential. However, my qualitative research question was at the root of what I wanted to uncover and is where I feel the real methodological focus is. I found myself wondering whether a research design can be considered valid, well-constructed and appropriate if it encompasses both, apparently opposing, paradigms. To add to my difficulties, I noted that Jones (2004) warns that '*doctoral students will still find examiners balking at the use of mixed methods in doctoral research*'. Due to the nature of the thesis this was obviously a concern. Because I had already seen glimpses of potential success through the brief school investigation (which became Case Study 1), I wanted to investigate further what factors might improve the quality of early spoken language and learning. However, given the passion I have for improving the education opportunities provided for our youngest learners, I could not risk developing an effective, enjoyable and rewarding approach to early learning without providing the quantitative evidence to back it up (see section 3.2.2) which I knew would be required to effect political and policy change. Sadly, the modern reality of education is the dominance of league tables and with a definite numbers culture prevalent, there would be no chance of impacting on policy without such evidence. In the end I had to accept that this approach might methodologically controversial and I had to make the professional choice to be political as well as academic and to risk criticism for having done this. This choice also meant more pressure on word limits as both aspects of data would need to be presented and discussed, reducing the scope for qualitative descriptions to be as '*thick*' (Geertz, 1973), and supported by detailed extracts from dialogue and interviews, as I would have liked. As a result of these difficult issues, I continued my research into identifying an ethical and effective mixed method approach which is discussed in the next section.

3.2.6

Selecting the specific methodology within the mixed method approach

Deeper investigation into the mixed methodology debate revealed the existence of an established pragmatist/pacifist approach to combining the methodologies in a principled way through the phenomenographic tradition, which '*has for over thirty years included aspects that are theoretically grounded in an interpretivist tradition and informed by a quantitative tradition*' (Jones, 2004.).

Phenomenography is a research specialisation with its roots in a set of studies of learning among university students carried out at the University of Göteborg, Sweden, in the early 1970s (Marton, 1981) and is described by Svensson (1997) as an '*orientation*' with two aspects. The methodology is concerned to understand the relationship between perceptions of a subject (in this case, literacy) and the tasks expected within it; it is specifically concerned to describe the structure and interrelationships between the perceptions that are held.

A central tenet of this philosophical approach is that in order to improve teaching, and thereby increase the chances of more effective learning, it is essential to develop a better understanding of how children learn (Frantz *et al.*, 2004). It is a rigorous research tool that lies within a wider repertoire of tools used in qualitative analysis, with a specific focus on understanding the nature of individual perceptions when faced with common experiences (Entwistle, 1984).

This methodology has also been said to demonstrate significant empirical evidence that phenomenographic analysis provides constructive feedback into the teaching process and selected methods of teaching (Booth, 1992). This approach would certainly help to answer a key part of the research question – that of the children's understandings and perceptions of literacy and their attitudes to it and to their learning in general. Further, it would give a voice to the views and perceptions of the adults delivering the programme and extend rigour to my data analysis by confirming or disconfirming findings.

Nevertheless, pure phenomenography would not necessarily allow me to determine what **factors** may improve actual **standards** and so on its own would not be an adequate method for exploring the research question, although it did have a vital role to play and, once discovered, could not be dismissed. Further work revealed that a common tool used in phenomenography is the case study. This presented the need to consider the appropriateness of case study in investigating the problem, bearing in mind all the dimensions required of the selected methodology.

Some experts propose that case study is a distinct research paradigm (Simons, 1996; Hamilton, 1981) or methodology (Yin, 1994) in itself. However, others view it as useful within either of the two paradigms as a method of data collection (Galliers, 1992) or the object studied (Stake, 1995) or the end product of field oriented research (Wolcott, 1990). Which view of case study to take in this work would depend on the fittingness when compared with the needs of the research.

As stated, the methodology needed to embrace the quantitative and qualitative aspects of *if, what, how, to what extent and why*, to answer in full the research question: ***what are the factors involved in improving standards of speech and language in Year 1; to what extent, how and why do these impact on children's attitudes to learning, language development and later literacy standards?*** It also had to embrace the phenomenographic tradition of participant evaluation to fully respond to the question. So, the chosen method must:

- encompass *quantitative* validation of the impact of the intervention programme to establish if it has an impact on standards when compared with the previous approach (*if/to what extent*);
- put emphasis on *qualitative* analysis to facilitate interpretation of the factors responsible for improving children's speech and language (*what*);
- allow for the researcher's *qualitative* interpretation of the data to generate understandings of how and why these factors were important, given the concept of learning as a whole (*how/why*);
- have the capacity for *phenomenographic* evaluation of the intervention programme based on the views of the pupils and staff delivering it to confirm or contradict the researcher's views and interpretations (*how/why*);
- have the capacity for *phenomenographic*, interpretative analysis of the children's understandings and perceptions of literacy and their attitudes to it and to their learning in general (*how/why*);
- allow for theory to be developed to inform future developments in this field of work.

Case study method was evaluated against these criteria, as outlined in the next section.

3.3 Case study method

3.3.1 Why case study?

Case study is shown to be of specific use when studying educational innovations (Merriam, 1998); case study method is also located in the literature as an ideal vehicle for mixed-method research (Merriam, 1998; Yin, 1994) since case study evaluations can cover both process and product – as such, they are an effective method to find answers to the ***if, what, to what extent, how and why*** questions and, in doing so can include both quantitative and qualitative data. Further, case studies are being used increasingly as a method of research in education since Stenhouse argued for their efficacy in the development and testing of curricular and pedagogical strategies (1988). Yin (1994) argues that case study method is an ideal way to explain complex causal links in real-life interventions, to describe the real-life context in which the intervention has occurred and to describe the intervention itself; each of these aspects is a vital component of the research question making case study an effective method for this study.

Case studies embrace the phenomenographer's wish to understand the education system and/or teaching methods from the view of the learners and can uncover the cause and effect relationship inherent within it (Yin, 1994). Further, Yin (*ibid.*) defends the position that case studies, effectively conducted, can lead to theory building.

Thus, after very careful consideration of its attributes and as a result of the perceived suitability of this method to achieve all aspects and requirements of the research problem (outlined above), this researcher selected case study as a specific method, using (as shown below) the typical instruments and measures found in case studies. Specifically within this work, my view is that case study method is concerned with studying the selected phenomenon in its real life context and concurs most readily with the view described by Yin (1994) and Lamnek (2005), that it is a methodology in its own right.

3.3.2 Definition of the method

Yin argues that case study *'investigates a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident'* (1994, p.13). Case studies are designed to bring out the details from the viewpoints of the participants by using multiple sources of data. In case studies, there can be single-case or multiple-case applications and the unit of analysis can be a programme, event, person, process, institution or social group (Merriam, 1998). In this research, each case (as shown in section 3.4) involves analysis of the features and impact of the intervention programme (or, in Case Study 1,

largely of non-intervention) and each unit of analysis is a social group – *i.e.* a class set of children and the adults who are involved in teaching them.

Various different types of case study exist which have distinct features and uses. Bassey (1995) outlines Stenhouse's view that there are of four broad styles of case study - *ethnographic, evaluative, educational and action research case studies*. Jensen and Rodgers (2001) propose at least five types of case study - *snapshot case studies, longitudinal case studies, pre-post case studies, patchwork case studies and comparative case studies*. Yin (1994) has identified three specific types of case studies - *exploratory* (sometimes considered as a prelude to social research), *explanatory* (used for testing theories) and *descriptive* (requires a descriptive theory to be developed before starting the project). Stake (1995) included three others - *intrinsic* (when the researcher has an interest in the case), *instrumental* (when the case is used to understand more than what is obvious to the observer) and *collective* (when a group of cases is studied).

Clearly, it would be a distraction to be drawn into all the various types of case studies proposed by these writers and to engage in an uncritical listing of these. Instead it was necessary to identify the links and differences between them in attempting to select and adopt a specific definition. Subsequently, it was noted that Yin's trio of case studies (1994) meets the purpose of this research; as will be seen from the research design, all three types were employed throughout the life of this study and data from all three of these feed into the research findings (see section 3.4).

3.3.3 Characteristics of case study method and interpretation in this research

Case studies, like all approaches, have particular characteristics which should be adhered to in order to undertake ethical, philosophically sound enquiries. I worked firmly within the general characteristics of the method as outlined in Table 3.2 below:

| Case Study | This Research |
|--|---|
| Investigation of a small number of cases | 3 cases – each being a class set (cohort) |
| Information gathered and analysed about a large number of features of each case | Each case uses a range of detailed statistical data for each learner covering a 2 year period plus KS1 results; Each case uses data from learners' and teachers' perspectives through interviews Each case uses data from SLT perspective Each case features data from the researcher's perspective through observations & field-notes |
| Study of naturally occurring cases or of cases created by the actions of the researcher but where the primary concern is not controlling variables to measure their effects | Case 1 – naturally occurring; no variables controlled Cases 2 and 3 – created by the actions of the researcher; variables controlled by introducing the intervention programme – results are measured however , this is not the primary concern of the researcher (see 3.2.2.) |
| Quantification of data is not the priority; indeed, qualitative data may be treated as superior | Quantification of results data is important but not the priority; qualitative data is the priority in answering the research question and achieving intended outcomes |
| The wider relevance of the findings may be conceptualised in terms of the provision of vicarious experience, as a basis for ' <i>naturalistic generalisation</i> ' or ' <i>transferability</i> ' | Researcher seeks a degree of naturalistic generalisability and transferability to professionals serving communities of learners with similar levels of language delay and socio – economic deprivation |

(Adapted from Gomm et al., 2000)

Table 3.2 Characteristics of Case Study Method and their Application in this Study

In order to articulate how the specific characteristics of each of the 3 case studies developed and were conducted, section 3.4 outlines the theoretical context and design of each study.

3.4 Theoretical context and development of the case studies

The setting of the research project was determined by the practitioner-researcher nature of this professional doctorate thesis; the rationale for the study has been comprehensively addressed in Chapter 1 along with a detailed account of the setting and analysis of how the research question evolved. Description and justification of the research methods used in each case study are provided in detail in Chapter 4.

For any piece of case study research, it is necessary to describe and justify the selection of the cases presented within the final analysis; those cases selected should offer the opportunity to maximise what can be learned within the logistical limits of the resources and time available for the study (Stake, 1995; Yin, 1989). This research, encompassing 3 case studies each comprising 1 cohort (*i.e.* Year 1 class), developed primarily as a result of a tentative, initially largely unplanned, professional enquiry into a significant difficulty at the project school requiring an analysis of practice and ultimately of policy (see Chapter 1). Loosely speaking, this enquiry fulfilled the criteria of an *exploratory* case study, which then formed the basis of the more structured and planned pilot study (*explanatory case study*) the following year, leading to the focused main study (descriptive case study) the year after. Because of the developmental nature of the study, the findings of this research draw from all three case studies across the three years, although it is the main study (Case Study 3) which is presented as the formal research project and from which the definitive '*factors which may improve standards of speech and language in the first year of KS1*' are framed and identified.

The development of the three studies is detailed below. As identified in section 1.4, no children with an articulatory or mechanical speech difficulty were included in the data set for each case, nor were those whose language delay had already triggered therapeutic intervention after SLT assessment during or at the end of Nursery or within the community. Likewise, no children with English as an additional or second language were included. Thus, the cohorts consist of children with *normal* first language development or delayed first language development which is not attributable to a specific speech defect and who have not **yet** been picked up by a SLT (children from the data sets were referred subsequently to the SLT where screening showed at least moderate delay at end of YR and Y1). Although pragmatic SL difficulties can mask forms of autism which emerge later in the child's career, these children *are* included in the group *unless* there is already an existing diagnosis of autism for the child. Learners leaving before the end of Year 1, or joining the school after the beginning of Year 1 are not included in the data sets; this is to ensure a true representation of pupil progress, which is linked to the intervention. The KS1 results for the

whole class *do* include children who have arrived at the school prior to the end of Y2. No children were excluded for any other reasons (*e.g.* ability, visual impairment, behavioural problems) than those stated above.

Although some children, as explained, were excluded from the *data sets*, all children had full and equal access to the *intervention programme* in all 3 case studies. The research question is concerned with Year 1 pupils; since the school has one-form entry, no selections of specific cohorts were required, thus sampling procedures were framed by the inherent organisation of the school. There are 24 children in each data set – this was not a deliberately set number but each cohort (completely coincidentally) had 24 eligible learners within it from the maximum possible 30. Breakdowns of gender and term of birth are given within each case report. A comprehensive research design timetable covering each of the three cases is presented below.

Details and justification of the specific research methods used and the framework for data analysis are outlined in full in Chapter 4.

3.4.1 Case Study 1 – the exploratory study of the control group

In exploratory case studies, fieldwork and data collection may be undertaken before the specific definition of the research questions and hypotheses. This type of study can be a prelude to some social research. However, the framework for the study should usually be created ahead of time (Tellis, 1997), which did not apply in this case since the exploration, as stated, was initially intended to answer a professional concern (and took place whilst I was still engaged in another piece of formal research as part of the doctorate programme). Through the use of unstructured observations and preliminary, exploratory discussions and interviews (which progressively sharpened in focus), the scale and shape of the problem emerged. Oppenheim (2000 p.67) defines the purpose of exploratory interviews as,

'essentially heuristic: to develop ideas and research hypotheses rather than to gather facts and statistics...[and]... is concerned with trying to understand how ordinary people think and feel about the topics of concern to the research.'

Further Merriam (1998) argues that a case study may be selected because it highlights an issue of some concern or hypothesis. Thus, whilst not fulfilling all requirements of a well-constructed case study, data derived from this initial exploratory study are offered within this thesis. Case Study 1 to some degree fulfils the role of a *control* study as will be shown below.

This cohort had benefited from the school's standard speech and language (SL) group-based interventions throughout their Nursery and Reception classes (see section 1.4) but many learners were still, as in previous cohorts, generally achieving poorer than average scores in their end of FS language screening. However, as with the previous Year 1 cohorts, the intervention did not continue into Year 1. The *NLS* was delivered in Year 1 in line with the recommendations. Regular lesson observations throughout the year, undertaken as part of the school improvement cycle, revealed generally poor pupil progress in literacy lessons despite the teacher using the *NLS* framework as intended and delivering a 'technically' good level of teaching. Assessments identified that children were making very slow progress and many were making no progress in literacy. This pattern had been seen in Year 1 over the previous three academic years (1999-2000; 2000-2001; 2001-2002).

Staff responsible for the class identified poor spoken language skills as a possible obstacle for this class. Further, so shocking were the children's perceptions of themselves as learners, who openly described themselves in discussions as '*thick*' and '*useless at literacy*', that their future success in school and beyond appeared unlikely. As the problem was investigated, it became clear that it was about to transform from a professional enquiry into a full research project. Although notes made up to this point were recorded in a school note book rather than a research journal, the data have been entered into the research database and used to inform this case study. Table 3.3 shows the chronology of Case Study 1:

| Week beginning | Case Study 1 – Exploratory (Control) | |
|--|--|--|
| 31st March 2003 <i>Professional enquiry up to and including this date</i> | Observation of teaching session and informal discussions | <i>N.B.</i> <i>School based notes were made at the time which were later written up into the research database</i> |
| | Exploratory interviews with 12 learners | |
| | Exploratory interview with class teacher and teaching assistant | |
| 7th April 2003 <i>Start of formal project</i> | SLT conducts observation of lesson Exploratory interview with SLT | |
| | Follow up discussion with teacher, teaching assistant and SLT | |
| | Observation of teaching session in YR | |
| 14th April 2003 (Easter Break) | Archive records scrutinised: - Renfrew screens from 07/02 - Reception baseline scores from 10/01 | |
| | Documentation scrutinised: - Lesson planning/ Medium term literacy plan - PANDA - School monitoring files - Foundation Stage Policy - Class timetable | |
| | Artefacts scrutinised: - Pupils’ written work samples (all pupils) - Classroom resources and layout | |
| 29th April 2003 | Programme devised | |
| 5th May 2003 | Programme implemented | |
| 9th June 2003 | SLT conducts observation of lesson Follow up exploratory interview with SLT, teacher and teaching assistant | |
| 14th July 2003 | Exploratory interview with SLT following receipt of written report SL tests administered and scored | |
| June 2004 | KS1 SATs tests | |

Table 3.3 Case Study 1 Research Design Timetable

After trialling a rapidly-devised intervention (see section 5.3.10 for details) there was an indication of *relatively* promising (considering the very short time-frame) improvements in children's attitudes to learning prompting further framing of a specific intervention and, with it, the conception of this study. The group are loosely deemed as a control group in that, like previous cohorts, they had experienced no specific SL intervention during year 1 until the last 10 weeks of the school year and this, when it was delivered, was fairly random and insubstantially conceived. Using a control

provided a baseline against which to compare post-intervention results in the next two case studies.

Thus, Case Study 1 lacks the rigorous framing required of a standard case study since the discussions referred to above were not always formally recorded, as they should have been if they had been part of a planned case study. Some might argue that there is no place for the exploration within this formal research thesis since it was not pre-defined nor initially recorded in a standard format for future qualitative data analysis. However, the exploratory enquiry was critical as a catalyst for the research and in framing the actual research project – it helped provide data to generate a hypothesis about the teaching of literacy within the school context and subsequently to effect change and build theory. Therefore I view it as essential that it is included within the thesis findings (Chapter 5) as a crude control measure for quantitative data to be compared. The primary concern of this professional, tentative enquiry was to draw out qualitative interpretations as to why children may not be making progress and so a case report has been made, presenting the key subjective interpretations made at the time. The final intervention programme derived in part from this ground work, but Case Study 1 is not used to identify the factors sought in the research question, nor other aspects of the research question since this would not be valid, given the circumstances outlined above.

3.4.2 Case Study 2 – the explanatory study of the pilot group

Pilot projects are very useful in determining the final protocols that will be used in the actual research project; for example, interview questions for the main study may be devised, dropped or added based on the outcome of the pilot study. *Explanatory* cases are suitable for doing causal studies and building causal arguments and thus, in this research, the pilot study was used to ascertain whether implementing the specific intervention appears to improve SL screening scores, pupil progress in literacy and the learners' attitudes to literacy. In other words, the study is used to explain causal links in this real-life intervention, to describe briefly the real-life context in which the intervention occurred and to further develop the framework of the intervention itself (Yin, 1994).

The pilot cohort (Year 1, 2003 – 2004) had experienced the school's standard SL intervention in the Nursery and Reception classes. In Year 1, thanks to analysis of the findings of Case Study 1, they benefited from a more rigorously devised SL intervention programme of 60 minutes per week in three 20-minute, whole class sessions, which started at the beginning of September 2003. Alongside this, the delivery of the Year 1 curriculum was revised and adapted (see section 5.3). The intervention was delivered in the autumn and summer terms. Despite difficulties which meant

that much of the short spring term was not used to deliver the programme, the revision to the Year 1 curriculum delivery was consistently applied throughout the year.

Comparing the quantitative findings of this case explanatory study (Case Study 2) with those of the exploratory case study (Case Study 1) allowed me to 'test' (albeit subjectively initially) and further develop the theory generated at the end of Case Study 1. The original intention was for this case study to be the main study for the research but it quickly became apparent that the initial design was too limited to elicit the interpretive, qualitative data needed to competently draw out the factors sought in the research question in sufficient depth. It would have been possible to retrieve the study by amending the design once this was realised, but after unforeseen difficulties in the spring term meant that the intervention could not be delivered in its entirety across the whole school year, the decision was made to maintain this study as a pilot to learn from, while planning a more adequate research design and delivery plan for the following year as the main study. The design of this case study was, however, adequate to enable it to be an explanatory study seeking to identify a potential causal link between improved language support and improved SL scores through the quantitative data which could then be explored further the following year.

Table 3.4 outlines the chronology of the research methods used in Case Study 2:

| Week beginning | Case Study 2 – Explanatory (Pilot) |
|---------------------------------------|---|
| 14th July 2003 | SL tests administered and scored |
| August 2003 | Archive records scrutinised: - Renfrew screens from 07/03 - FS profile scores from 07/03 |
| 29th September 2003 | Observation of language teaching session Feedback to class teacher and teaching assistant to triangulate findings |
| 24th November 2003 | SLT conducts observation of lesson Follow up exploratory interview with SLT, teacher and teaching assistant |
| January 2004 | Documentation scrutinised: - Lesson planning - Medium term planning for literacy |
| 17th May 2004 | Joint observation of lesson with new Y1 teacher (to prepare for the following academic year) Feedback to teacher & teaching assistant to triangulate findings |
| June 2004 | Artefacts scrutinised: - Pupils' written work samples (all pupils) - Classroom resources and environment |
| 5th July 2004 | SL tests administered and scored Exploratory interview with new Y1 teacher to refine programme for CS 3 |
| June 2005 | KS1 SATs |

Table 3.4 Case Study 2 Research Design

The qualitative data became a secondary concern in Case Study 2. Undertaking this case study as a pilot made it apparent that a carefully constructed research design would be required in Case Study 3 and a rigorous framework for analysing the data collected would be essential in achieving this. It was decided to continue the intervention for this group into Year 2 and the new teacher was involved in planning for this. The intervention was planned for 40 minutes per week in two 20 minute sessions for all children; those whose language scores at the end of Year 1 remained more than a year behind their chronological age received additional time (up to a further hour per week) in small groups. This was intended to create a longer term element to the thesis research. The extension into Year 2 was replicated for the main case study to afford comparability and thus enhance any opportunity for generalisability.

3.4.3 Case Study 3 – the descriptive study of the main study group

Descriptive cases require that the investigator begin with a descriptive theory; this third study started with a clear framework for the intervention programme which had developed throughout the previous 2 years on an ongoing basis, as I evaluated each stage of the data gathering. Even throughout the life of Case Study 3, this was further refined (Chapters 5 and 6). The study also had a clear framework for data gathering and analysis from the outset as a result of lessons learned during the pilot study.

Like Case Study 2, this case study is used to explain complex causal links in this real-life intervention and to describe the real-life context in which the intervention occurred. Merriam (1998) states that a descriptive case study provides a rich, thick description of the phenomenon under study. This third study gave the opportunity to describe the detail and impact of the intervention and to further develop the intervention itself (Yin, 1994). Thus, it was possible to gain much deeper understanding of why the intervention may have been successful and to elicit the *'factors which may improve standards of speech and language in the first year of KS1'*.

The qualitative methods and analytic frameworks used facilitated the development of rich descriptions which vividly communicates the participants' experiences and attitudes (Miles & Huberman, 1994). Table 3.5 defines the research design chronology for this case study:

| Week beginning | Case Study 3 – Descriptive (Main Study) |
|---------------------------------------|---|
| 12th July 2004 | SL tests administered and scored (end of YR – Reception class) |
| August 2004 | Archive records scrutinised: - Renfrew screens from 07/04 - FS profile scores from 07/04 Documentation scrutinised: - Transition to Y1 Policy Document |
| 27th September 2004 | Semi-structured interview with teacher Semi-structured group interview with 6 learners |
| 1st November 2004 | Observation of language teaching session Scrutiny of resources and classroom layout Feedback to teacher and teaching assistant to triangulate findings |
| January 2005 | Documentation scrutinised: - Lesson planning - Class timetable - Teacher assessments |
| 7th February 2005 | SL tests administered and scored |
| February half term 2005 | Archive records - Renfrew screens from 02/05 and 07/04 Unstructured, open-ended telephone interview with SLT |
| 10th March 2005 | Field-notes from class assembly observation Peer observation of teaching assistant by teacher with feedback to researcher |
| 23rd May 2005 | Observation of lesson; observations of 2 group sessions Feedback to teacher and teaching assistant to triangulate findings |
| June 2005 | Artefacts scrutinised - Pupils' written work samples (all pupils) |
| 11th July 2005 | SL tests administered and scored Semi-structured interview with teacher Semi-structured interview with teaching assistants (x2) Documentation scrutinised: Pupil reading and writing assessments |
| June 2006 | KS1 SATs |
| 3rd July 2006 | Semi-structured interviews with 2 learners from each case (6 in total) |

Table 3.5 Case Study 3 Research Design

The main study group (Year 1, 2004 – 2005) had experienced the school's standard SL intervention in the Nursery and Reception classes. The Year 1 intervention was delivered throughout the entire academic year for an hour per week in three 20-minute, whole class sessions from September 2004. The teacher and support staff for the cohort were trained to deliver the programme and took a key role in helping to develop it further. Although the thesis concentrates on the intervention in Year 1, the intervention actually continued into Year 2 with the

new teacher involved in planning for this. Extension into Year 2 was replicated from the pilot study to afford comparability and thus enhance any opportunity for generalisability. In addition, the rationale for this extension was to ensure the best possible learning opportunities for the children, which, ultimately, has to be the focus of the work of the school.

3.5 Defending case study method

3.5.1 Adequacy or validity of case study

Validity of research design is a hotly-debated topic with philosophical differences evident in the two traditional paradigms. The term *validity* derives from the positivist, scientific, quantitative approach which uses measures and tests. Where qualitative approaches dominate the research, it can be difficult to assess validity and impossible to convince everyone that the work has validity. In this respect, it could be argued that this particular piece of research has more validity than it might have had under a singular paradigm because it combines numerical data from tests and measures with the more qualitative data. Although the specific tests and measures are not perfect nor conducted in a truly experimental manner, there is consistency in their application throughout the study which affords comparability. The combination of quantitative and qualitative data in this work is typical of case studies.

However, Hammersley (1992) questions whether validity is a valid aim for research. He concurs with Smith (1984) that following a specifically positivist quantitative approach does not mean a researcher can claim '*truth*' or '*validity*' in the work and argues that both philosophical approaches carry risks which can prevent the author claiming validity. Within a case study approach, Yin (1994) argues that validity is dependent on the type of case study, the construction and design of the research and data collection procedures and protocol. While the debate could inhibit potential research from being undertaken, Merriam (1998), Hammersley *et al.* (1994) and Yin (1994) have helpfully outlined strategies which can be employed to maximise opportunities for validity in any mode of research; these have been synthesised and presented in tabular form below (Table 3.6), with comment on how these strategies were employed in this study. Careful consideration was given in the research design to ensure that these opportunities to offer validity, notwithstanding the arguments around the concept, were fundamental to the findings.

| Strategy | This Research |
|--|--|
| Triangulation and multiple data sources | <p>Extended time frame and 3 cases used – each case is a Y1 class (02-03;03-04;04-05)</p> <p>Appropriate range of data collection methods including: interviews of learners, teachers and teaching assistants offering multiple perspectives field-notes of a range of planned and unplanned discussions, observations and situations interview of attached Speech and Language Therapist (SLT) unobtrusive observations of learners, curriculum and programme delivery use of other data sources <i>e.g.</i> documents, archival records and physical artefacts (see Ch 4)</p> <p>Multiple sources allowed for triangulation of key themes and provided opportunities to confirm or contradict findings, requiring further investigation</p> <p>The range of data sources was limited to teachers, teaching assistant and learners within the school, with the exception of the attached SLT who brings an element of external perspective</p> |
| Member checks and respondent validation | <p>Recorded responses of teachers and teaching assistants (key adults) and of learners interviewed in the study checked back with them Emerging themes and findings checked with key adults and SLT Observation field-notes shared with key adults and comment encouraged</p> |
| Long term Observation | <p>The study took place over the period of 3 academic years Case Study 1 – 1 term – Y1 class 2002/03 Case Study 2 – 1 year – Y1 class 2003/04 Case Study 3 – 1 year – Y1 class 2004/05</p> |
| Peer examination | <p>Data and findings shared with thesis supervisor, LA Literacy Consultant, LA Early Years Advisor, colleague headteachers, school staff and attached SLT</p> |
| Participative and/or collaborative modes of research | <p>Key adults contributed to findings through informal discussions Peer observation in Case Study 3, recorded by researcher in field-notes from verbal feedback session Observation of teaching session by SLT in Case Study 1 and 2, recorded in field-notes from verbal feedback session Other external researchers were not involved in the process</p> |
| Researcher's biases | <p>Researcher's theoretical biases identified in Ch 1 and section 3.2.2. above – I feel that the current provision for early language teaching is inadequate to meet the needs of the school's early learners Ch 5 presents a transparent account of data collection procedures, framework for analysis and the subsequent data analysis</p> |

Table 3.6 Construct Validity of the Research

The reader will need to assess the relative validity of the research by assuring him or herself of the careful construction of the research design and by assessing the research methods employed, the data collected and the final analysis of the data. Data recorded within the findings has been

expressed so that it can be '*reanalysed by others to deepen the analysis or to present an alternative interpretation*' (Ellen, 1984, p.241).

3.5.2 Limitations and strengths of case study

I have shown that case study method is an appropriate choice for undertaking this research, using the data collection methods commonly associated with it. All methods of enquiry have intrinsic strengths and weaknesses and selecting one over another inevitably leads to losses as well as gains (Hammersley, 1992). Table 3.7 outlines some potential losses and gains:

| Strengths | Weaknesses |
|---|--|
| Generates rich data that may suggest themes for more intensive investigation. | Can be an unwarranted intrusion into the lives of others |
| Has capacity for probing deeply and analysing intensively | Subjectivity and personal involvement of the researcher in collecting and analysing the data |
| Can capture the understandings and meaning-making of the participants providing tacit knowledge | Cases are difficult to test for validity if the data is not analysed in a transparent way |
| Captures complexities of inter-relationships (<i>i.e.</i> the <i>factors</i> sought in this study) | Results may not be generalisable |
| Readable data which brings the research to life | Time for data collection can be problematic |

(Adapted from Edwards & Talbot, 1994, pp. 56-57)

Table 3.7 Losses and Gains in Case Studies

In this study, the intrusion is not viewed as unwarranted and was intended to lead to improvements in the curriculum delivered to future Year 1 cohorts. The question of subjectivity cannot be denied. The practitioner-researcher has a deeply personal involvement in the work and has declared biases and preconceptions openly within this thesis. In all work with a qualitative dimension, the researcher has a dynamic impact on the research and this subjectivity can be seen as a benefit to bringing informed understandings to the reader (Bassey, 1995; Merriam, 1998). What is important is the '*trustworthiness*' (Guba & Lincoln, 1989) of the researcher in collecting, analysing and presenting the data in a principled and transparent way. Data analysis has been explicitly articulated against a determined framework in the relevant chapter (4) to ensure transparency for the reader while data collection procedures are outlined in sufficient detail to

allow replication. Material in the appendices facilitates this. The thick data collected from the interviews and observations give depth and complexity to the study, drawing out the *factors* sought through the research question.

Stake (1995) describes doing case study as '*coming to understand the activity within important circumstances*' (p.xi) and warns that generalising from case studies is not ideal or simple and that naturalistic generalisation is a more appropriate aim. Erickson (1986) questions the appropriateness of generalisability as a goal of case study research, proposing instead that arriving at '*concrete universals*' (*ibid.*, p. 130) is the aim of comparison of in-depth case studies. Guba & Lincoln use '*fittingness*' (1989) as an appropriate aim, stating that '*the only generalisation is that there is no generalisation*' (Gomm *et al.*, 2000). Merriam (1998) argues that the general lies in the particular and proposes that what is learnt can be transferred or generalised to similar situations subsequently encountered.

The qualitative aspects to this study may restrict the findings to the culture and setting in which the research takes place and limit the generalisability of the findings – however, if the **how** and **why** can be uncovered, then *transferability* is afforded in place of generalisability. Further, it can be argued that the quantitative data enhance the possibility of generalisation. Schofield (1993) argues that researchers can distinguish between levels of generalisability to what *is*, what *may be* and what *could be*. This study will give the reader clear guidance as to how the findings are being presented and will explicitly signpost '*what is, what may be and what could be*' within the conclusions. The background context of the school has been explicitly detailed in Chapter 1 (section 1.3) to facilitate this process for the reader, who will inevitably bring his or her own interpretations to the findings based on previous experiences. In a similar way, the data analysis is recorded in a transparent way, with relevant detail provided as appendices, to give credibility to the work.

Generalisability may be somewhat limited by the lack of cultural diversity of the case study data sets in that they do not include children with English as an additional language (EAL). The decision was made to exclude this aspect from the data sets so as to ensure that any perceived language delay was constructed in terms of where an '*average*' child might *be*, having experienced six years of the specific language of English. It was not practical to translate the language assessment tool, although this may have added a useful dimension to the research if it had been practical. As a result of the exposure of this potential detriment to the school's learners, routine language screening in the Foundation Stage and KS1 now also includes mother-tongue language assessments carried out by the local authority's EAL staff.

3.6 Relationships and ethical considerations

This work is underpinned by the principles of respect for the person, for knowledge, for democratic values, for the quality of educational research and for academic freedom (BERA, 2003, p.5). In order to preserve the authenticity and quality of the data, the appropriate methods have been employed in their collection and analysis (see Chapters 4 and 5). Desire for academic freedom (and thereby, knowledge) is the basis for investigating an alternative to the government-recommended approach to the teaching of literacy.

3.6.1 *The power dynamic*

The role of practitioner-researcher in this research context immediately highlighted a position of considerable authority, particularly in the use of interviews of staff and learners, during observations of lessons and in the development and implementation of the intervention programme. Feminist researchers *'have criticised unequal power relations in the interview'* (Holloway & Jefferson, 2002, p.30) and so it was important at the outset to articulate and attempt to renegotiate the power balance. This was required for each stage of the work, *i.e.* at the beginning of each case study and as each phase of data collection commenced.

The power balance within the interview must be seen as a factor in the subjectivity of the staff and children's responses. Staff are under a contractual obligation to work within the curricular framework of the school; thus, where the Headteacher has decided to implement a new SL intervention and to integrate this into the school's curricular framework, the staff concerned could potentially be in a difficult position particularly if they are then required to be interviewed and observed while delivering the intervention. This potentially posed a considerable difficulty should any staff member wish to exercise their right to withdraw from the research process. The intervention was initially conceived following full professional dialogue with the relevant staff about the perceived problem and there was full staff commitment to the project from the outset. This difficulty did not arise.

Nevertheless, the interview data in particular needed careful collection since there was a real possibility of staff feeling obliged to say what I wanted to hear. The quality of the interview relationship is essential to the validity of the data gathered. It was acknowledged that *'discussions of the needs of both investigator and respondents must not only take place, but must be explicit about the relative power and status of the two parties'* (Carter & Delamont, 1996, p.xiii). It was made clear that genuine responses to interview questions, including critical comments, were essential to create a high quality programme which would benefit the whole school community. Good relationships within a *distributive leadership* culture assisted this balance.

As part of the renegotiation of power for the purposes of the interviews with the learners, the children's permission was sought (verbally *and* in writing) to take part in the study as well as that of their parents or carers and it was made clear that they could withdraw if they wished to (see *Appendix A.i & A.ii*); letters also went home to parents and carers *after* the interview had been conducted (see *Appendix A.iii*). Interview questions were based around staff and learners' understandings of the intervention within the context of their own experiences and this created a new arena where they had significant power because they had the 'stories' and the information that was needed to complete the research – a fact which was related at the beginning of each interview. It was also explained there were no 'right answers'. Further, the children were reassured that their answers would be completely anonymous, not identifiably related back to teachers or parents/carers (unless they opted to attend, which none did) and that they would help to improve the opportunities for literacy and learning within the school for everybody, thereby reducing the 'risk' of the child not wanting to give an honest answer. The last comment, however, may have heightened the sensitivities of the children as it reiterated my personal involvement. Notwithstanding this, the children who participated appeared empowered by the inherent responsibility and appeared, in most cases, to give frank and thoughtful responses.

It is not possible to categorically state that the impact of the power relationship did not influence the data but it is possible to state that I was conscious of the dynamic and made all attempts to compensate for it (see Chapter 4). This requires sensitivity during the analysis of the data, when careful reflection must be given to nuances and non-verbal indications. Already established, highly professional and positive relationships were maintained throughout the research.

3.6.2 *Mutual benefit*

Observations and feedback interviews were carefully structured to be non-evaluative of the teacher's competence. *Keeping* Year 1 staff involved in the process as well as in the development of the intervention within the classroom and in triangulating the interpretation of the emerging data was key to the success of the study, ensuring a shared sense of ownership. Since I was going to benefit from the study by using its findings to write a doctoral thesis, there needed to be a perceptible benefit to the staff also. The potential improvements for the children and thus, by definition, for the teaching staff were seen by all involved as an excellent incentive to participate. No criticism of staff was implicit in developing this research and staff were clear that all previous quality-assurance of teaching had been very positive; this included validation by Ofsted, LA officers and senior management. All staff involved were clear that the proposed deficit was *perceived* to be curricular and that the research *might* clarify validity of this perception.

3.6.3 Incentives and detriment

No incentives were offered to any of the respondents because of the potential for distortion of the data if an association were made by any of them linking the reward with 'saying the right thing'. There was no known detriment to any of the participants and the programme was inclusively delivered. The control group were not deliberately disadvantaged by not receiving the SL intervention until the summer term of Year 1 – as has been shown, this intervention arose as a result of perceived shortfalls for this cohort as part of the cyclical development of school self evaluation procedures. Resources within the school did not allow for the cohort to benefit from the programme in Year 2 but they have since had a one year programme, which now exists in every year group across the school up to Year 6 and will be delivered to them until they leave the school at age eleven (see Chapter 6). The control cohort had considerable additional curriculum support during their time in Years 4 and 5.

3.6.4 Anonymity and voluntary informed consent

The anonymity of both the school and the respondents has been actively preserved throughout this work. The local authority gave permission for research to be carried out and reports to be published at the outset of the researcher's enrolment to the doctorate degree. All children in each of the cohorts have been randomly anonymised so that their data are not identifiable (see Chapter 4). On this basis, all data, whether from the main study group, the pilot group or the exploratory study group have been authorised for use in this thesis by the parents or carers of the children (see *Appendix B.i and B.ii*). This includes the use of all privileged school assessment data from before, during and after each defined case study up to the point of completion of the thesis. The exploratory case study commenced before such permission was sought, since at this stage it was a professional, 'in-school' enquiry focused on school self improvement and for this purpose, it was acceptable to use data accordingly without permission. To be able to use these data for this thesis, explicit authority to include ***all*** data gathered during the exploratory enquiry in this study was requested retrospectively within 4 months, at the outset of the explanatory study in July 2003 (*Appendix B.i*). There was no intentional deception in this. Parents and carers were informed of their right to refuse permission and to have their child's data disregarded. None of the parents or carers from any of the 3 cohorts chose to withhold permission or to withdraw consent at any point although they were reminded of their right to do so. Parents and carers were also invited to request a copy of the data pertaining just to their child should they wish to. There was 1 such request which was honoured and the data were provided in the anonymous format, with no data relating to any other child visible.

Staff involved in the research know that they may feasibly be identifiable: the school is one form entry and the researcher's name is associated with the thesis, making an *assurance* of anonymity unrealistic. They have agreed to participate with this knowledge and with the guarantee that privacy will be respected and everything possible will be done to maintain anonymity (see *Appendix C*). Data from interviews and observations are presented carefully so as to preserve this guarantee.

3.6.5 Authorship

Teaching staff and teaching assistants have helped to frame the intervention as part of their professional development and responsibilities. They have delivered the school's intervention under my guidance and have been encouraged to maintain a constant dialogue with me to facilitate this. The teaching assistant administered the SL tests as part of usual school screening procedures, having been trained by the SLT to do so over the past 5 years. However, the thesis has sole authorship and the researcher is responsible for all aspects of the text (BERA, 2003, 47, p. 13).

Chapter 4 – Research Methods and Data Analysis

4.1 Research methods for data collection

The research methods employed to explore the factors which may improve standards of speech and language in the first year of KS1 derived from those techniques commonly associated with case study method. Merriam (1998), Yin (1994) and Stake (1995) identify these as:

- **interviews** with the actors within the boundaries of the phenomenon under observation
- **observations** (direct and/or participant) of the phenomenon

Field-notes from these research methods provide a rich data source from which the researcher can generate analysis. Merriam (1998) identifies a third strategy of analysing documentation to complete data collection. Yin (*ibid.*) and Stake (*ibid.*) break this down into 3 types of data sources for analysis. These are:

- **documentation**
(*e.g.* lesson plans, policies, curriculum outlines, assessment frameworks *etc.*)
- **archival records**
(*e.g.* assessment data, pupil reports to parents, attendance data *etc.*)
- **physical artefacts**
(*e.g.* pupils' work, photographs, classroom resources/layout *etc.*)

All of these methods were used within this research in order to ensure that the principles of case study method were adhered to and to ensure that there were sufficient data sources to triangulate findings. How the methods were applied is discussed below.

4.1.1 Field-notes

Field-notes were written up during and after discussions (formal and informal) with SLT, staff, parents and children, telephone conversations (with SLT *etc.*) and observations of lessons, classroom environments, staff conversations and children's conversations. As a practitioner researcher, I sometimes added notes from conversations or professional discussions which added depth to the issues I was researching although these did not derive from intended data gathering as outlined in the research design. I anguished about this initially because I felt I should only include data from intended episodes. However, speaking to other research colleagues on my EdD course reassured me that these were just notes taken *in the field* and that all of them had made field-notes of unintended episodes, for example, one researcher had noted a random conversation she held while waiting in the staffroom for an interviewee to arrive. However, if I made these notes, I fed back to anybody who had contributed in order to seek permission to include their

comments and to obtain agreement that what I had recorded was what had been meant. During Case Study 1, prior to the formal framing of the research project, notes of impressions were made in a school notebook to inform school improvement plans. Once it was clear that the investigation was leading to a formal research project, these notes were written up as part of the research database (see *Appendix D*) and subsequent notes were recorded more diligently and in more detail in a research journal; in line with the approach suggested by Lofland and Lofland (1995), this was filled with jottings, mind maps, spider diagrams and sticky notes as well as bullet points of instant analyses formulated at the time or between the event and the reflections on them at the end of the day, including reflections on the 'act' of research and my role in that. Instant analyses were usually bracketed with '???' to direct re-analysis after a period of incubation (Brenner *et al.*, 1985) in the light of any new interpretations and data. Questions arising, repeated/opposing evidence and implications for the next steps were recorded in a margin on the left hand side of the page (I am left handed). These notes informed future observations and interview questions as well as suggesting other data sources to investigate. Having been a successful method of recording field-notes in the first case study, this approach was again employed throughout Case Study 2 and 3. Field-notes in this form were not intended for anyone else to see although they proved useful for obtaining respondent validation because it was possible to check my interpretations with staff and children both at the time and once they had emerged as salient thoughts or questions through reflection on my notes or through relating the day's 'story' to a colleague.

Field-notes were typed up at the end of the day using the prompts that had been recorded in the journal, although this did not *always* mean in narrative form in full sentences (*Appendix D* provides an extract as an example). Reflections, questions and next steps from the journal were then highlighted in colour to guide later analysis and to inform emerging themes for further exploration in the short and long term. These highlighted notes served as a record of milestones in the research journey and became part of the research database as the chain of evidence (Yin, 1989) and the audit trail (Lincoln & Guba, 1985). Key phrases and words from this trail were then written onto sticky notes and added to the analysis matrices which had been designed to sharpen analysis and derived from creating categories (section 4.4).

4.1.2 Interviews

Interviews were an important source of evidence in this research and were used during the 3 years across the range from very open-ended, preliminary explorations to semi-structured and focused enquiries. Interviews may propose solutions or provide insight into events. In Case Study 1, as already explained, the interviews were very informal and developed as the problem became more evident and reasons for it were explored; often these were opportunistic and *ad hoc*. In Case

Study 2, interviews were all pre-arranged and carefully framed, although they were still exploratory and focused on interpreting, confirming and disconfirming emerging themes and data as well as providing future direction to investigate.

In Case Study 3, most of the interviews were semi-structured and all were booked to take place in a quiet, disturbance-free location at a convenient time. Semi-structured interviews gave the opportunity to explore particular questions, presented as open-ended enquiries, as well as to allow either party to draw on specific aspects or issues which arose from them; examples of interview schedules are included at *Appendices E.i to E.v*. The quality of relationship was very important and interviews were conducted in a cheerful and relaxing manner intended to build on the trust already established. Staff were given a list of areas to be explored in advance of the interview so that they could feel confident in what would be covered. As the employer, it was important not to cause anxiety or let people worry about what might be asked. 6 children (2 boys; 4 girls) were interviewed in a small group at the outset of Case Study 3; they were self-selecting in that I asked for volunteers who would be happy to talk to me about '*Life in Year 1*' to come along to my room at a given time and no limit was placed on numbers of respondents.

The group interview was semi-structured and focused around ideas rather than carefully worded questions – all questions were delivered in a conversational style as genuine enquiries. This approach allowed for mutual support within the group, especially important as the children were only aged 5 and 6 at the time. At the end of the research, 6 learners were interviewed individually and great care was taken, as far as possible, to ensure that this was not intimidating – parents and carers were invited to be present for the interview although none of them took up this offer. Children (1 boy and 1 girl per cohort) were selected from the *sub-clinical* group and all scored amongst the lowest in their cohort in the *RAPT* screening at the end of their Reception year; they were also demonstrating atypical language development (see section 5.2). I wrote to the children to ask their permission to interview them as well as writing home. The 6 children took a letter home the same day which detailed the questions that had been asked (see *Appendix A.iii*).

Initially, notes were taken during interviews and no audio recording was made. While this was adequate for the first two cases, in the third it was obvious that this would not be sufficient for all interviews since maintaining a 'normal' conversation was not possible alongside ensuring the data were gathered in detail. This said, Oppenheim argues that an interview is never a '*normal*' conversation (2000). As a result, all semi-structured interviews in Case Study 3 were recorded onto audio tape for '*analysis in detail afterwards*' (Oppenheim, 2000, p.67). Although Stake (1995) argues that the exact answers are not important and what matters is what people 'mean' above

what they say, it was more comforting to know that, should I be unclear on what was meant I could re-listen to the tapes and try to understand what had been meant. My role as practitioner researcher easily allowed me to go back to interviewees to clarify meanings a day later or much later if needed. I kept notes of any interesting nuances during the interviews where these would be useful. The only exception to this was the group interview where a tape may not have been manageable; video may have worked well but this was considered to be too complex at the time. In this group context, Stake's advice *was* used and after each part of the discussion, interpretations of what had been said were related back to the group who confirmed or disconfirmed my understandings, which were refined through discussion until consensus was achieved and accurate notes had been scribed.

The children's individual interviews, undertaken at the end of the research for all 3 cases, were focused and semi-structured; they were audio-taped but not transcribed as whole dialogues - their answers were added verbatim to a pre-prepared matrix (see *Appendix F*) This approach is suggested by Lincoln and Guba (1985) where the researcher is aware of what she does not know and where questions are framed to supply the knowledge that is not known. The focused, semi-structured interview is used in a situation where the respondent is interviewed for a short period of time, usually answering set questions. This technique is often used to confirm data collected from another source. However, remaining true to the concept of a semi-structured interview as opposed to a structured one, other issues arising from their answers were noted and typed up as part of the research database. The children enjoyed the tape recording aspect more than the adults and they tended to deviate far less from the questions and themes; all interviewees were able to listen to their tapes afterwards if they wished to. *Appendix G* shows an extract from the research database which was typed up at the end of the day from my handwritten research journal notes – this demonstrates how the children were prepared for the interviews and how they responded.

Interview designs were carefully considered, beginning with questions requiring more descriptive answers, moving into opinions, impressions and interpretations and concluding with questions which could lead to respondent analysis of key issues. The idea of this was to create a sense of comfort at the outset and, once confidence was established, to probe deeper into respondents' insights. The interviews with staff were semi-structured, focused and in-depth (Merton & Kendall, 1946). All questions centred on respondents experience of the problem and were grounded in the impact of the programme. The continuous approach to data analysis informed the choice of interview questions and different schedules were prepared for staff depending on their role in the delivery of the programme (*e.g.* to whole class *cf* small groups/individuals) in order to elicit the most meaningful reflections, opinions and analyses (see *Appendices E.i to E.v*). Questions were

not always asked in order and were frequently rephrased or extended. Sometimes whole questions were excluded where previous responses had covered the topic sufficiently. Because the quest was for thick data generating from the small numbers of respondents rather than thin data from a large number of respondents, it was easier to be flexible about which questions needed to be asked and which could be altered according to the response. Confirming and disconfirming evidence was sought from the range of data sources and although important, interviews alone were not the primary source. In all cases, a theoretical framework was already developing as a result of continuous, ongoing analysis of all data collection methods. Interviews were all transcribed (an example is shown at *Appendix H*) within a few days to ensure their richness was retained; handwritten notes were made in the research journal to supplement the audio-tapes wherever needed and these were typed up and cross referenced as part of the database, so as to limit the impact of fragmentation from the whole. Transcriptions were presented so as to make easy reading and punctuation was added within sentences to demonstrate breaks and pauses.

4.1.3 Observations

Observations were crucial to uncovering detail and description and to confirm what had been identified in the interviews or had been missing from the interviews. It is also useful to see whether people, children and staff, actually do what they say they do or whether there is a difference between what people think they do and what they actually do. Observations by the Headteacher were probably more invasive for the classes and the staff than an unknown observer may have been, although I am a very 'hands-on' practitioner and as such, a very familiar face in the classroom. However, being observed delivering the Headteacher's pet project poses potential anxieties. Staff were reminded that the purpose of the observations was not to do with teaching competence but with the impact of the curriculum and the attitudes of the learners. At times, it felt as though I was getting in my own way and it was very difficult not to be 'the Headteacher' in the observation situation. All observations were pre-arranged and briefings were held with the teaching team to frame them.

In this naturalistic setting, my aim was to be the '*insider looking out*' (Gomm, 2004, p.219) and I had the advantage of being immersed in the context so that a more '*holistic view ... of the interrelationships of factors*' (Morrison, 1993, p.88) could be gathered. This was done so as to thicken the data through the type of field and observation notes taken which were guided by those suggested by Lincoln and Guba (1985, p.273). Taking notes was not an easy task and narrowing the focus and making decisions on what to record took a good deal of reading and practice. Observations were varied in approach and Wolcott's 4 layers (1981) were useful at different times during all 3 cases. In the first 2 cases I alternated between:

- Looking at everything
- Looking at nothing in particular
- Searching for paradoxes
- Searching for the problems facing the group/s

In the first case, the dominant strategies were initially looking at everything and nothing in particular and notes were recorded in a *say what you see* format. Once there was a shared foothold on the problem, the final 2 strategies became dominant. In the third case, an observation was undertaken looking specifically for evidence of the impact of the intervention programme (see *Appendix I*) and making comparisons with previous observations in terms of pupil response, engagement and their attitudes to learning as well as in terms of progress, achievement and the impact of these on standards.

Crucial to the success of this particular observation was the continuous cycle of analysis and the subsequent chain of evidence that had led me to the understandings I had formed during the first 2 cases. It was important to try to uncover what factors were having an impact on children's language skills and progress. Observations included *ad hoc* discussions with learners and sometimes with staff. Extensive handwritten notes were made and were typed up rapidly afterwards, as described above under field-notes. Immediate reflections were shared straight after the observations with the teaching team to try to draw out triangulated views and peer opinion on what had been seen and what it might mean. These were then recorded in the margin of the journal and dealt with in the manner described for field-notes.

4.1.4 Documents, archival records and artefacts

These were examined to support or challenge and confirm or disconfirm findings from the other research methods employed. Classroom environments and resources were scrutinised as 'artefacts'. At times it was useful to see whether policy was the same as practice and to try to corroborate the evidence from other sources. At other times, the documentation revealed possible avenues for further research particularly when lesson plans were scrutinised for language input and children's work was assessed for language structures, use of vocabulary and grammatical understanding. The case study designs (Table 3.5, 3.6 and 3.7) identify the different sources used. As a practitioner-researcher, it may be argued that I could not realistically be a vicarious observer of these sources. However, it was important to look critically at records, particularly quantitative data records; I discovered errors in previous scorings of the *RAPT* screening results and as a result, I re-scored every screen myself – this is explained further in section 4.2. Notes from the scrutiny of documents, archive records and artefacts were recorded and processed in the same way as all field-notes, described above.

4.2 Quantitative data collection

As discussed at length in Chapter 3, quantitative methods were employed alongside the above qualitative methods to gather data to support analysis. For this study, numerical data were produced by using a specific test of language skill. All tests are a compromise between natural response and efficient assessment and it is recognised that no test is perfect and nor will it give guaranteed, infallible data. The test used was the *Renfrew Action Picture Test (RAPT)* (Renfrew, 1997) after careful consideration of its advantages and shortfalls and, significantly, the wider issue of normal practice in the school at the commencement of the study.

RAPT (ibid.) only assesses children's expressive language, which it separates into the aspects of grammar and vocabulary. Other studies have tended to use more sophisticated measures, such as the *CELF* assessment method (Semel *et al.*, 1995), which provides a broader picture of children's language development since it considers both their expressive and receptive language skills. Many studies use 3 or more assessment tools. Had this study been developed without being part of practitioner research within its specific context, *CELF* would have been a preferable instrument to use (probably alongside the *RAPT*). However, existing practice developed by the attached Speech and Language Therapist (SLT) was to use the *RAPT* and it was necessary to continue with this test alone to ensure comparability across the whole research project and cohorts. The familiarity and simplicity of the existing tool among the staff was a key aspect of the decision not to introduce a different instrument. The SLT justified the use of the Renfrew test since it was accepted as an appropriate measure (albeit as a 'snapshot') within the area SLT team and was promoted for its accessibility by school-based staff who are not specialists in speech and language. The Renfrew test is used across the world in health settings, schools and speech and language services and has credibility (Hoskin & Herman, 2003; Colledge *et al.*, 2002; Vargha-Khardem *et al.*, 1998; Wilcox *et al.*, 1991); it has been widely used to assess the language skills of autistic children. Therefore, rather than offering a full language assessment, *RAPT* offers a screening of children's language development and this is an important caveat within the thesis.

Although *RAPT* does not measure receptive language, it is generally accepted that expressive language development usually lags behind receptive language development. Therefore, if only one aspect is to be tested, it is preferable for that to be expressive language since when expressive language develops normally, so will receptive language. This said, if a child's assessment reveals significant language delay, the SLT does also assess their receptive language in order to provide support for that child. However, this information is not available for all learners in the 3 cohorts and so has not been used within this work. The *RAPT* provides norm referenced expressive language scores which are calculated to show an average score for each age band, thus enabling

professionals to assess age equivalence in terms of vocabulary and grammar use. This has been helpful in identifying where children have language delay (within this 'snapshot') and to what extent. However, this snapshot method is not an accurate predictor of future language success - it merely offers a 'right here, right now' measure. Nevertheless, the literature review has shown how children with poor language skills may be at risk of being less successful at school (section 2.4).

When undertaking the screening, staff write down exactly what the children say in response to a series of 10 'action' pictures. These are then scored in line with the given instructions for both the vocabulary and grammar aspects of language. All these screens are kept on the children's record files as a routine procedure within the school. As part of quality assurance for the data, I personally re-scored every test for every child in the study from the record sheets; this eliminates the possibility of data incongruence due to different interpretations of the scoring system or those due to subject knowledge, particularly around grammatical conventions. It became clear throughout the study that the person conducting the test has an impact on the learners' performance in the test and as a result, a familiar adult was used in every test in Case Study 2 and 3. This is discussed further in Chapter 5 (section 5.2).

Dockrell (2001) rightly identifies that no one language assessment tool is adequate in order to provide a definitive diagnosis of language delay and the impact of this may affect the generalisability potential of the study. Further deliberation on this is included in Chapter 5 (section 5.2) and in the reflective account.

4.3 Data collection procedures

The timeframes and details of the research methods used for each of the case studies are outlined in the previous chapter. Case Study 3, from which the factors referred to in the title of this thesis were sought, is outlined in Table 4.1 to demonstrate an overview of the research methods used and the timescale between them:

| | Documents | Archival Records | Interviews | Participant Observation | Artefacts |
|----------------------|---|--|---|--|--------------------------------------|
| Summer 2 2004 | Y1 Transition Policy | YR SL tests (<i>RAPT</i>) FS profiles | | | |
| Autumn 1 2004 | | | Teacher– semi-structured Group of 6 learners – semi-structured | | |
| Autumn 2 2004 | | | | Whole class lesson observation, comparing with previous cohort (with feedback) | Classroom layout and resources |
| Spring 1 2005 | Lesson planning timetables, teacher assessments | YR SL tests Mid Y1 SL tests (<i>RAPT</i>) | Open-ended telephone interview with SLT | | |
| Spring 2 2005 | | | | Teacher observes TA and provides feedback to researcher; class assembly observation | |
| Summer 1 2005 | | | | Lesson observation and 2 group sessions with feedback – looking for confirming or disconfirming evidence of analysis to date | |
| Summer 2 2005 | Reading and writing assessments | End Y1 SL tests (<i>RAPT</i>) | Teacher and 2 teaching assistants – semi structured | | Written work samples from all pupils |
| Summer 2 2006 | | KS1 SATs results | 6 learners – semi structured | | |

Table 4.1 Chronology of Research Methods in Case Study 3

The cohorts were all screened a number of times using *RAPT* (see Chapter 3) and it was essential to anonymise the numerical data for use in the reports. This was achieved by creating spreadsheets with the children's names presented alphabetically according to surnames along with all their respective raw scores. These were then moved around so that they were in alphabetical order according to the child's first name. From this point, each child's row was randomly swapped with another, randomly selected row. This process was repeated twice per cohort so that, in the final sequence, there was no structure or reason behind the order of data display. At this point, children's names were replaced by codes according to the order they now appeared in on the spreadsheet. Tables 4.2 and 4.3 describe the coding system. Each study (1, 2 or 3) had its own code:

| Study | Study 1 | Study 2 | Study 3 |
|--------------|----------------|----------------|----------------|
| Code | C | P | S |

Table 4.2 Coding of the Study

Following this, the child's gender was coded:

| Gender | Male | Female |
|---------------|-------------|---------------|
| Code | M | F |

Table 4.3 Coding of the Participants' Gender

Finally, the position in the list was coded and a number was allocated which reflected their place in the final randomised list. Thus a learner would be assigned a code such as CM4, PF11 or SM12. After this was completed, the raw scores were converted to age equivalents for all learners at all stages of assessment and these data were added to the spreadsheets (see section 5.2).

4.4 Framework for analysis

Yin (1994) encourages researchers to make every effort to produce an analysis of the highest quality. In order to accomplish this, he presents four principles which underpinned my approach to analysing the data:

- Show that the analysis relied on all the relevant evidence
- Include all major rival interpretations in the analysis
- Address the most significant aspect of the case study
- Use the researcher's prior, expert knowledge to further the analysis

The whole research project was built on the concept of 3 stages of enquiry, namely an exploratory study, an explanatory study and a descriptive study. With so many data sources from 3 different types of case studies, an analytic strategy was required which would lead to conclusions about the appropriateness of the existing and proposed Year 1 curriculum as well as ultimately offering the possibility of generating and testing theory about effective language teaching. Yin (1994) presents a theory building strategy where the researcher relies on the theoretical propositions of the study and then analyses the evidence based on those propositions. This strategy was selected as a starting point for the research because it linked seamlessly with the purpose of the exploratory study at the outset. *Appendix J* gives the matrix used to assess evidence extracted from the database against the propositions in the form of direct quotes, direct observations, summaries or descriptions. The propositions were:

- i) that the *NLS* up to and including Year 1 has been inadequate in meeting the language development and learning needs of these particular socio-economically disadvantaged children – thus that the Year 1 curriculum was ill-fitting for the needs of the learners.
- ii) that an alternative curriculum and a language intervention programme might improve standards of speech and language (and subsequently standards of literacy), although the factors which contribute to this improvement needed to be identified through further research.

This process led to my satisfaction that there was evidence for my concern about the curriculum and my view that developing an intervention programme might be a solution to this, alongside making changes to the curriculum. In order to devise and develop an appropriate intervention in response to the research problem, it was crucial to understand what the obstacles experienced by the learners were and from that understanding, to get to the heart of what was really happening

(Glaser & Strauss, 1967). I needed to structure the data for analysis to start to identify factors impacting on any improvements. Miles and Huberman (1994) propose a continuous, cyclical interplay between data collection, data display, data reduction, drawing conclusions and verifying conclusions. After considering several approaches (Stake, 1995; Yin, 1994; Runkel, 1990; Eisner & Peshkin, 1990), this model was used as a framework for analysing the data towards the end of Case study 1 and throughout Case Study 2 and 3. Using this approach, it was important to see whether the intervention, framed from the analysis of the first enquiry, was actually successful in improving the children's raw scores in the *RAPT* screening. If this was the case, it may be a true test of whether the data analysis from the first enquiry had been effectively carried out. However, for the main study (Case Study 3), I did need to revisit the headline data from the previous 2 cases to identify precisely what the features of the intervention should be in the longer term. Consequently a continuous interplay existed between each data set within and across the case studies.

4.5 Generating themes and categories

Miles and Huberman (1994) suggest that qualitative researchers should use display matrices for data management and analysis. A display matrix consists of rows and columns whose headings and contents evolve as the researcher sorts and re-sorts the data obtained from the interviews, observations and documents according to their list of 13 '*tactics*' (Cohen *et al.*, 2000, p.283). Matrices were used throughout the life of this research study. In order to produce themes and an overview of findings from the quantitative data, matrices were used to tally totals of learners with language delay and to provide data for analysing progress of individual and groups of learners (see *Appendix K*) which were then presented as graphs and charts. When read alongside the chunks of qualitative data, these informed further investigations and application of qualitative methods to uncover reasons for the findings and to offer further evidence or opposing evidence.

Having collated evidence against the theoretical propositions as already discussed (*Appendix J*), a further matrix with 52 categories was devised as a conceptual framework, identifying headings which had emerged as areas to investigate both from the previous matrix as well as from detailed practitioner knowledge of the context and my stated interest in the area of oracy (*Appendix L.i*). The categories, expressed as representative words and phrases, were (in alphabetical order): accessibility of the curriculum; classroom layout; differentiation; group activities; language use (adult); language use (child); pupil attitudes/disposition; pupil interaction; pupil progress; pupil response; resources; teaching styles; other notes. Following this, I added the evidence from the data; again, this was in the form of direct quotes, direct observations, summaries or descriptions under each category.

In order to use the data to inform each stage and data collection episode of the research, field-notes and data records were analysed quickly for the emerging themes which were then re-tested at the next episode. As the research evolved, the process of self-generating categories and themes came naturally from the data in the form of direct quotes and head-notes (Kvale, 1996; Strauss, 1987) which surfaced while applying the Miles and Huberman '*tactics*' (1994). As each matrix category widened or narrowed, headings, columns and rows were added to or removed from the matrices.

Alongside the use of the journal and the typed chain of evidence, Erickson's five-stage procedure (1992) was employed for analysing recorded observations or interviews to inform themes and categories without loss of the richness of the data. These stages are:

1. Review the whole event, from start to finish without stopping, taking further notes. During this stage, potential points of interest may be noted.
2. Identify the parts of the event, such as introduction, activity, conclusion *etc.*
3. Within each part of the event, identify the organisation of the children and the teacher. How do they influence each other?
4. After careful selection of subjects, focus on them, transcribing their words and actions precisely, and just as precisely, pertinent words, actions and reactions of others.
5. Compare the results of analysis steps from 4 and 5 with analogous instances from elsewhere in the body of recorded observations.

Tapes were listened to repeatedly to ensure intimate knowledge of them and sticky notes were used to record key phrases, units of meaning and themes. These notes were moved around on a large wall in my dining room under emerging headings, which were also written onto sticky notes (but larger ones), to facilitate a tangible 'stepping back' from the data which enabled me to see patterns, contradictions, repeats, anomalies and isolated fragments of unique data. Every time I passed by the wall during times of '*incubation*' (Brenner *et al.*, 1985), I would see different possibilities and difficulties with the arrangement and would ponder further. Where there were clear links, sticky notes derived from my latest journal entries (and margin notes) from other data collection methods were sometimes added to the working wall. Where there were data which did not fit into the existing categories, they were written onto sticky notes and initially set aside; categories were then examined to see whether they could be broadened to accommodate these. When this was not possible, new categories were formed.

Eventually, these matrices were committed to large sheets of paper (1 sheet for each category stemming from the interviews) and photocopied to serve as a more permanent record of that stage of analysis. From this point, I would regularly review the matrices alongside my journal and typed notes, arrowing links, circling apparent contradictions, writing summaries and eventually merging the data from the different matrices under fewer umbrella categories. This cyclical process was carried out 3 times, once for each of the case studies, although in less detail for Case Study 2 because, by design, this case was more quantitative as it was intended to test whether the intervention would result in improved raw scores (as the *if* part of the enquiry). For Case Study 3, I referred to the matrices from the previous 2 studies to review them and then started with the theoretical propositions I had generated from Case Study 1 and 2 (see *Appendix L.ii*). Each of the cases involved a significant amount of data which, as stated, was continuously processed; it was then triangulated and peer validated. I regularly checked the categories that were identified, and subsequently emerged, with the other adults in the school who were involved in the programme.

Where they suggested alternatives, we discussed our reasons and interpretations until consensus was reached.

As an immersive researcher, I would have happily followed a holistic approach to analysing the data (Goodson, 2002) through immersion and listening out for the bits that '*talk to you*'. However, as a relatively inexperienced researcher, this would have been risky considering the enormity of what was at stake if my strategy had failed; it would have been much harder to seek the necessary peer validation using the holistic approach as it would be unreasonable to expect others to commit the necessary time to the approach. The following chapter discusses the selected reporting formats for each case study and presents the findings of the studies.

Chapter 5 - Findings

This research strives to illustrate and unpick the phenomenon described in Chapter 1 and to answer the stated question: ***what are the factors involved in improving standards of speech and language in Year 1; to what extent, how and why do these impact on children's attitudes to learning, language development and later literacy standards?***

The methodology selected to underpin the study was derived from the *third wave* paradigm of mixing the two traditional philosophical approaches in a principled way through case study method, as proposed by Yin (1994). The reporting phase has been identified as the most difficult aspect of case study method since it does not take any conventional form but needs to make a contribution to knowledge or practice (*ibid.*). Wolcott (1990) argues that the case study report is the end product of the research and Stake (1995) proposes that the case study report is interpreted largely by the reader as a result of careful framing by the author. Whilst both are valid for differing types of studies, neither of these styles on their own is adequate in this particular work. The reporting approach chosen is described below.

5.1 Reporting the case studies

The three case study reports are presented as overviews of each study, describing the key findings from each one and thereby reflecting the dimensions uncovered by the nature of the specific type of case study it relates to (*i.e. exploratory, explanatory or descriptive*). Analyses are revealed by means of narrative descriptions, direct quotes, figures and tables (the latter two include explanatory comments to guide the reader). The reports for Case Study 1 and 2 focus respectively on demonstrating what was found regarding the extent, scope and nature of the problem and the possible correlation between explicit SL provision and improved SL scores. The report for Case Study 3 is presented with more description and briefly demonstrates the main discoveries in terms of SL test data (and qualitative analysis of these) alongside analysis of the findings of the qualitative data collection. In Chapter 6, the findings of all three cases are analysed and discussed in the context of the research problem.

The reports each follow a similar format for ease of reading but do not include the preliminaries you might expect in stand-alone reports, since these have already been presented within the structure of the doctoral thesis and can be extrapolated by the reader. This is where the real difference shows, between *doing a case study* and *using case study method* (Yin, 1994) to inform a doctoral thesis. The reports tell the story (within the context of each study) of the research findings using particular and general description (Erickson, 1986); they tell what was found and what evidence supports the findings and thus they are theory-building reports (Yin, 1994). Chapter

6 gives an interpretive commentary (*ibid.*) on the story and provides a discussion of the findings as a whole, linking themes and evidence from the findings and the literature review as well as drawing on comparisons between cases. The *factors* sought are interpreted from Case Study 3 (which was the study designed to elicit these) within the discussion, supported by confirmation or challenged by disconfirmation from the findings of Case Study 1 and 2. The proposed factors are then discussed in the context of the literature which provides further question and challenge.

Another difficult *professional* decision (see section 3.2.5) to be made was whether to report the quantitative findings in percentages or, given the small numbers in each cohort (24), to use the actual numbers of learners in the various categories throughout the findings. For academics concerned with quantitative data from a series of pre- and post-intervention tests, the answer would be a straightforward use of numbers since the data sets are small. However, the norm amongst education professionals is to expect percentages to be used when expressing results – all school evaluation reports, including the official government PANDA report (see section 1.4), use percentages (for datasets with more than 10 learners) to make comparisons between and across schools and the local authority SL therapists for the project school also report all SL data in percentages; further, schools report KS1 and KS2 results to parents and carers in percentages within the annual report and school profile. Therefore, my dilemma is to decide how to satisfy the academic requirements of this thesis at doctoral level with academic credibility and at the same time serve the requirements of the professionals who I aim to influence through the thesis. Since the EdD is a professional Doctorate, I decided to use percentages throughout the findings so as to afford clear comparisons between SL scores and KS1 results for the cohorts and to allow other professionals to compare the SL scores with their own cohorts. In recognition of the small numbers, I have also presented the actual numbers reflected in the percentages throughout this chapter.

Given the small datasets, I have used the preferred *unbiased* technique of dividing by $n-1$ rather than simply by n when calculating standard deviations, making them more reliable in this context. Wherever standard deviations are reported, they are as a result of this method and, as such, are labelled *SD (n-1)*.

5.2 Technical information for reading the case study reports

The *Renfrew Action Picture Test* (Renfrew, 1997) measures the two aspects of expressive language skills in information age and grammar age. Children are scored separately (within the same test) for the two aspects of information and grammar. A child's language development is classified as being within normal limits, above average, or as having mild, moderate or severe

delay depending on the age equivalence of their score. Within the test, children's chronological age is recorded within a series of 6 month bands; likewise, their results place them within the same series of 6 month bands according to the points scored. For example, the result band *5.0-5.5 years* refers to children with typical scores for children between the day of their fifth birthday and the age of 5 years and 5 full months, while the band *5.6-5.11 years* refers to those with typical scores for children on the day they turn 5 years 6 months up to the day before their sixth birthday. These bands, calculated by the author (*ibid.*) with norms provided in the screening pack, should be viewed as complete units in themselves and should not be interpreted as meaning that the child scored somewhere between, for example, *5.6-5.11*, which would wrongly imply that s/he might be at a specific but unreported point within the band (see also section 5.4.3). Scores of or below 23 in information and 14 in grammar result in an age equivalent of <3.6 (3 years 6 months) while scores of or above 37 in information and 31 in grammar give an age equivalent of >8.5 (8 years 5 months). Table 5.1 shows how the local SLT team define mild, moderate and severe delay using the screening data. These definitions are used throughout the thesis:

Table

5.1

| Age equivalent score (AE) | Difference - / + | Interpretation |
|----------------------------|------------------|---|
| AE | | Average within normal limits |
| 1 age band below/above AE | 6 months | Below/above average But within normal limits |
| 2 age bands below/above AE | 12 months | Mild delay/acceleration |
| 3 age bands below/above AE | 18 months | Moderate delay/acceleration |
| 4 age bands below/above AE | 24 months | Severe delay/acceleration |
| 5 age bands below/above AE | 30 months | Profound delay/acceleration |

Classification of Normal and Delayed Language Development

Note must be taken of Dockrell's warning (2001) that one language assessment tool alone is insufficient to identify definitively in a clinical sense whether a child's language is delayed or atypical. I agree with this premise. Further, as outlined in Chapter 4, the particular test used within the study for these assessments is not one of the most rigorous or definitive tests and has its own shortcomings. The numerical data are provided as a snapshot of the picture at the given times and must be viewed with this perspective. This research relies on the qualitative data to fully answer the research question and uses numerical data to provide a standardised dimension. Each point of testing has used the same test, administered and scored consistently thus offering parity to the study. As such, the advantage of the numerical data generated from these assessments is that they provide a consistent measure and indication of levels of possible delay across all three case studies at each point of testing, even if that measure is in some way flawed in terms of its

definitive value and inherently singular dimension; the numerical data give evidence in particular to the *if* part of the research question. It is also noteworthy that the team of SLTs in the school's local authority promote and recognise this specific test as reliable and valid as a screening tool and they act on its findings with confidence. The scores do not measure children's potential or other aspects of development, they are merely a measure of their score on this particular test which may indicate a level of language delay specified by the actual score.

Just as children's writing is less developed than their reading throughout the primary years, children's spoken grammar is expected to be less developed than their spoken vocabulary and this expectation is accounted for within the scoring analysis of the test. Remembering the health warning above, a difference in age equivalent (AE) bands between the 2 aspects of language to be measured (information and grammar) is considered to be an indication of atypical language development. A difference between the two aspects of two age bands or more is considered *significant*. To facilitate comparisons with national averages for expressive language, UK norm-referenced data, for learners aged 4 are provided below:

| Expressive language | Above average | Within normal limits | Mild delay | Moderate delay | Severe delay |
|---------------------|---------------|----------------------|------------|----------------|--------------|
| Norms | 16% | 68% | 9% | 5% | <2% |

(Source: Boucher & Lewis, *Pre-School Language Scales – 3 [UK]*, 1997)

Table 5.2 UK Norms for Expressive Language

Children achieving scores that are *within normal limits* include those with scores for the age band either side of their chronological age band. In other words, a child would need to score 12 or more months below age equivalent to be assessed as having mild expressive language delay. Likewise, a score of 12 months or more above age equivalent would be needed in order to assess a child as having mildly advanced expressive language. It is important to note that any use within these research findings of the terms *language delay*, *atypical* or *normal language development* relates to the pupils' **expressive** language. Children's receptive language skills have not been assessed within this research for the reasons outlined in Chapter 4 (section 4.2).

The criteria whereby children are included or excluded in each data set are described in Chapter 3 (section 3.4). Eligibility for free school meals (FSM) varies according to the circumstances of the family over the year. Where children were eligible at the beginning of the academic year in question, this status is maintained across the year for the purposes of the data analysis.

To assist the reader in assessing the quality of the data provided and drawn on in each report, the raw data for each case study are presented in *Appendices M, N and O*. Relevant extracts of numerical data are provided within each of the reports to illustrate the findings. Learners have

been randomly anonymised (as described in Chapter 4 (section 4.3) and have the following labels to assist the reader in identifying them (anonymously) within the raw data:

Control Group CM (male) or CF (female) plus randomised number *e.g.* CF7

Pilot Group PM (male) or PF (female) plus randomised number *e.g.* PM7

Main Study Group SM (male) or SF (female) plus randomised number *e.g.* SF7

Abbreviations used in the case studies are listed below in Table 5.3 and are refreshed in the text on each page as they arise:

| | | | |
|-------------|-------------------------------|-----------------|--------------------------------------|
| AE | Age equivalent | LA | Local authority |
| APS | Average point score | MOD | Moderate |
| B | Boys | RAPT | Renfrew Action Picture Test |
| CA | Chronological age | SB | Summer born |
| ELGs | Early Learning Goals | SD (n-1) | Standard deviation (unbiased) |
| FS | Foundation Stage | SL | Speech and language |
| FSM | Free school meals | SLT | Speech and language therapist |
| G | Girls | Y1 | Year 1 |
| GRAM | Grammar | Y2 | Year 2 |
| INFO | Information | YN | Nursery class |
| KS1 | Key Stage 1 | YR | Reception class |
| L | Level (<i>e.g.</i> L2) | WNL | Within normal limits |

Table 5.3 **Abbreviations in the Case Study Reports**

5.3 Report for Case Study 1 – the exploratory study of the control group 2002-2003

This case study reveals the problems facing the Y1 learners in the school whose language skills are not developing normally or in line with their chronological age. The purpose of this *exploratory* case study was to investigate and subsequently demonstrate the extent, scope and nature of the problem being explored.

5.3.1 Background data

- *Period and design of study*

March to July 2003. See 3.4.1 for research design outline.

- *Profile*

Learners eligible for inclusion in the data set: 24 (G=14:B=10)

Free School Meals: 54% (G=10:B=3; n=13)

Summer-born learners: 21% (G=3:B=2; n=5)

- *History of the cohort*

Baseline figures on entry to Reception class (September 2001) show that the class was fairly typical within the school and learners were not considered to be significantly more or less able on entry as a cohort than others across the school; they scored slightly higher than the previous two Reception cohorts, as shown in Table 5.4:

(Source: *School Data, 2001; LA Data, 2001*)

| | No. Pupils | Average Score | LA Average score | No. Girls | Average Score | LA Average score | No. Boys | Average Score | LA Average score |
|------|------------|---------------|------------------|-----------|---------------|------------------|----------|---------------|------------------|
| 2001 | 30 | 18.6 | 19.5 | 17 | 19.9 | 20.4 | 13 | 17.3 | 18.5 |
| 2000 | 29 | 18.4 | 19.6 | 12 | 19.1 | 20.5 | 17 | 17.7 | 18.8 |
| 1999 | 31 | 17.7 | 18.9 | 17 | 18.7 | 19.9 | 14 | 16.7 | 17.9 |

Table 5.4 Comparative Baseline Scores for Cohorts 1999 - 2001

This cohort benefited from the school's standard speech and language (SL) group-based interventions throughout their Nursery and Reception classes (see section 1.4) but many learners achieved poorer than average scores in their end of FS language screening; this had been a common pattern for classes entering Y1 since screening had begun (1999). The *NLS* was used in the spring and summer terms of Reception. The class had two teachers during YR and two job-share teachers in the autumn term of Y1. One of the job share teachers remained with the class full-time for the spring and summer terms.

5.3.2 'No progress'

'We need to set targets for the end of KS1 for your class; how are they doing?'

Headteacher

'I don't know what's going on, they just don't seem to be making any progress.'

Class Teacher

The time had come to set the end of KS targets for the Y1 class. During the previous two years, the class teacher had been observed by a number of educational professionals, including Ofsted inspectors, local authority staff, senior management within the school and HMI; every lesson had been graded as at least *good*. Planning was carefully linked with the *NLS* and there was clear differentiation identified in the activities. Plenaries focused on assessment and next steps.

Assessment data revealed almost no progress in literacy for almost every child in the class since leaving Reception. 11% of the whole class were thought to be on track to achieve level 2+ at the end of Year 2 in writing with 25% on track in reading. The LA averages for KS1 results in 2003 were 81% L2+ in writing and 84% L2+ in reading.

The teacher reported that there was a poor attitude to learning and that teaching and learning across the whole curriculum was problematic. She described as '*hard work*' any attempt to enthuse children to '*have a go*' and try at something they might not succeed in. She felt that children's ability to understand and use language was '*getting in the way of almost everything I try and do*'. The children were considered to be '*unhappy learners*'. Both assertions confirmed what had been seen during a lesson observation where **a number of learners could not successfully re-tell a simple, familiar story orally during the input session of the lesson and were therefore not able to carry out the independent sequencing task nor to compare the written and oral versions**; the story had been a key text for two weeks in literacy. Standards of reading heard were poor. Despite the story being a well-known one, children found it difficult to predict what might happen next when asked.

This observation identified that pupils did not appear to make adequate progress during the literacy lesson and nor did many of them appear to enjoy it. A negative attitude was tangible, with many distressed children witnessed throughout the lesson unable to access the learning and there was widespread poor attention. 4 learners were actively engaged throughout the lesson and made good progress.

5.3.3 *'I'm thick'*

| | |
|--|-----------------|
| <i>'I hate literacy... because it's boring and I don't like it.'</i> | CF7 |
| <i>'I'm no good at it...it's too hard'.</i> | CM15 |
| <i>'I can't read ... I'm useless at it.'</i> | CF22 |
| <i>'Writing is hard for me ... I can't really write proper words.'</i> | CM5 |
| <i>'I'm thick.'</i> | CF3; CF10; CM17 |

Individual interviews conducted through open-ended discussion with 12 volunteer pupils revealed that many of them had very poor self-esteem about themselves as learners of literacy. Only 2 of the 12 volunteers (CM6, CF14) appeared to view literacy lessons as a positive experience and used words which expressed enjoyment (it was *'funny'*) and engagement (*'loved it'*). When asked if they were good at literacy they replied respectively *'yes, I think so'* and *'most of the time'*. Further, the remaining 10 children were not able to identify other areas of school life that they were more successful in, apart from football (3 boys) and dancing (2 girls). The lack of self-esteem appeared to be generic to their whole identity as learners in the school environment. **I had a clear sense that these children, by the age of six, viewed themselves as failing in one of the most important areas of the primary curriculum.**

This set of interviews confirmed the impressions which had formed during the observations and also reflected the views of the adults involved with the class. Many of the children found it difficult to express their opinions and appeared to struggle in particular with the task of *explaining* their views. This may have stemmed from anxiety caused by the situation but my view was that they had difficulty with the vocabulary that was required. I noticed some difficulties with sentence structures and grammatical features, further fuelling the possibility that language delay was a limiting factor.

The SLT suggested looking at the end of Reception language screening data for the class in detail and this revealed some evidence (see 5.3.4) for the proposition that language delay was an essential part of the problem. Work began on developing a 10 week intervention programme to improve standards of speech and language. Programme development as it evolved is described through the case study reports.

5.3.4 *Language screening data – overall progress of the cohort*

This section shows the progress for the whole cohort from the end of YR screening to the end of Y1 screening.

Appendix M shows the total raw data for this cohort from the *Renfrew Action Picture Test (RAPT)* screening. The results provide an indication of the possible language difficulties being experienced by the learners. The cohort was tested at both points (*i.e.*, end of YR and end of Y1 after the 10 week intervention programme) by the school's attached SLT who was not well known to the learners; this may have resulted in some false positives and false negatives in the results. The SLT used prompting where full answers were not given initially, in accordance with the instructions provided in the screening pack. When considering percentages, it is important to note the small number of children referred to, especially in gender breakdowns.

Table 5.5 shows the comparative averages for children's chronological age (CA), language screening test scores and the relative age equivalent bands at the end of YR and Y1 for this group:

| Averages | | | | | |
|---|-----------------------|-----------------------|---------------------|-----------------------|---------------------|
| | Average CA | Info score | Info age | Gram score | Gram age |
| Prior to intervention YR July 2002 | | | | | |
| Average (mean) | 5.0-5.5 | 31 | 5.6-5.11 | 21 | 4.6-4.11 |
| Post intervention Y1 July 2003 | | | | | |
| Average (mean) | 6.0-6.5 | 33 | 6.0-6.5 | 25 | 6.0-6.5 |
| | | | | | |
| Range | | | | | |
| | Average CA | Info Score | Info age | Gram score | Gram age |
| Prior to intervention YR July 2002 | | | | | |
| Min | 4.6-4.11 | 24 | 3.6-3.11 | 16 | 3.6-3.11 |
| Max | 5.6-5.11 | 36 | 7.6-8.5 | 30 | 7.6-8.5 |
| Post intervention Y1 July 2003 | | | | | |
| Min | 5.6-5.11 | 29 | 3.6-3.11 | 20 | 4.0-4.5 |
| Max | 6.6-6.11 | 37 | >8.5 | 31 | >8.5 |
| | | | | | |
| Standard deviation | | | | | |
| SD (n-1) | | Info score | | Gram score | |
| Prior to intervention YR July 2002 | | 3.05 | | 3.12 | |
| Post intervention Y1 July 2003 | | 2.41 | | 3.51 | |
| | | | | | |

Table 5.5 Averages at End of YR and Y1 for Control Group 2002-2003

The cohort appears, on average, to be achieving broadly in line with the age equivalent (AE) for information and grammar aspects of language development. Raw data (*Appendix M*) show that this is fairly consistent for groups, such as boys, girls, summer-born children and children who are eligible for FSM. The age equivalent averages are derived from the total points scored within the cohort. Progress in scores between the two points of testing appears to be broadly in line with expectations, although the age equivalent range spans over 4 years at each reported measurement and standard deviations in grammar have increased. Despite this relatively positive initial analysis, when the data are considered for individual learners and analysed as percentages of the whole cohort, the picture is quite different. Figure 5.A is a literal interpretation of above, level and below age equivalent based on actual scores and reveals possibly the true extent of the problem:

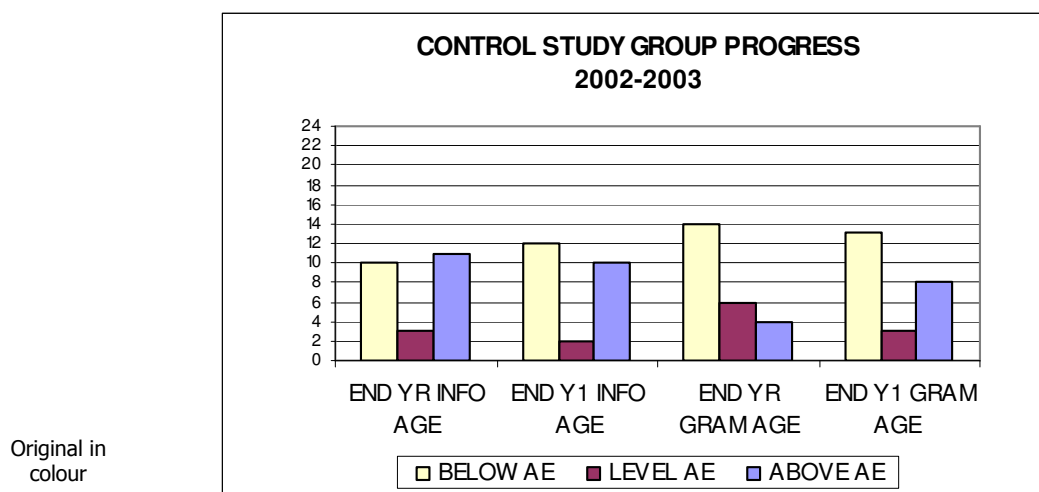


Figure 5.A Control Group Progress 2002-2003

Analysed like this, 10 (42%) of the cohort scored **below** their age equivalent (AE) at the end of YR for the information (vocabulary) element of their expressive language which increased to 12 (50%) below AE by the end of Y1. This compares with 14 (58%) below AE for grammar, decreasing slightly to 13 (54%) by the end of Y1.

The SLT team accounts for a delay (or acceleration) of 1 age band as still *within normal limits* (WNL). Using these parameters, the picture improves. However, as Figure 5.B shows, almost twice as many children are experiencing delay in information compared with the national norms (<16%) while more than twice as many are experiencing delay in grammar using the same comparison:

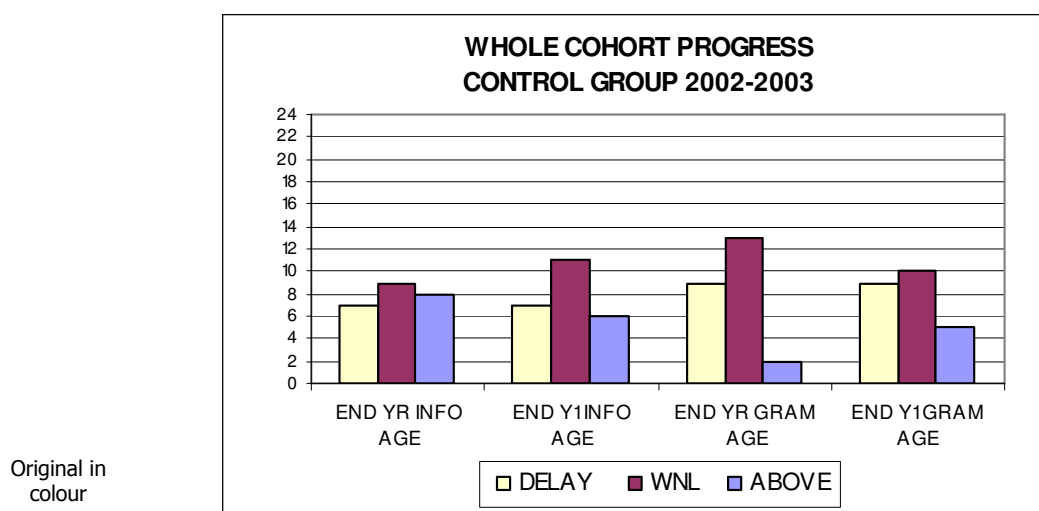


Figure 5.B **Whole Cohort Progress Control Group 2002-2003**

By the end of Year 1 (and after delivery of the 10 week programme focused on SL development), 7 (30%) learners had language delay in information scores and 9 (37.5%) had language delay in grammar scores - the same as they had scored at the end of YR. **This *may* be an indication that, without effective intervention, children who have entered Y1 with language delay have failed to catch up as has been shown in previous studies in Reception classes** (Riley *et al.*, 2004; Locke & Ginsborg, 2003). Data from observations show that this *may* result from the curriculum in place at the time (see 5.3.2 and 5.3.3). Of course, falling further behind may be dependent on the *level* of language delay on entry to Y1, which is explored in section 5.3.8. These issues and questions need to be examined further in the next two studies.

5.3.5 Gender differences in progress

This section looks at the relative progress of boys and girls across the year. Looking at Figures 5.C and 5.D, it would appear possible that boys in this class fall further behind if they are already subject to some language delay (even if scores are *within normal limits*). Boys with information score delay rose from 2 (20%) through the year to 3 (30%) and those with grammar delay remained at 4 (40%) to the end of Year 1. The percentage of boys who had information scores above normal limits at the end of YR slipped in Year 1 by 1 (10%) while in grammar it increased by 1 (10%). It is possible that the impact of being tested by a stranger may have influenced these results. Consideration was given to this factor in the next two studies and action taken to minimise its impact.

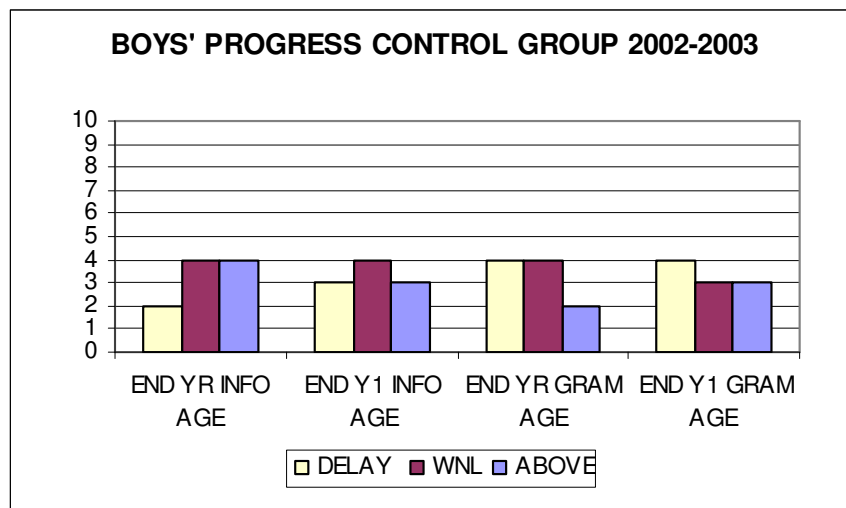
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Figure 5.C Boys' Progress Control Group 2002-2003

Girls with information delay appear to make slightly better progress than boys in general terms with scores improving through the year to 4 girls (29%) with delay from 5 (36%), while those with grammar delay remained constant at 5 (36%). However, as Figure 5.D shows, the top end of the scale showed a decline – fewer girls had above average information scores by the second test. This is contrasted by the improvement of 2 girls' (14%) above average grammar scores.

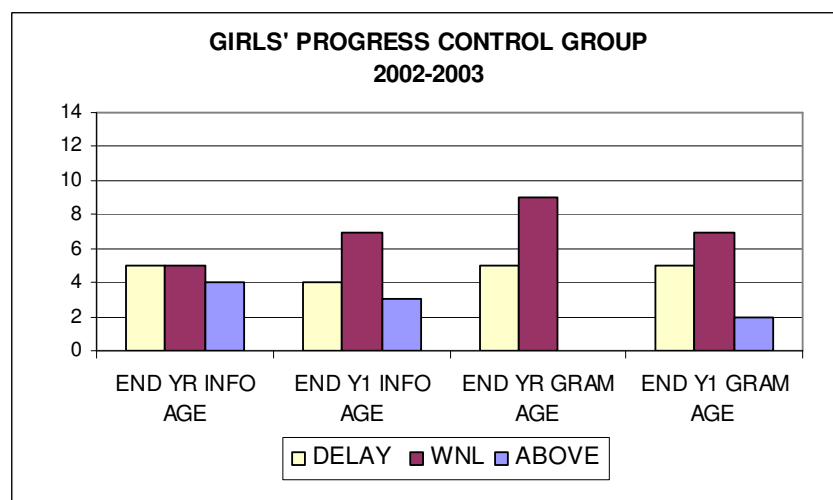
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Figure 5.D Girls' Progress Control Group 2002-2003

In the year between testing points, 8 girls (57%) and 4 boys (40%) made at least 12 months progress in information scores, totalling 50% of the cohort. 9 girls (64%) and 6 boys (60%) made at least 12 months progress in grammar scores, totalling 62% of the cohort. **Only 5 girls (36%) and 4 boys (40%) made at least 12 months progress in both information and grammar scores – just 37.5% of the cohort.**

Of these 9 children who made 12 months progress in both scores, 5 had ended YR within normal limits, 2 had scored as only mildly delayed in one aspect and 2 had been moderately delayed in information but severely delayed in grammar (and both ended Y1 as moderately delayed in both aspects.)

5.3.6 Extent of language delay

At this point, it is important to assess the progress made by children who are already subject to language delay so that this can be compared with the progress made by the class as a whole. *Language delay* encompasses wide differences in seriousness across mild, moderate, severe and, in some cases, profound delay. Looking at the distribution of delayed scores may clarify the impact on the learners of entering Y1 with already delayed language. Figure 5.E provides an interesting overview of this for the whole class:

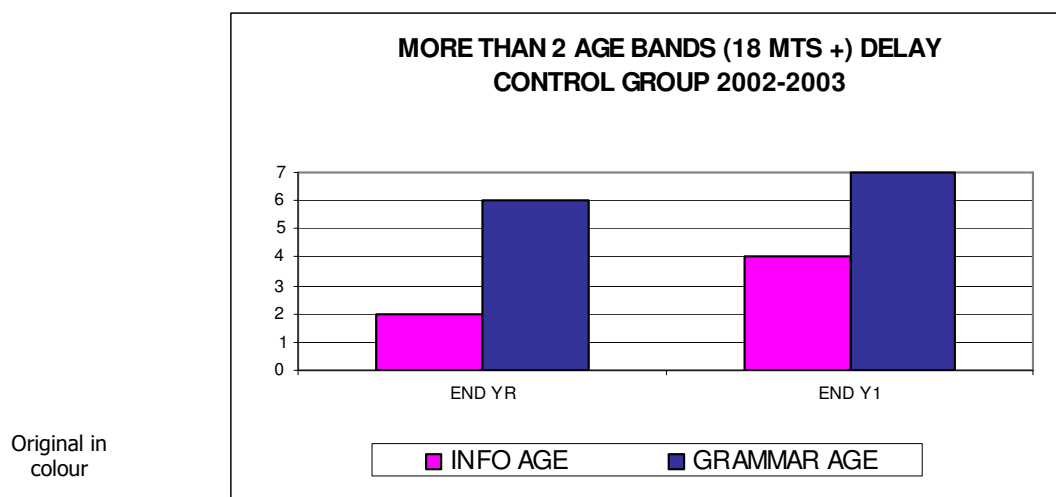


Figure 5.E *Learners with At Least Moderate Delay Control Group 2002-2003*

Of the 24 learners, 2 (8%) had more than 2 age bands delay in their information age and thus were at least moderately delayed while 6 (25%) had more than 2 age bands delay in grammar at the end of YR. By the end of Y1, this had increased to 4 (17%) learners with delay in information and 7 (29%) in grammar; the UK norm for children with moderate to severe delay (at age 4) is less than 7% (Boucher & Lewis, 1997).

Having identified the increases in moderate delay for this cohort, we need to look at how this language delay impacts on boys and girls to assess whether one gender group fares better if they enter Y1 with language delay.

The number of boys with moderate delay in information and grammar scores increased across the year. Again, notwithstanding the small sample size and possible impact of false negatives/positives

resulting from the unknown SLT screening the learners, it appears that boys in the class are prone to slipping further behind if their language is not within normal limits on entering Y1. This warrants investigation in the following studies. Figure 5.F illustrates the spread of delay for boys with language delay:

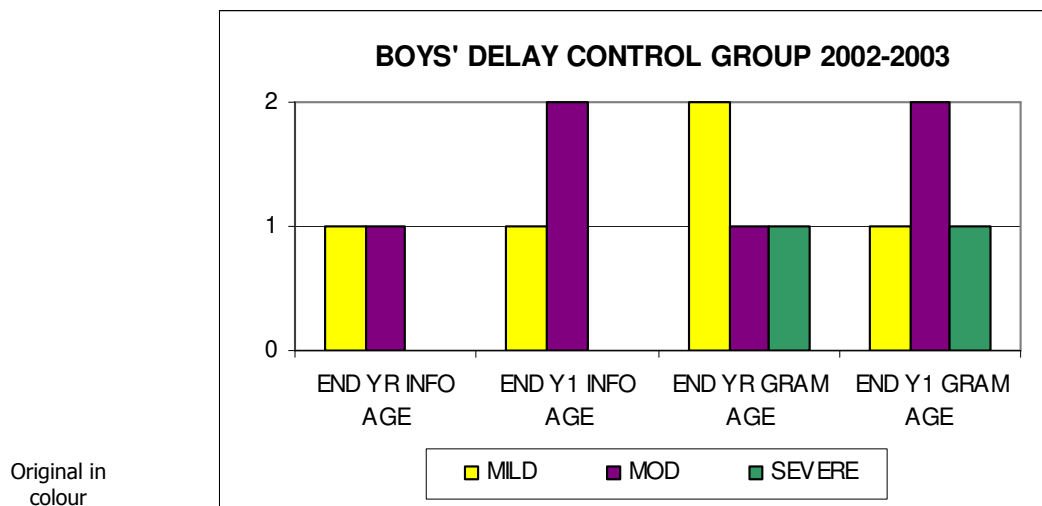


Figure 5.F *Distribution of Boys' Delay Control Group 2002-2003*

The distribution of delayed scores appears to have worsened through the year with 1 more boy now moderately delayed in information scores (CM5) and grammar scores (CM15) by the end of Y1. This seems to add further weight to the proposition that children (and boys in particular) have slipped further behind in Y1, although numbers are small. Table 5.6 identifies key movement within the group of boys with declining scores:

| Boy | Information YR to Y1 | Grammar YR to Y1 |
|-------------|---------------------------|--------------------|
| CM5 | MILD to MODERATE | MODERATE to SEVERE |
| CM8 | WNL (+1 band) to WNL (AE) | WNL (AE) to MILD |
| CM15 | WNL (-1 band) to MILD | MILD to MODERATE |
| CM18 | MODERATE to MODERATE | SEVERE to MODERATE |

Table 5.6 *Specific Boys' Delay Control Group 2002-2003*

The same increase in moderate delay was mirrored in the girls' results. However, the results for girls with delay in this class (Figure 5.G) revealed a more worrying pattern, suggesting that concern may not be limited to the progress of boys, as discussed below:

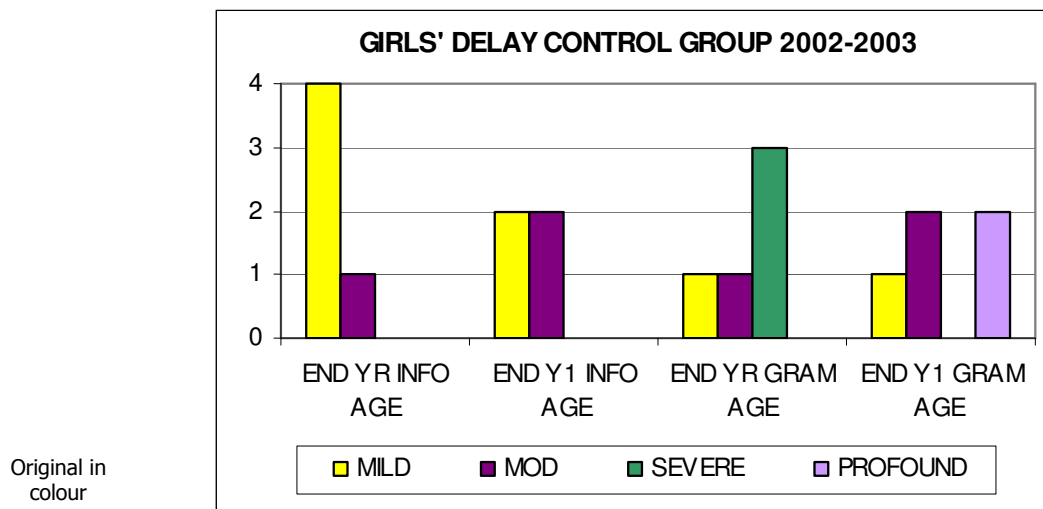


Figure 5.G *Distribution of Girls' Delay Control Group 2002-2003*

These data show a decrease in standards for the girls in this particular cohort. The Y1 *delayed* information results are reduced by one girl (CF16), who moved from being mildly delayed in her information score to scoring within normal limits. The number of girls with previously mild delay in information scores dropped from 4 to 2, with 1 girl worsening to moderate delay. The snapshot of grammar scores provides more troubling data. While 1 severely grammar-delayed girl improved to moderately delayed, **the other 2 girls worsened to profound delay**, despite referrals to the SLT service. The key movements in girls' declining scores are detailed in Table 5.7:

| Girl | Information YR to Y1 | Grammar YR to Y1 |
|------|-----------------------|------------------------|
| CF2 | WNL (-1 band) to MILD | WNL (-1 band) to ABOVE |
| CF3 | MILD to WNL (-1 band) | SEVERE to PROFOUND |
| CF4 | ABOVE to ABOVE | WNL (AE) to MILD |
| CF7 | MODERATE to MODERATE | SEVERE to MODERATE |
| CF11 | MILD to MODERATE | MODERATE to MODERATE |
| CF24 | MILD to MILD | SEVERE to PROFOUND |

Table 5.7 *Specific Girls' Delay Control Group 2002-2003*

Thus, we see that entering Y1 with at least moderate language delay can impact on either gender group and regression was not, in this study, restricted to the boys.

5.3.7 *Normal and atypical development*

These results show the numbers of learners who have not managed to achieve *normal* language development and are still impeded by atypical language. A gap between learners' information scores and their grammar scores demonstrates an atypical pattern of language development (see section 1.4 and section 5.1); at the end of Year 1, 9 learners (38%) of the cohort had a *significant* difference (2 age bands or more between the two aspects), with 3 children (12.5%) having a gap of more than 2 years between their scores. Further, the 2 learners (8%) with profound delay in grammar scores also had a significant gap between their grammar and information scores, meaning their language may have been profoundly delayed with the additional complication of an abnormal pattern of development. Figure 5.H shows that the percentage of learners with *normal* language development (that is, having both scores within normal limits [or above] and no more than one age band difference between their information and grammar scores) improved through the year from only 6 (25%) of the whole cohort at the end of YR to 10 (42%) by the end of Y1, comprising 5 (50%) of the boys (from 3 or 30%) and 5 (36%) of the girls (from 3 or 21%).

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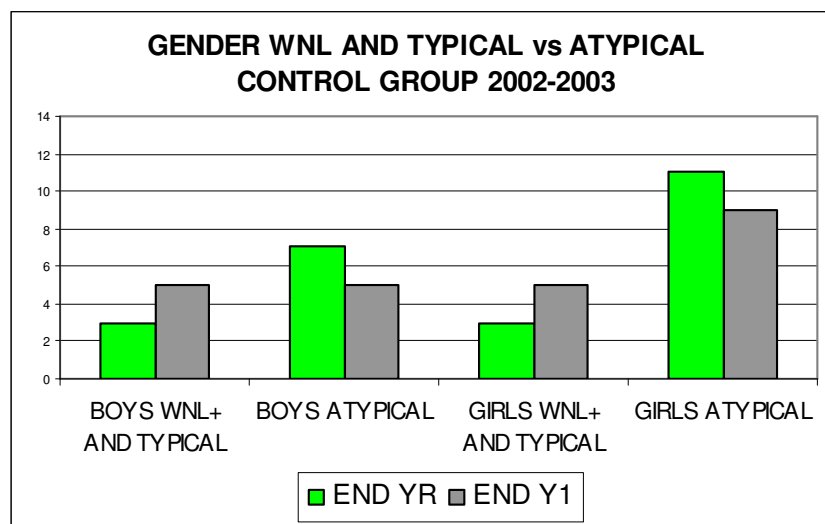


Figure 5.H *Gender/Normal vs Atypical Control Group 2002-2003*

3 (12.5%) learners scored **more than** two age bands above age equivalent (moderately above average) in both information and grammar aspects at the end of Y1, while a further 2 learners (8%) scored more than 2 age bands above AE in one aspect. **This means 58% of the class were leaving Y1 with atypical language development using the snapshot provided by the screening.** An interesting observation is that of the 10 children who ended Y1 with *normal* language development, 7 had scored *within normal limits* or above in both information and grammar scores at the end of YR (although there was sometimes more than 1 band between the scores) and the remaining 3 had scored as only mildly delayed in only one aspect at the end of YR. **This again shows that children with adequate language skills can catch up but those**

with poorer skills have continued to fall behind through Y1, or become even more delayed in many cases. The SLT confirmed from the screening data that only 42% of the cohort was leaving Y1 demonstrating *normal* language development. In the interview following the end Y1 screening, she directed me to her report which stated that:

'Although 70% of the cohort appears to be scoring within or above normal limits in information and 62.5% in grammar, there's a group whose information and grammar scores have a gap between them of more than one age band which is a significant concern. All these children form a sub-clinical group - and are not a priority for SL services - because although they may have scores within normal limits for their age, this gap will impact on them and their learning. The sub-clinical group make up over half the class and there are serious implications for the curriculum if we are to give them a better chance.'

5.3.8 Impact of language delay

The SLT identified 4 main implications for the class and the curriculum:

1. With the high incidence of pupils with language delay, there may not be sufficient children to act as the more competent speaker (Vygotsky, 1978) which therefore needs to be creatively facilitated through adult support.
2. Levels of frustration and potential for poor behaviour had been noted during the Y1 lesson observations. Teaching staff cited this as a worsening problem as the year had gone on. Staff training was needed to develop skills in recognising language difficulties, in understanding the impact of such difficulties and in using appropriate strategies to support these children to become successful communicators.
3. Differentiation of learning objectives needed to be better defined; she suggested considering devising an alternative form of curriculum delivery which might make learning objectives more accessible to more children.
4. A review of reading material was needed. Many learners were experiencing grammar delay and yet, in many of our scheme reading books, the first words are the grammar words (verb tenses and prepositions in particular), meaning that children are expected to read words which are not yet established in their spontaneous speech. Their writing is also affected by this difficulty.

5.3.9 Changing the YR and Y1 curriculum

In this section, I will outline how an observation in the YR class led to a significant change in the delivery of the Y1 curriculum, following the advice given by the SLT to consider devising alternative forms of delivery.

'Learning for young children is a rewarding and enjoyable experience in which they explore, investigate, discover, create, practise, rehearse, repeat, revise and consolidate their developing knowledge, skills, understanding and attitudes. During the Foundation Stage, many of these aspects of learning are brought together effectively through playing and talking' (DfEE, 2000, p.20).

Conflicting guidance over the nature of the Reception curriculum from different Government departments (DfEE and NLS) had led to confusion at the end of the Foundation Stage, which resulted in the formal *literacy hour* being delivered in Reception class in the spring and summer terms in the 3 years to 2002. This informed practice in Year 1, where the formal hour continued.

However, my third EdD research study (completed in November 2002) concluded that more play opportunities were needed in our Reception class and as a result, the formal hour no longer had a place in the Reception class at all (see *Appendix P*). The recommendation was implemented from the spring and summer terms in 2003. We had been running 20 minute, small-group speech and language sessions in Reception since 2001 and these continued for all children at least once per week. The timetable now was flexible and staff engaged in supporting pupil-initiated activities which enlisted their full attention.

The observation (see section 3.4.1) in the Reception class demonstrated that curriculum delivery had undergone a significant shift of emphasis and with this came significantly different pupil responses. Children now had more opportunities for peer interaction and role play and fewer requirements to record onto paper, although there was a wide variety of papers and writing implements in the *author's office* area of the classroom. Behaviour seen was good and the learners appeared happy and relaxed. There was a small fall-out between two girls who both wanted to use the heart shaped cutter on their pink play-dough pancake – this was swiftly negotiated by the teaching assistant who talked to them about sharing, taking turns and being kind, after which the girls were helped to agree on who would use it first and then passed it from one to the other whispering *'here go'* and *'thank you'*, coyly watching the teaching assistant smiling at them every time this interchange happened. The teacher was actively involved in asking questions of the children who were filling small canisters with sand from a large plastic milk container using words like *'how many'*, *'smaller than'*, *'bigger than'*, *'full'*, *'empty'*, *'what would happen if?' and 'I wonder why...?'*

Children chatted to me freely and were able to tell me what they were doing. The children in the role play area were dressed up in costumes to support the focus text, the story of Goldilocks and the Three Bears. '*Who been eating my porridge*', '*my chair all broked*' and '*don't cry baby bear, I do mend it for you*' were boomed, squeaked and cooed respectively.

This was such a contrast from the lesson seen in Y1 (which had also been representative of lessons seen at the beginning of Y1). Because of the *rising five* tradition, some these YR children were the same age (within a month or two) as some of those seen in the Y1 observation, who had been sitting at desks, listening to the teacher, struggling to read and write and venting their frustration through poor behaviour and tears. Consequently, it was decided to trial a change to the curriculum and abandon the formal *literacy hour* (and *daily maths lesson*) for 10 weeks in Y1, replacing it with a flexible timetable and a Reception approach to curriculum delivery to see whether and how the children's attitudes and self-esteem altered. Other curriculum areas were also reconsidered to allow for more creativity. Rather than teaching fixed lessons, activities were set up to allow learners to explore and investigate within an integrated, cross-curricular approach. Classroom resources and layout needed to be shared between YR and Y1 and staff needed to work together to facilitate the new approach effectively. The Foundation Stage outdoor area was now available to Y1 learners as well.

5.3.10 *The intervention programme*

Throughout the life of the research, the intervention underwent several episodes of metamorphosis (see Case Study 3); its early stages are briefly described here. Alongside the changed curriculum delivery, 3 teacher-led twenty minute sessions were introduced each week to encourage peer dialogue as a whole class approach. In addition, the teaching assistant was trained by the Reception teaching assistant to deliver small-group sessions to support extending children's opportunities to use language. The intervention was largely unframed and was set up simply with the purpose of getting the children talking. It was not clear at this stage how the sessions would run but to start with they were focussed on the children's news and opinions. There was initially a *show and tell* type of approach and this was later heavily refined during Case Study 2 to afford opportunities for more talk by more children (see *Appendix H* and *Appendix Q*). After one month, the SLT observed the class and felt that the changes were already impacting on speech and language and would continue to do so, although there was no recorded evidence of this. The class teaching assistant re-screened the class. However, this was not of great value to this case since the children should have been screened just before the intervention if we were using this to measure progress in the short term. Nevertheless, the screening gave vital data for comparison in

Case Study 2 and 3. The SLT advised an increase in modelled peer interaction within the twenty minute sessions to ensure children were talking as much as listening and that it was not always the teacher (or adult) they were listening to. She recommended that learners be introduced to *MAKATON*® signs and symbols. Other recommendations from the SLT, school staff and myself are listed at 5.3.12.

5.3.11 *Reflections*

Locke and Ginsborg (2003, p.78) reported their fear that '*the long-term effects of delayed language [in the early years] may be failure to access the school curriculum in subsequent years*'. They suggest this needs further testing. The findings of this case study add evidence to support their proposition; the progress of this cohort up to Year 5 is discussed in Case Study 3 and Chapter 6. The numerical data in this study suggest that children (from this cohort) entering Y1 with language delay fall further behind or fail to catch up; this applies to boys and to girls although national evidence shows that boys are more at risk (Resnick & Goldfield, 1992; Halpern, 1992; Locke & Ginsborg, 2003). Children whose language skills are already within normal limits seem to have a much better chance of making good progress in terms of their test scores.

My emerging theory at this point is that the provision of focused language intervention throughout Y1 for all learners, may lead to an improvement in children's speech and language scores; that using a FS approach to deliver the curriculum throughout the whole of the YR and Y1 will result in happier, and therefore more successful, learners; that children who have language skills outside of *normal limits* at the end of Reception will have a better chance of catching up than their peers from the previous cohort as a result of the implementation of the FS approach and language intervention throughout Y1; that children taught with the proposed methods will go on to achieve higher levels of attainment at the end of KS1 in literacy.

5.3.12 *Recommendations for developing the intervention*

On the basis of the findings of Case Study 1, outlined above, I came to the following conclusions:

- The programme needs to consider the needs of the class but it should not be a *stand alone* – therefore, the changes to the whole curriculum delivery should continue and be refined and include use of MAKATON® signs and symbols;
- A transition policy should be drawn up to formalise the new ways of working and to keep everyone informed, especially parents and carers as well as the children, who often fear leaving Reception (Sharp *et al.*, 2005);

- Visual materials should be used alongside the twenty minute sessions, now called *talking time*, to support children's engagement with the *talk* and to move it away from a *show and tell* approach
- Additional support for the children with the poorest language should be provided in small-group work; peers or adults in these groups should act as the *more experienced communicator*;
- Reading materials should be revised to provide a wealth of picture books; the collection of books should not consist only of those where grammar words are the central feature.

5.3.13 *Recommendations for the following case studies*

At this point, I decided that the next case study should look at the link between the new way of working and pupil progress in speech and language scores, as well as noting any milestones in the development of the programme, in order to answer the following questions:

- Is there an identifiable impact on speech and language scores as a result of the intervention and the revised approach to curriculum delivery?
- If there is an impact, to what extent are the scores improved?
- Do children, and especially boys, with scores outside of WNL at the end of Reception appear to catch up on language scores with the intervention programme and revised curriculum in place?
- How does changing the curriculum impact on children's attitudes to learning and sense of their own learning competence?

5.3.14 *Post script – KS1 results*

An important part of the research question requires looking at the link between the intervention and later literacy success. Thus, KS1 results for this cohort are included here. These results can be viewed as a control, in that they are very similar to the previous year's results and in that this group only had a 10 week intervention. They achieved an identical average point score (APS) to the previous class. Table 5.8 shows the end of KS1 results and APS for this cohort, including learners who had not been included in the data set (see section 3.4), any new children and those from the control data set; results are compared with local authority (LA) averages:

| 2004 | Reading | Writing | Maths | Total APS |
|--------------------|---------|---------|-------|-----------|
| School result L2+ | 50 | 37 | 60 | 10.8 |
| LA results L2+ | 83 | 79 | 91 | 15.6 |
| School result L2B+ | 30 | 17 | 30 | |
| LA results L2B+ | 70 | 58 | 78 | |
| School result L3 | 13 | 0 | 3 | |
| LA results L3 | 33 | 14 | 31 | |

(Source: School data 2004; LA Data 2004)

Table 5.8 End of KS1 Percentage Results for Case Study 1 Cohort

KS1 results did improve on the predicted results but it is not possible to say whether the 10 week intervention had any impact on this. Future case studies (2 and 3) will need to look for possible correlations. All children from the data set were still at the school for the KS1 tests although 3 new children arrived early in Year 2 and obviously their results are included in the published results. This cohort achieved the same poor APS (10.8) as the previous class (see section 1.4).

5.3.15 Summary of Case Study 1

This case study has shown that children with adequate language skills on entry to Y1 have been able catch up but those with poorer skills have continued to fall behind. It has shown how the curriculum in place was inappropriate to the needs of very many learners and that **consequently it had impeded their ability to make progress in literacy.** It has demonstrated that a revised curriculum with regular, dedicated time spent on speech and language skills has the potential to improve children's chances of success in Y1. At this stage, I needed to devise a second case study which measured the impact on language scores of the new methods of teaching across a school year in order to assess whether my emerging theory had any basis. Case Study 2 was undertaken in response to this.

5.4 Report for Case Study 2 – the explanatory study of the pilot group 2003-2004

In this *explanatory* case study I wanted to investigate the questions raised at the end of Case Study 1, *i.e.*, whether implementing the intervention alongside a less formal curriculum appears to improve SL screening scores, pupil progress in literacy and the learners' attitudes to literacy and to learning itself. So, Case Study 2 seeks to answer the **if** and **to what extent** elements of the research question and some of the **what** element by explaining the correlation between explicit speech and language provision and improved speech and language scores, with particular emphasis on the progress of learners who enter Y1 with language delay and are at risk of not catching up (Locke & Ginsborg, 2003). Case Study 2 identifies opportunities to further develop the

framework of the intervention, which is refined again during Case Study 3. The report briefly describes the real-life context in which the intervention occurred (Yin, 1994).

5.4.1 Background data

- *Period and design of study*

July 2003 to July 2004. See 3.4.2 for research design outline.

- *Profile*

Learners eligible for inclusion in the data set: 24 (G=12:B=12)

Free School Meals: 62.5% (G=7:B=8; n=15)

Summer-born learners: 33% (G=3:B=5; n=8)

- *History of the cohort*

Baseline figures are not available for the pilot group due to the national introduction of the *Foundation Stage Profile* which assesses learners at the end of YR; therefore it is not possible to make direct comparisons between the control and pilot groups. Teachers identified that the class was similar to previous YR classes in terms of level of skill, knowledge and understanding on entry. Table 5.9 shows the average scale points achieved for the literacy strand of the *Foundation Stage Profile*, compared with LA averages. Interestingly, boys achieved better scores than girls. The maximum number of average scale points a child can achieve is 9.

| | School averages Communication, Language & Literacy | | | Local authority averages Communication, Language & Literacy | | |
|----|---|------|-------|--|------|-------|
| | Average | Boys | Girls | Average | Boys | Girls |
| | 5.5 | 5.7 | 5.3 | 6.2 | 5.9 | 6.6 |
| 29 | No. of pupils | 12 | 17 | | | |

(School Data, 2003: LA Data 2003)

Table 5.9 FS Profile Average Scale Points 2002-2003

Children scoring between 4 and 6 scale points are deemed as working within and above the Early Learning Goals (ELGs), whereas those with 6 to 8 scale points are working securely within the ELGs. Children at 8+ points are working at L1c or above.

This pilot group had benefited from the school's standard speech and language (SL) group-based interventions throughout their YN and YR classes (see sections 1.4 and 3.4.1). The *NLS* was **not** delivered in the spring and summer terms of Reception on the basis of recommendations made within my previous EdD research project (see *Appendix P*). The class had a temporary teacher during the autumn term of their Reception year followed by a newly-appointed, permanent teacher

for the spring and summer terms. This teacher implemented the revised approach to Reception teaching which included a more interactive curriculum as detailed in section 5.3.9 above. In order to fully implement this new approach into Y1, this same teacher moved up to KS1 with the class. Due to unforeseen circumstances (see Part 2), the intervention programme was not delivered for some of the spring term but was re-instated before the start of the summer term although the revised approach to curriculum delivery *was* applied throughout the year.

5.4.2 Impact of the new curriculum and intervention

This section seeks to investigate whether there is an identifiable impact on SL scores as a result of the intervention and the revised approach to curriculum delivery. *Appendix N* shows the total raw data for this cohort from the language screening. The cohort was screened at the end of YR and the end of Y1 by the class teaching assistant; this was to minimise the chances of false positives and false negatives in the results arising from the children's unfamiliarity with the person carrying out the screening. When considering percentages, it is important to note the small number of children referred to, especially in gender and age breakdowns. Table 5.10 simply shows the comparative averages for children's chronological age (CA), language screening scores and the relative age equivalent bands at the end of Reception and Y1 for this group. These are then analysed within the context of the cohort and the impact of the changes made to YR is examined, followed by the impact of the changes in Y1.

| Averages | | | | | |
|---|-----------------------|-----------------------|---------------------|-----------------------|---------------------|
| | Average CA | Info score | Info age | Gram score | Gram age |
| Prior to intervention YR July 2003 | | | | | |
| Average (mean) | 5.0-5.5 | 28 | 4.0-4.5 | 20 | 4.0-4.5 |
| Post intervention Y1 July 2004 | | | | | |
| Average (mean) | 6.0-6.5 | 33 | 6.0-6.5 | 26 | 6.0-6.5 |
| Range | | | | | |
| | Average CA | Info Score | Info age | Gram score | Gram age |
| Prior to intervention YR July 2003 | | | | | |
| Min | 4.6-4.11 | 24 | 3.6-3.11 | 15 | <3.6 |
| Max | 5.6-5.11 | 35 | 7.0-7.5 | 30 | 7.6-8.5 |
| Post intervention Y1 July 2004 | | | | | |
| Min | 5.6-5.11 | 29 | 4.6-4.11 | 21 | 4.6-4.11 |
| Max | 6.6-6.11 | 37 | >8.5 | 34 | >8.5 |
| Standard deviation | | | | | |
| SD (n-1) | | Info score | | Gram score | |
| Prior to intervention YR July 2003 | | 2.52 | | 3.18 | |
| Post intervention Y1 July 2004 | | 1.85 | | 2.87 | |

Table 5.10 Averages at End of YR and Y1 for Pilot Group 2003-2004

- *Impact of the new approach in the Reception year*

The cohort ended YR with worse average SL scores than the previous cohort had done. Scores for YR information and grammar were reduced by 30 percentage points on the control group results. The mean information score was 3 age bands lower while the median and mode were both 1 age band lower; standard deviations were lower by 0.53 in information scores but almost identical in grammar scores and the range minimum was now 1 age band lower. This was a great surprise because I had assumed, under the new approach, they would score more highly than the previous class. These findings were very worrying initially and gave rise to doubts about the new approach. However, some limiting factors were considered:

1. It is possible that their language scores suffered a temporary dip in the change over of teaching methods.
2. Alternatively, the teaching assistant may have had an impact on the results as it was her first time screening the children alone (the SLT was asked to screen the Year 1 class as part of Case Study 1 but did train the assistant). Once the results were calculated and this question was raised, she reported that she had not prompted the children when they gave insubstantial answers although the instruction pack does give clear guidance on how and when it is acceptable to do this. It is possible that as a result of a less formal approach in the class, the children were impeded by a formal test that assumes the children will give full answers (Wells, 1986); further, it is possible that the children were used to being prompted in the normal course of events to give fuller answers through our approach to extending children's utterances and so, when *not* prompted further, assumed their answers were sufficient for what was required and continued in giving brief responses. The control group had been prompted by the SLT where needed and in accordance with the guidelines laid down in the screen pack. Screening at the end of Y1 *did* include prompting children within the guidelines. **Staff training will be a vital aspect of devising further interventions and their implementation.**
3. A third possibility is that the cohort had entered YR with poorer language than the previous class. They *were* screened at the end of YN but some learners had gone to Reception classes in other schools while others had come to us from another (or no other) nursery; as a result we did not hold complete data for the cohort. However, the results we had did not indicate this to be the case. School practice has been refined and children are now screened at the beginning of YR rather than at the end of YN. This was implemented in September 2004 after experiencing the same data deficit at the beginning of Case Study 3.

At this point (which coincided with the end of Case Study 1), there was considerable pressure from some staff in the local authority and from some teachers in the school to revert to teaching the *NLS* in the summer term of Reception. An *Expert Teacher* from the local authority spent time explaining to me '*how much Reception children can achieve with the NLS*' and showed me a few pieces of very high quality written work from another YR class in the authority to try to persuade me. I resisted the pressure and argued that the YR language results made it even more important to develop the Y1 curriculum and the language intervention and to measure the impact of these. My considerable anxiety, however strong my argument, was very real.

- *Impact of the new approach and intervention programme in Y1*

As shown above in Table 5.10, there was considerable improvement in SL screening scores by the end of Y1. **The mean scores for information and grammar had improved by 4 age bands (more than 24 months) in 12 months.** Standard deviations in information and grammar had reduced compared with those shown at the end of YR and those shown at the end of Y1 for the previous cohort.

However, in Case Study 1, the data (when presented in the Table 5.10 format) had given a very superficial analysis of children's language development; although further analysis demonstrated serious language delay for those learners, the table in section 5.3.4, appeared to show satisfactory scores. Thus, caution was applied at this stage and further analysis was essential in order to unpick the results and get to the heart of the impact.

When the data are considered for individual learners and analysed as percentages of the whole cohort, the picture is clearer. Figure 5.I is a literal interpretation of above, level and below age equivalent language skills based on actual scores without allowance for the scores which fall *within normal limits*. This chart makes clear the levels of delay at the end of YR and the subsequent progress:

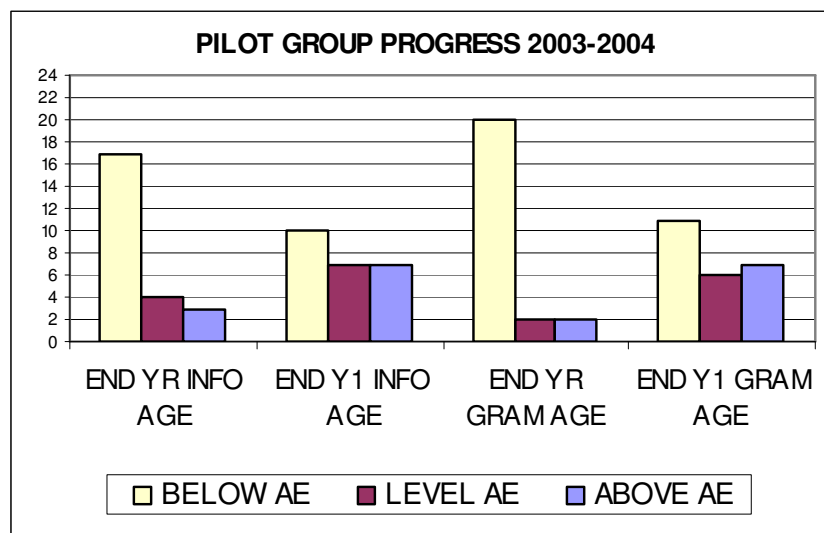
Original in
colour

Figure 5.I *Pilot Group Progress 2003-2004*

To bring the results into line with normal limits and facilitate comparison with the national norms (section 5.2), the parameters for *within normal limits* (WNL) need to be applied. Figure 5.J shows how this affects the overview of the cohort's progress:

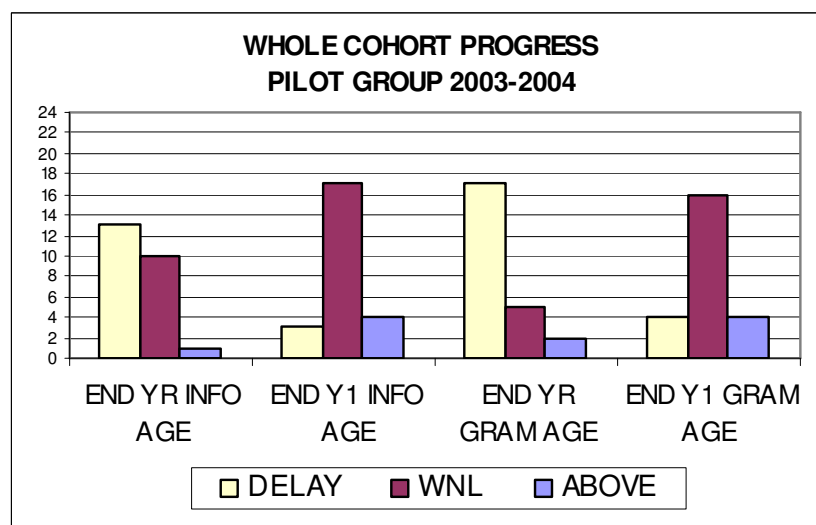
Original in
colour

Figure 5.J *Whole Cohort Progress Pilot Group 2003-2004*

From 13 (55%) learners with information delay at the end of YR, now only 3 (14%) are demonstrating such delay. Similar progress is evident in the grammar scores, which revealed 17 (71%) learners had delay at the end of Reception but this had reduced to 4 (17%) by the end of Y1. Therefore, looking deeper into the data has shown that there does appear to be a considerable impact on standards after the Y1 intervention and revised curriculum.

5.4.3 Levels of progress

This section reports the extent of the improvement in the SL scores for the whole cohort and as gender groups within the cohort. Table 5.11 and 5.12 (below) show the improvement for each child's screening scores between the two points of testing for both aspects of language. **These reveal that *all* children made progress of at least 12 months (2 age bands) in both language aspect scores (information and grammar) within the 12 month period; the progress in scores ranges from 12 months to 30 months for information and from 12 months to 42 months for grammar.** In the previous case study, only 12 (50%) learners had made this level of progress in at least one aspect with only 9 (37.5%) achieving progress of 12 months in both aspects.

Confusion can arise when calculating months' progress using *RAPT* age bands. For example, a child moving 1 band from the band *6.0-6.5* to the band *6.6-6.11* could, in literal terms, have made anywhere between 1 month and 11 months' progress. However, as detailed section 5.2, each band is seen as a unit of measurement which covers a period of 6 months and thus a difference of 1 band equates, on average, to 6 months' progress, while a difference of 3 age band equates, on average, to 18 months' progress. Although the data from the *RAPT* screening are perhaps not as helpful as those tests which provide results accurate to within 1 month, the average months' progress are used consistently to afford comparability. While this has attracted some criticisms, it is accepted as a broadly accurate way of measuring progress and is applied in this way across the speech and language therapy department of the project school's local authority. On the basis of the potential limitation of working in 6-month bands rather than in units of individual months and accepting this limitation in line with the local authority's policy, the mean months' progress in the 12 months between language screens is calculated and shown in the tables overleaf. I have chosen to show the progress in months rather than to show the improvement in scores so as to make this more immediately meaningful to the reader and to the primary school teacher and manager. Raw scores can be found at *Appendix N*.

| Name | YR Info age | Y1 Info age | Progress in months (average) | N/Cohort (% Cohort) |
|---|------------------------|------------------------|---|--------------------------------|
| PM4 | 5.6-5.11 | 6.6-6.11 | 12 | 8/24 (33%) |
| PM9 | 5.0-5.5 | 6.0-6.5 | 12 | |
| PM10 | 4.6-4.11 | 5.6-5.11 | 12 | |
| PM12 | 5.0-5.5 | 6.0-6.5 | 12 | |
| PM13 | 5.6-5.11 | 6.6-6.11 | 12 | |
| PF16 | 4.6-4.11 | 5.6-5.11 | 12 | |
| PF19 | 3.6-3.11 | 4.6-4.11 | 12 | |
| PF5 | 7.0-7.5 | 7.6-8.5 | 12 | |
| PF1 | 4.6-4.11 | 6.0-6.5 | 18 | 8/24 (33%) |
| PF2 | 4.6-4.11 | 6.0-6.5 | 18 | |
| PM3 | 5.0-5.5 | 6.6-6.11 | 18 | |
| PF7 | 3.6-3.11 | 5.0-5.5 | 18 | |
| PF8 | 5.6-5.11 | 7.0-7.5 | 18 | |
| PF11 | 4.6-4.11 | 6.0-6.5 | 18 | |
| PF20 | 4.6-4.11 | 6.0-6.5 | 18 | |
| PM21 | 4.0-4.5 | 5.6-5.11 | 18 | 5/24 (21%) |
| PM6 | 4.0-4.5 | 6.0-6.5 | 24 | |
| PF14 | 3.6-3.11 | 5.6-5.11 | 24 | |
| PM17 | 4.6-4.11 | 6.6-6.11 | 24 | |
| PF18 | 4.0-4.5 | 6.0-6.5 | 24 | |
| PM24 | 3.6-3.11 | 5.6-5.11 | 24 | |
| PM22 | 3.6-3.11 | 6.0-6.5 | 30 | 3/24 (12.5%) |
| PM23 | 3.6-3.11 | 6.6-6.11 | 30 | |
| PF15 | 5.6-5.11 | >8.5 | 30 | |
| Range | | | | |
| Min | 3.6-3.11 | 4.6-4.11 | 12 | |
| Max | 7.0-7.5 | >8.5 | 30 | |
| SD (n-1) | 2.52 | 1.85 | | |
| | | | | |
| Mean Months' difference YR to Y1 | | | 18 | |

Table 5.11 Number of Months Progress (Information) YR to Y1 Pilot Group

Standard deviations reduced in information scores by 0.67 and 16 learners (67%) made progress of more than 12 months throughout the year. The average progress was 18 months.

| Name | YR Info age | Y1 Info age | Progress in months (average) | N/Cohort (% Cohort) |
|---|------------------------|------------------------|---|--------------------------------|
| PM4 | 5.0-5.5 | 6.0-6.5 | 12 | 4/24 (17%) |
| PF5 | 7.6-8.5 | >8.5 | 12 | |
| PF8 | 6.6-6.11 | 7.6-8.5 | 12 | |
| PF14 | <3.6 | 4.6-4.11 | 12 | |
| PM3 | 3.6-3.11 | 5.0-5.5 | 18 | 5/24 (21%) |
| PF7 | 4.0-4.5 | 5.6-5.11 | 18 | |
| PM9 | 4.6-4.11 | 6.0-6.5 | 18 | |
| PM10 | 4.6-4.11 | 6.0-6.5 | 18 | |
| PF19 | 3.6-3.11 | 5.0-5.5 | 18 | |
| PF1 | 4.6-4.11 | 6.6-6.11 | 24 | 11/24 (46%) |
| PF2 | 3.6-3.11 | 5.6-5.11 | 24 | |
| PF11 | 4.0-4.5 | 6.0-6.5 | 24 | |
| PM12 | 4.6-4.11 | 6.6-6.11 | 24 | |
| PM13 | 4.6-4.11 | 6.6-6.11 | 24 | |
| PF16 | 4.0-4.5 | 6.0-6.5 | 24 | |
| PF18 | 4.0-4.5 | 6.0-6.5 | 24 | |
| PF20 | 4.0-4.5 | 6.0-6.5 | 24 | |
| PM22 | 4.6-4.11 | 6.6-6.11 | 24 | |
| PM23 | 3.6-3.11 | 5.6-5.11 | 24 | |
| PM24 | 3.6-3.11 | 5.6-5.11 | 24 | |
| PM6 | 3.6-3.11 | 6.0-6.5 | 30 | 3/24 (12.5%) |
| PM17 | 3.6-3.11 | 6.0-6.5 | 30 | |
| PM21 | 3.6-3.11 | 6.0-6.5 | 30 | |
| PF15 | 5.0-5.5 | >8.5 | 42 | 1/24 (4%) |
| Range | | | | |
| Min | <3.6 | 4.6-4.11 | 12 | |
| Max | 7.6-8.5 | >8.5 | 42 | |
| SD (n-1) | 3.18 | 2.87 | | |
| Mean months' difference YR to Y1 | | | 22 | |

Table 5.12 Number of Months Progress (Grammar) YR to Y1 Pilot Group

Again, standard deviations reduced for grammar scores, although this was a smaller reduction than was seen for information scores at 0.31; however, 20 learners (83%) made more than 12 months' progress and 1 made 42 months' progress. The mean progress was 22 months.

Tables 5.13 to 5.16 show the breakdown of progress for boys and girls. These reveal that **the majority of boys and girls made at least 18 months' progress in information scores and at least 24 months progress in grammar scores:**

| Name | YR Info age | Y1 Info age | Progress in months (average) | N/Cohort (% Cohort) |
|---|------------------------|------------------------|---|--------------------------------|
| PM4 | 5.6-5.11 | 6.6-6.11 | 12 | 5/12 (42%) |
| PM9 | 5.0-5.5 | 6.0-6.5 | 12 | |
| PM10 | 4.6-4.11 | 5.6-5.11 | 12 | |
| PM12 | 5.0-5.5 | 6.0-6.5 | 12 | |
| PM13 | 5.6-5.11 | 6.6-6.11 | 12 | |
| PM3 | 5.0-5.5 | 6.6-6.11 | 18 | 2/12 (17%) |
| PM21 | 4.0-4.5 | 5.6-5.11 | 18 | |
| PM6 | 4.0-4.5 | 6.0-6.5 | 24 | 3/12 (25%) |
| PM17 | 4.6-4.11 | 6.6-6.11 | 24 | |
| PM24 | 3.6-3.11 | 5.6-5.11 | 24 | |
| PM22 | 3.6-3.11 | 6.0-6.5 | 30 | 2/12 (17%) |
| PM23 | 3.6-3.11 | 6.6-6.11 | 30 | |
| Range | | | | |
| Min | 3.6-3.11 | 5.6-5.11 | 12 | |
| Max | 5.6-5.11 | 6.6-6.11 | 30 | |
| SD (n-1) | 2.48 | 1.24 | | |
| | | | | |
| Mean months' difference YR to Y1 | | | 19 | |

Table 5.13 Boys' Progress (Information) YR to Y1 Pilot Group

| Name | YR Info age | Y1 Info age | Progress in months (average) | N/Cohort (% Cohort) |
|---|------------------------|------------------------|---|--------------------------------|
| PF16 | 4.6-4.11 | 5.6-5.11 | 12 | 3/12 (25%) |
| PF19 | 3.6-3.11 | 4.6-4.11 | 12 | |
| PF5 | 7.0-7.5 | 7.6-8.5 | 12 | |
| PF1 | 4.6-4.11 | 6.0-6.5 | 18 | 6/12 (50%) |
| PF2 | 4.6-4.11 | 6.0-6.5 | 18 | |
| PF7 | 3.6-3.11 | 5.0-5.5 | 18 | |
| PF8 | 5.6-5.11 | 7.0-7.5 | 18 | |
| PF11 | 4.6-4.11 | 6.0-6.5 | 18 | |
| PF20 | 4.6-4.11 | 6.0-6.5 | 18 | |
| PF14 | 3.6-3.11 | 5.6-5.11 | 24 | 2/12 (17%) |
| PF18 | 4.0-4.5 | 6.0-6.5 | 24 | |
| PF15 | 5.6-5.11 | >8.5 | 30 | 1/12 (8%) |
| Range | | | | |
| Min | 3.6-3.11 | 4.6-4.11 | 12 | |
| Max | 7.0-7.5 | >8.5 | 30 | |
| SD (n-1) | 2.61 | 2.37 | | |
| | | | | |
| Mean months' difference YR to Y1 | | | 18.5 | |

Table 5.14 Girls' Progress (Information) YR to Y1 Pilot Group

| Name | YR Info age | Y1 Info age | Progress in months (average) | N/Cohort (% Cohort) |
|---|-----------------|-----------------|---------------------------------|------------------------|
| PM4 | 5.0-5.5 | 6.0-6.5 | 12 | 1/12 (8%) |
| PM3 | 3.6-3.11 | 5.0-5.5 | 18 | 3/12 (25%) |
| PM9 | 4.6-4.11 | 6.0-6.5 | 18 | |
| PM10 | 4.6-4.11 | 6.0-6.5 | 18 | |
| PM12 | 4.6-4.11 | 6.6-6.11 | 24 | 5/12 (42%) |
| PM13 | 4.6-4.11 | 6.6-6.11 | 24 | |
| PM22 | 4.6-4.11 | 6.6-6.11 | 24 | |
| PM23 | 3.6-3.11 | 5.6-5.11 | 24 | |
| PM24 | 3.6-3.11 | 5.6-5.11 | 24 | |
| PM6 | 3.6-3.11 | 6.0-6.5 | 30 | 3/12 (25%) |
| PM17 | 3.6-3.11 | 6.0-6.5 | 30 | |
| PM21 | 3.6-3.11 | 6.0-6.5 | 30 | |
| Range | | | | |
| Min | 3.6-3.11 | 5.0-5.5 | | |
| Max | 5.0-5.5 | 6.6-6.11 | | |
| SD (n-1) | 1.62 | 1.62 | | |
| | | | | |
| Mean months' difference YR to Y1 | | | 23 | |

Table 5.15 Boys' Progress (Grammar) YR to Y1 Pilot Group

| Name | YR Info age | Y1 Info age | Progress in months (average) | N/Cohort (% Cohort) |
|---|----------------|-----------------|---------------------------------|------------------------|
| PF5 | 7.6-8.5 | >8.5 | 12 | 3/12 (25%) |
| PF8 | 6.6-6.11 | 7.6-8.5 | 12 | |
| PF14 | <3.6 | 4.6-4.11 | 12 | |
| PF7 | 4.0-4.5 | 5.6-5.11 | 18 | 2/12 (17%) |
| PF19 | 3.6-3.11 | 5.0-5.5 | 18 | |
| PF1 | 4.6-4.11 | 6.6-6.11 | 24 | 6/12 (50%) |
| PF2 | 3.6-3.11 | 5.6-5.11 | 24 | |
| PF11 | 4.0-4.5 | 6.0-6.5 | 24 | |
| PF16 | 4.0-4.5 | 6.0-6.5 | 24 | |
| PF18 | 4.0-4.5 | 6.0-6.5 | 24 | |
| PF20 | 4.0-4.5 | 6.0-6.5 | 24 | |
| PF15 | 5.0-5.5 | >8.5 | 42 | |
| Range | | | | |
| Min | <3.6 | 4.6-4.11 | 12 | |
| Max | 7.6-8.5 | >8.5 | 42 | |
| SD (n-1) | 4.21 | 3.77 | | |
| | | | | |
| Mean months' difference YR to Y1 | | | 21.5 | |

Table 5.16 Girls' Progress (Grammar) YR to Y1 Pilot Group

The extent of the learners' progress is clearly evident in these results which were better than had been expected. The other questions raised are considered below.

5.4.4 Catching up or falling behind?

The question addressed in this section is: *do children, and especially boys, with scores **outside** of WNL at the end of Reception appear to catch up on language scores with the intervention programme and revised curriculum in place?*

In Case Study 1, children who started Y1 with moderate to severe language delay, in most cases, fell further behind by the end of the year.

Tables 5.17 and 5.18 show the key movements in language scores for both gender groups between the end of YR and the end of Y1 for the pilot group. Because the numbers in one cohort are small, the data for all children are presented in the Tables 5.17 and 5.18. These are useful to show how individual children's language scores improved. Analysis of these movements are presented with Figures 5.K and 5.L. The rest of the section then assesses the impact of existing language delay on the progress of each gender group.

| Boys | Information YR to Y1 | Grammar YR to Y1 |
|-------------|-----------------------------|-------------------------|
| PM3 | WNL to WNL (+1 band) | MODERATE to MILD |
| PM4 | WNL to WNL | WNL (-1) to WNL (-1) |
| PM6 | MODERATE to WNL (-1) | SEVERE to WNL (-1) |
| PM9 | WNL (-1) to WNL (-1) | MILD to WNL (-1) |
| PM10 | MILD to MILD | MILD to WNL (-1) |
| PM12 | WNL to WNL | WNL (-1) to WNL (+1) |
| PM13 | WNL (+1 band) to WNL (+1) | WNL (-1) to WNL (+1) |
| PM17 | MILD to WNL | SEVERE to WNL (-1) |
| PM21 | WNL (-1) TO WNL | MILD to WNL (+1) |
| PM22 | MILD to WNL (+1) | WNL to ABOVE |
| PM23 | MILD to ABOVE | MILD to WNL |
| PM24 | MILD to WNL | MILD to WNL |

Table 5.17 Movement in Boys' Scores YR to Y1 Pilot Group

| Girls | Information YR to Y1 | Grammar YR to Y1 |
|--------------|-----------------------------|-------------------------|
| PF1 | MILD to WNL (-1) | MILD to WNL |
| PF2 | MILD to WNL (-1) | SEVERE to MILD |
| PF5 | ABOVE to ABOVE | ABOVE to ABOVE |
| PF7 | SEVERE to MODERATE | MODERATE to MILD |
| PF8 | WNL to WNL (+1) | ABOVE to ABOVE |
| PF11 | MILD to WNL (-1) | MODERATE to WNL (-1) |
| PF14 | MODERATE to WNL (-1) | SEVERE to MILD |
| PF15 | WNL (-1) to ABOVE | WNL to ABOVE |
| PF16 | WNL (-1) to WNL (-1) | MILD to WNL |
| PF18 | MILD to WNL | MILD to WNL |
| PF19 | MILD to MILD | MILD to WNL (-1) |
| PF20 | WNL (-1) to WNL | MILD to WNL |

Table 5.18 Movement in Girls' Scores YR to Y1 Pilot Group

As shown in Figures 5.K and 5.L, the pilot group boys ended YR with higher levels of *within normal limits* than the girls, although there were no boys achieving above normal limits. These results support the *Foundation Stage Profile* scale point summary in section 5.4.1. It is possible that this is due to the small cohort size; it is also possible that this is something to do with teaching styles within the class or the amount of emphasis placed on improving the boys' language over that of the girls. As the *Foundation Stage Profile* and YR language screening results were analysed, findings were fed back to the new YR teacher (with the class who would later become the main study group) to inform her work and to make sure that the girls with poorer language were not overlooked in favour of the boys. This is explained further in Case Study 3. Boys at *within normal limits* (WNL) made better progress again in general by the end of Y1 than the girls. However, top end girls' scores have improved more than those of the boys.

Original in
colour

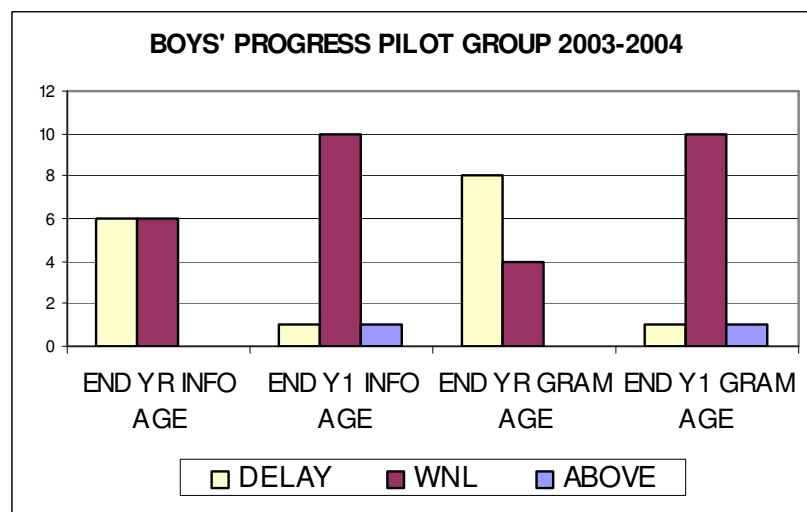


Figure 5.K **Boys' Progress Pilot Group 2003-2004**

Original in
colour

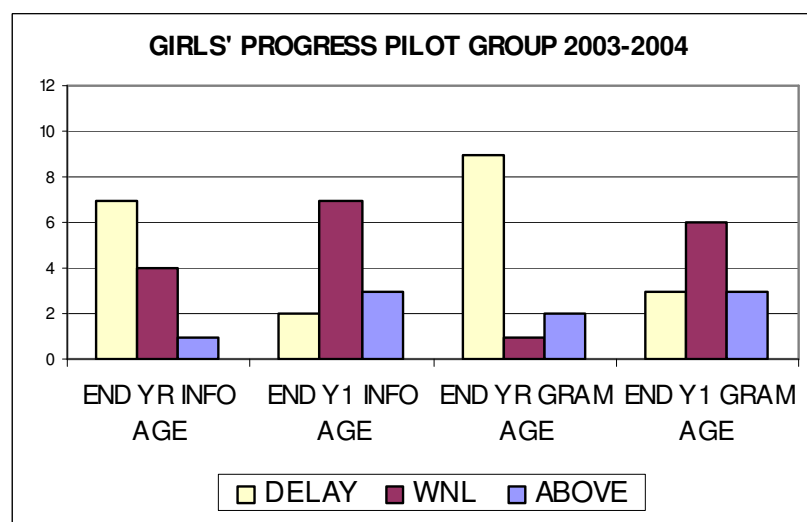


Figure 5.L **Girls' Progress Pilot Group 2003-2004**

Of the 24 learners, 3 (12.5%) were at least moderately delayed in information scores while 7 (29%) had moderate delay in grammar at the end of YR. **By the end of Y1, delay had decreased to 1 learner (4%) with delay in information and none in grammar;** these results were very different compared with the Case Study 1. Figures 5.M and 5.N break these results down according to gender:

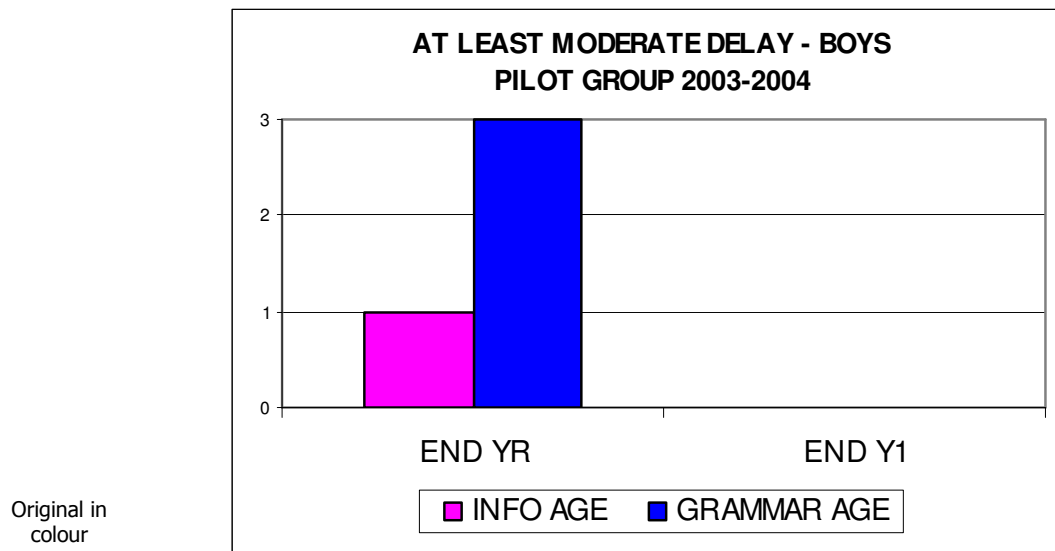


Figure 5.M Boys' Moderate Delay Pilot Group 2003-2004

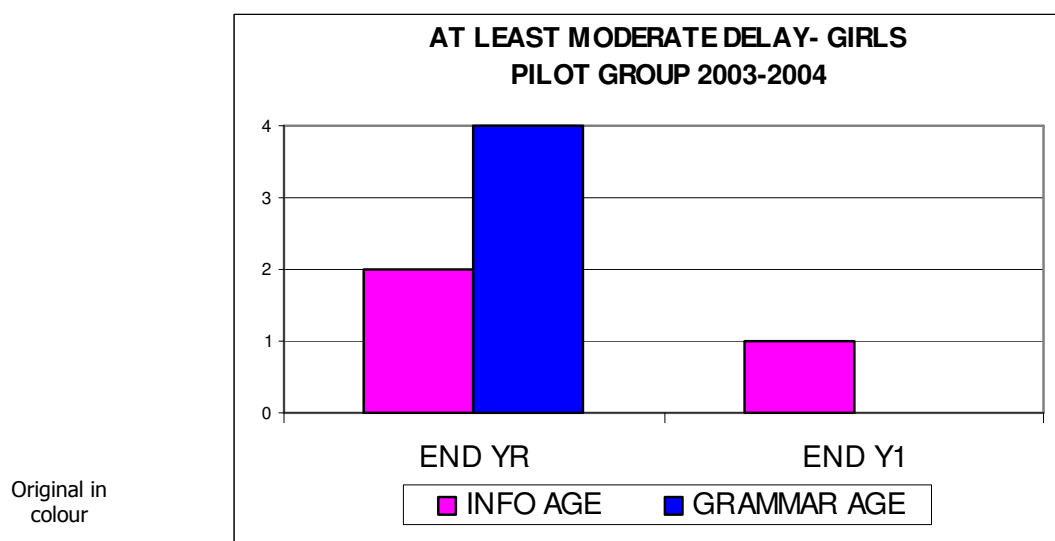


Figure 5.N Girls' Moderate Delay Pilot Group 2003-2004

As well as fewer learners suffering from language delay in the pilot group, there is a much less worrying distribution of language delay compared with the previous one as shown in Figures 5.O and 5.P. Children with moderate to severe language delay were referred to the SLT for additional support, in keeping with practice for previous cohorts.

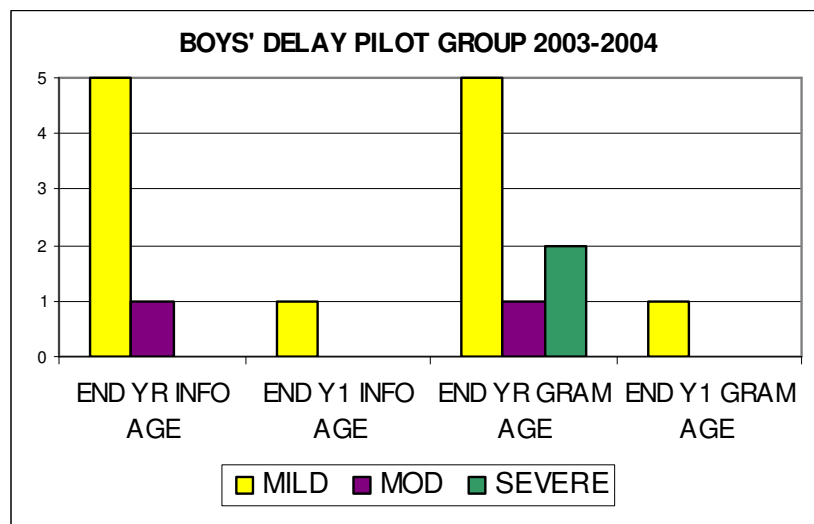
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Figure 5.O Boys' Delay Distribution Pilot Group 2003-2004

By the end of the intervention year, there are no boys with severe or moderate delay and only 1 with mild delay in information and grammar. PM10 remains mildly delayed in information at the end of Y1 but has made 12 months progress in his scores. In grammar scores, PM3 improved from moderate delay to mild delay while PM6 and PM17 improved from severe delayed to *within normal limits*.

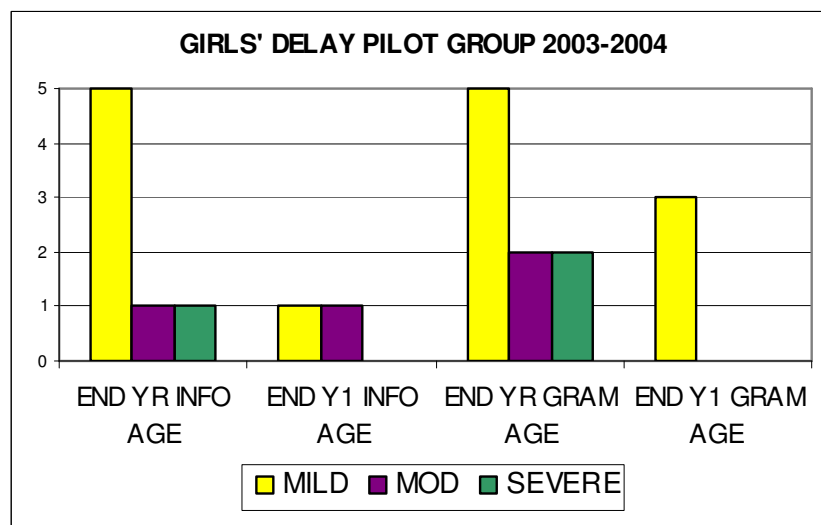
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Figure 5.P Girls' Delay Distribution Pilot Group 2003-2004

At the end of Y1, there is only 1 girl with moderate delay in information scores. Any other delay for girls is mild. PF7's delay improved from severe to moderate in information and from moderate to mild delayed in grammar. All 4 girls with severe and moderate delay in grammar at the end of YR improved their scores to mildly delayed apart from PF11 who raised her scores to *within normal limits* (WNL). PF19 is the only girl to remain at mildly delayed in information scores, although she made 12 months' progress. **None of the girls who were mildly delayed at YR remain so at the end of Y1.**

5.4.5 Normal and atypical language development

This final section of numerical data looks at the improvements within the cohort of the gender and age groups, in relation to *normal* language development.

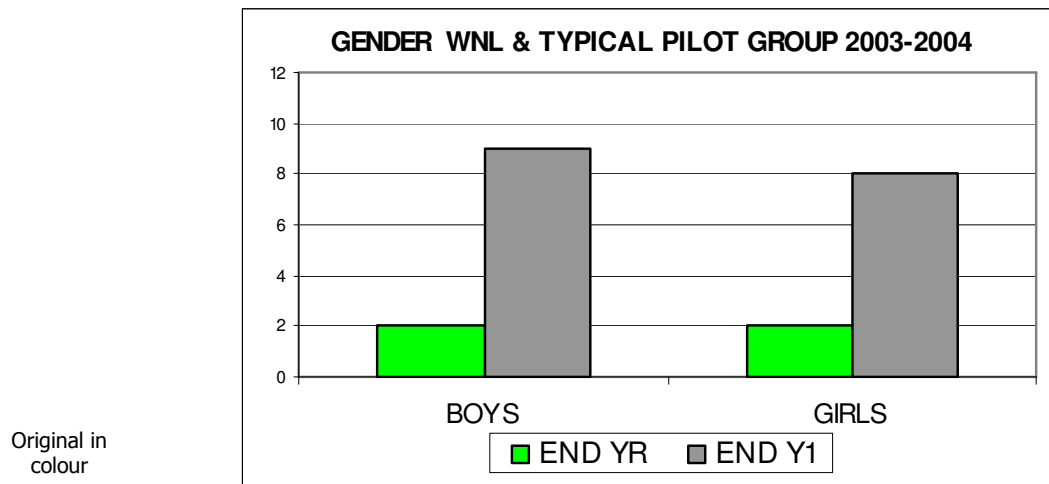


Figure 5.Q Gender WNL & Typical Pilot Group 2003-2004

Figure 5.Q shows the vast improvement in children scoring *within normal limits* (WNL) with typical language development, that is, no more than 1 age band between their information and grammar scores. **This represents a huge decrease in the *clinical* and *sub-clinical* groups which were so dominant in the previous cohort at the end of Y1 (58%) and in this cohort at the end of YR (83%).** As shown in Figure 5.R, the pilot group left Y1 with only 7 learners (29%) demonstrating atypical language development while the remaining 17 learners (71%) were demonstrating *normal* language development. These results prompted the proposal to continue the intervention into Year 2.

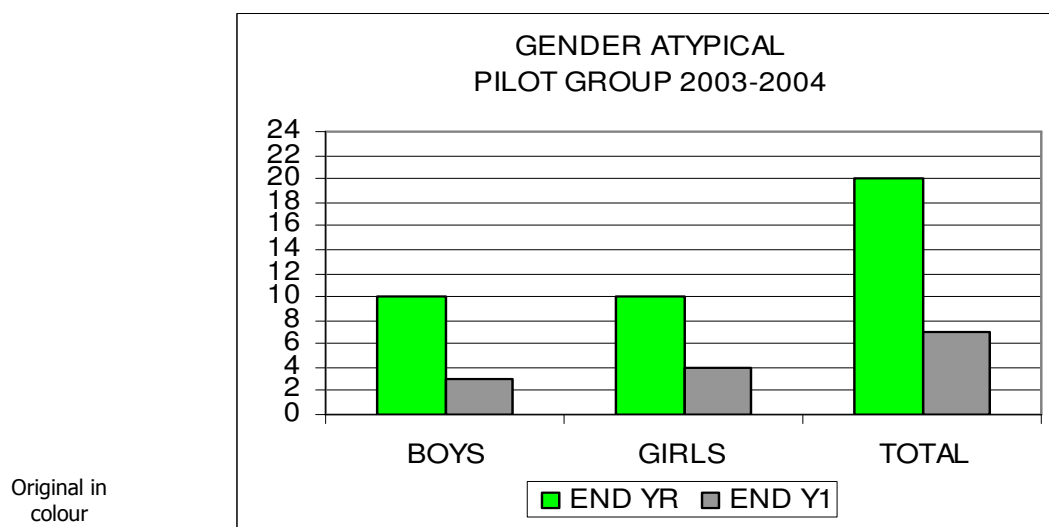
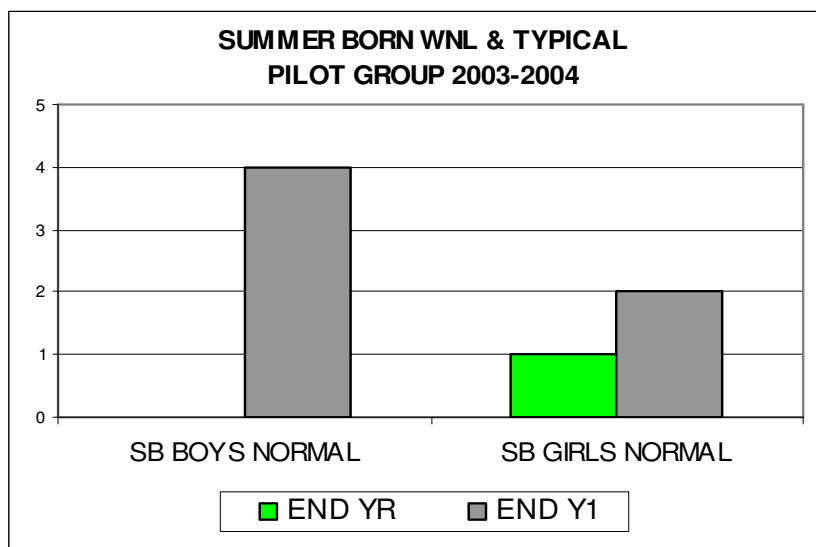


Figure 5.R Gender Atypical Language Development Pilot Group 2003-2004

1 of the 8 (12.5%) summer-born (SB) learners ended YR with *normal* language development compared with 3 of the 16 (19%) non SB. Y1 ended with 6 (75%) SB **and** with 12 (also 75%) non SB learners demonstrating *normal* language development. Figure 5.S shows that while none of the 5 SB boys achieved this at the end of YR, 4 (80%) of them had done so by the end of Y1. Girls' scores improved from 1 SB girl with *normal* language at the end of YR to 2 (out of the 3) achieving it by the end of Y1. None of the 3 non FSM, SB learners demonstrated *normal* language at the end of YR but by the end of Y1 100% of this group did (not shown, see *Appendix N*).



Original in
colour

Figure 5.S Summer Born Normal Language Development Pilot Group 2003-2004

5.4.6 Observations of Year 1

This section reveals the impact of the revised curriculum and intervention programme on children's attitudes to learning and sense of their own learning competence. The pilot group was the first in several years not to experience the *NLS* in the Reception class. Description of an observation undertaken for Case Study 1 during the summer term of YR is included at section 5.3.9 and gives a flavour of the teaching and classroom environment that they had experienced as Reception learners. The teacher in Y1 had been with the class during the last 2 terms of YR.

Although the research design for this case was too limited (see section 3.4.2) to uncover children's attitudes and sense of their own learning competence in any real depth, **observations of lessons undertaken in the pilot class revealed an immediately obvious difference in how the children appeared to feel about learning and how they behaved in the classroom.** Children appeared very happy and were keen to make me '*cup of teas*' in the restaurant role-play area while I was writing my field-notes and, more so, to show me their own writing. This was interesting in a class where no formal writing was currently being taught and was scheduled to begin, slowly, in the following term. It was even more interesting that last year's Y1 class made every effort to ensure that I couldn't see their writing because they seemed to feel so unsure about it (apart from 4 learners who had been very keen and were writing well). After asking what I was doing and why I was doing it, 2 children asked if they could sit next to me and write their notes.

The classroom environment was unrecognisable from the one I had seen at the same time in the previous year (see *Appendix H*). There were no tears, no children lurking by the classroom door or the book corner hoping to go un-noticed in the chaos, no pencils being thrown on the floor, no constant stream of distractions to learning and no sense of negativity. Children were working in small groups (although much of the work was done individually), in pairs or by themselves. There was a sense of order and expectation that everyone would be getting on with their tasks and that the tasks mattered. Children all around the room were chatting with the adults and with each other about what they were doing and how they were doing it. 3 children were singing *5 little ducks* just outside the open door of the classroom at the water tray after the teaching assistant had started them off. *Snack and chat time* came around just before the end of the lesson which allowed children to socialise in small groups and talk about the *topic of the day* which today was '*if you suddenly couldn't taste anything, what would you miss most?*' They then left to play on the FS playground with the bikes and large equipment and to help with the garden jobs.

5.4.7 Milestones in the development of the intervention and curriculum

Developing the framework for the intervention sessions (referred to as *talking time*) was a key concern during the life of this study. It was agreed that the session would consist of good teacher modelling of language (introduction), a supported interactive activity to develop language (main session) and a plenary to make explicit the teaching points. The refined intervention is described in more detail in Case Study 3. Initially, observation revealed far too much teacher talk and not enough pupil interaction. Children were listening to the teacher for much of the 20 minutes. There was a lot of time spent waiting to speak with only one child at a time engaging with the teacher while the others became more passive – the *show and tell* format was seen as actually impeding opportunities for development and this needed to change. Further, the teacher felt that the existing school planning formats did not easily lend themselves to these sessions which meant they usually were not formally planned and tended to be *ad hoc*, which then led to some sessions not being sufficiently focused. A planning pro-forma was devised to ensure focus and opportunity to reflect on each session. We agreed that it was essential for children to spend at least 10 minutes in every session personally engaged in conversation. This heralded the use of *talk partners* whose training formed part of the early sessions of the programme.

The SLT recommended revising the pairings frequently and making them dependent on the activity. She reminded us that, as far as possible, someone needed to act as the *more experienced communicator* in order to get the most benefit from the sessions. Use of the adults was considered at this point and it was quickly realised that leading oral work with young children required a lot of self-discipline as the temptation to take over was frequently an issue. The SLT worked with the teacher to model and support sessions in the early stages.

MAKATON® posters were introduced into the classroom displaying the signs and symbols for *good sitting, good listening, good looking and good talking*. These helped to frame the start of every intervention session with the pragmatic skills of discourse and helped to focus the learners' attention.

Visual timetables, also using MAKATON®, were displayed in the classroom and each session was an opportunity to review what had just happened and what was coming next. This enhanced predictability and meant that children were brought together as a group 4 or 5 times throughout the course of each morning and each afternoon for a period of 5 to 10 minutes to reflect on their learning.

5.4.8 Reflections

Emerging theory from Case Study 1 centred on the potential impact of explicit SL work on the SL scores of the cohort. Case Study 2 has shown that for this pilot group, **the intervention and revised curriculum have certainly resulted in accelerated language development for many children compared with the control group. In this group, children who had language delay at the beginning of Y1 have, in the main, caught up. At the end of the year, only 1 learner had moderate delay in the information aspect of her language. These findings are very different from those in the previous study where children were seen to fall even further behind.** There was SLT support for children who had been screened and identified as having at least moderate delay, but this had equally been the case in the previous cohort.

The theory emerging at the end of Case Study 2 is that, **with a revised curriculum and an intervention which meets the learners' language needs, children will have a more positive attitude to learning and to literacy than those children in the control cohort who had experienced formal learning from the spring term of the Reception year. Further, they will be more confident and have higher self-esteem. The new methods will result in accelerated language development for most learners. Finally, they will be more likely to achieve average attainment (L2) in literacy at the end of KS1 than learners from cohorts who had been taught using the *NLS*.**

5.4.9 Recommendations for developing the intervention

At this point, I needed to refine the intervention to take account of the findings of Case Study 2. The main changes that were needed are outlined below:

- Good planning of the sessions is important to ensure good focus in every session – the pro-forma needs refining and further development;
- Group work needs extending so that children are working collaboratively or co-operatively rather than individually in a group setting;
- This pilot group should continue to have access to *talking time* in Y2 twice per week to maintain the standards achieved although the curriculum will need to become more formal due to KS1 assessments and the pressure from them.

5.4.10 *Recommendations for the final case study*

It was important to consider what the purpose would be of the next stage of the research in order to devise an effective research plan. The following points were arrived at:

- Having shown the impact of the intervention and curriculum on the SL scores, the intervention now needs describing and examining to focus on **exactly what factors make it successful**. This will require detailed qualitative analysis of the participants' views and experiences.
- The next study will need to continue to look at the link between improved SL scores and improvements in later standards of literacy achievement.
- Impact of the intervention and curriculum should be explored again in respect of gender; *this* study has found that **boys have made better progress than girls**, which was not expected and goes against national trends.

5.4.11 *Post script – KS1 results*

An important element of the research question is the impact of the intervention and curriculum on later literacy success. As such, KS1 results are an appropriate measure of this. Table 5.19 shows the end of KS1 results for L2+, L2B+ and APS for the 2005 Y2 class compared with local authority (LA) averages. 1 child left during Y2 and 4 more arrived. The KS results include the learners who had not been included in the data set (see section 3.4), any new children and those from the pilot data set:

| 2005 | Reading | Writing | Maths | Total APS |
|--------------------|---------|---------|-------|-----------|
| School result L2+ | 63 | 63 | 78 | 12.8 |
| LA results L2+ | 83 | 81 | 92 | 15.4 |
| School result L2B+ | 56 | 44 | 67 | |
| LA results L2B+ | 71 | 59 | 75 | |
| School result L3 | 11 | 0 | 0 | |
| LA results L3 | 30 | 13 | 27 | |

(Source: School data 2005; LA Data 2005)

Table 5.19 End of KS1 Percentage Results for Case Study 2 Cohort

These KS1 results are especially pleasing since they demonstrate marked progress on previous KS1 results (see section 1.4). **More importantly, they were achieved while remaining entirely true to the principles of this research and its early theoretical propositions, despite periods of intense scrutiny and pressure to revert to previous ways of working.** 33% of this cohort had moderate or severe language delay at end of YR (compared with <7% nationally) with only 17% of learners' language developing normally. Similarly, at the end of YR, 55% of the class were experiencing delay in their information scores while 71% were experiencing delay in their grammar scores.

Despite this level of delay, KS1 results were closer to the LA average than had been expected. The APS increased by 2 whole points. The impact of the intervention and curriculum appears to have had a considerable effect.

The introduction of optional teacher assessment for KS1 in 2005 could have affected our ability to compare results with previous cohorts. However, for this reason, we assessed the children using the assessment tests and tasks from the previous year in exactly the way we had always done. Our results were fully moderated by the local authority to ensure comparability and because of our unique approach to curriculum delivery.

5.4.12 *Summary of Case Study 2*

Case Study 2 has shown that children have made very good improvements in their language scores from the end of YR to the end of Y1. All children made at least 12 months progress, regardless of their level of language delay at the end of YR and the majority made at least 18 months' progress in information scores and at least 24 months progress in grammar scores. **All learners made good progress as a result of abandoning the *NLS* in favour of a FS curriculum approach and the introduction of dedicated *talking time*. Boys made even better progress than the girls using the new methods.** 75% of boys and 67% of girls ended Y1 with *normal language development* compared with 17% at the end of YR.

Having demonstrated the impact of the intervention and new curriculum on the speech and language scores of the learners in Case Study 2, Case Study 3 was designed to assess the qualitative impact on the learners. I decided to continue to track the numerical data alongside this in order to ensure that the successes were replicated, giving further weight and credibility to the results.

5.5 Report for Case Study 3 – the descriptive study of the main group 2004-2005

In this *descriptive* case study I will provide a rich, thick description of the phenomenon under study and describe the real-life context in which the intervention occurred (Merriam 1998). I will also present numerical data to demonstrate and argue for the continued success of the revised ways of working. Undertaking this study gave me the opportunity to explore the detail and impact of the intervention and to further develop the intervention itself (Yin, 1994). By interpreting the results of this study, the ***what, to what extent, how and why*** elements of the research question can be discussed (see Chapter 6).

Descriptive cases require the investigator to begin with a descriptive theory. My theory is framed by the findings of Case Study 1 and 2 and is refined from the emerging theory from both. I am seeking to show that **delivering a specific language intervention throughout Y1 alongside an oral-rich FS-style curriculum (in YR and Y1), combining play and investigation, will result in children in my school's Y1 class making accelerated progress in language development and ultimately, performing more successfully in literacy at the end of KS1; further, they will be more confident, have higher self-esteem and have a more positive attitude to learning and to literacy than those children in the control cohort who had experienced formal learning from the spring term of the Reception year.** These enhancements may mean that children are more able to access the primary school curriculum. Most significantly, **my theory is centred on the link between explicit SL provision within a developmentally appropriate curriculum throughout YR and Y1 and the reversal of the national trend, which shows that children who are experiencing language delay often do not catch up but fall further behind as the language gap widens under more formal early teaching programmes** (Dockrell *et al.*, 2003; Locke & Ginsborg, 2003; Beitchman *et al.*, 2001).

5.5.1 Background data

- *Period and design of study*

July 2004 to July 2005 (with review July 2006). See sections 3.4.3 and 4.3 for research design outline.

- *Profile*

Learners eligible for inclusion in the data set: 24 (G=14:B=10)

Free School Meals: 62.5% (G=7:B=6; n=13)

Summer-born learners: 33% (G=3:B=3; n=6)

- *History of the cohort*

The main study group had experienced the school's standard SL intervention in the Nursery and Reception classes (see section 1.4 and 3.4.1). They did not experience the *NLS* in YR and instead had access to a genuine FS curriculum. The YR teacher took the class throughout YR and then took them into Y1 (as did the teaching assistant) just as the previous teacher had done with the pilot group. This is a much-favoured approach in my school where established and trusting relationships with the children and their families have been shown to improve attendance and learning. The obvious disadvantage for the teacher is having to change year groups and prepare new planning and resources while other teachers can rely on those from the previous year. However, the advantages are considerable and this strategy makes the transition more likely to be effective, particularly given the vital importance to this project of complete staff understanding of and commitment to the objectives and rationale. The YR teacher is less likely to suddenly impose a formal curriculum on her class as she already knows what works with them and what their needs are. It was argued by some local authority staff that this would lower expectations but we were confident that the opposite of this would be the case given the findings of Case Study 2. The teacher and support staff for the cohort were given training in the programme as far as it had developed to this point and they played a significant part in helping to develop it further.

Table 5.20 shows the relative attainment of the cohort for the literacy strand of the *Foundation Stage Profile*. The maximum number of average scale points a child can achieve is 9.

| | School averages Communication, Language & Literacy | | | Local authority averages Communication, Language & Literacy | | |
|----|---|------|-------|--|------|-------|
| | Average | Boys | Girls | Average | Boys | Girls |
| | 5.65 | 5.2 | 6.1 | 6.35 | 6.0 | 6.7 |
| 27 | No. of pupils | 11 | 16 | | | |

(School Data, 2004: LA Data 2004)

Table 5.20 FS Profile Average Scale Points 2003-2004

Although the thesis concentrates on the intervention in Year 1, the intervention actually continued into Year 2 with the Year 2 teacher involved in planning for this prior to taking on the class by observing and attending planning and development meetings. Extension into Year 2 was replicated from the pilot study to afford comparability in terms of KS1 results and thus enhance any opportunity for generalisability.

5.5.2 The intervention, the curriculum and the classroom culture

In this section, I will describe the intervention within the context of a lesson observation in the Y1 class during Case Study 3 (Summer 2005, see section 3.4.3 and 4.3). I will demonstrate the structure of the intervention and how it supports the development of children's learning within the real-life context of the classroom.

'We've just finished learning and sharing time so let's look at the visual timetable together – who can tell us what is coming next?'

Y1 Teacher

As the children excitedly pointed to the visual timetable at the bottom of the whiteboard, a lively, smiling child was asked to come forward, take hold of the purple magic wand and point to the next session of the day. In a strong voice he declared it was to be *snack and chat time* next. It seems the best part of being chosen for this task was not actually having control of the magic wand but the ripping off of the card saying *learning and sharing time* (illustrated with *MAKATON®* symbols) so hard that the Velcro noise filled the room! The teacher asked what would be happening after *snack and chat time* – everyone could see, as the wand was pointed at the next card, that it was to be outdoor play on the FS playground and, after that, it was time for *talk and tell*. All of the teacher's questions were accompanied by signing as were many of the children's responses.

Cut fruit in bowls was passed around the circles of learners as the topic of the chat was announced: *'what colours can you see at the beach and what noises can you hear?'*. The classroom 'beach' was pointed out to remind children who do not visit the beach often. The teaching assistant and 3 helpers were making sure that everyone had some fruit and remembered to say - and sign - thank you. The teacher had 4 children at her comfy seat looking at a seaside book. She was asking children what colours were in the pictures and what noises the objects might make. Every child in the room was engaged in the task and there was a vibrant, but comfortable, buzz. As soon as each piece of fruit was eaten, its consumer naturally moved to the outdoor area through the door that had remained open since morning registration. The Reception class had been out for about 5 minutes already.

As the children returned to the room 15 minutes later, most of them automatically sat on the carpet with their *talk partners*. Their names, printed on green cards, were paired on the whiteboard. Adults in the room made sure everyone had noticed their name. A child was chosen to rip off the *outdoor play* card. I asked a few children what would happen during *talk and tell* and they told me exactly what to expect, believing that I had no idea. I was told that the teacher would be talking about something, they would talk to their partner about the same thing and then they would all sit in a circle to tell the person next to them what their *talk partner* had said and then the teacher would pick a couple of children to tell the whole class and the teacher would help them to say it in a good way. This is exactly what happened, as I knew it would be. The teacher modelled telling her news from the weekend; she asked children to say why it was *good talking* and what she had done to make it so. She was told *'it was good because you used interesting*

*words', it was good because you made it exciting' and 'it was good because you used good connecting words, like while and after'. I wondered if I was still in Year 1! Before the children talked with their partners about their weekends, another lucky learner got the chance to use the purple magic wand to point at the cards to remind them to do *good sitting, good listening, good looking and good talking*'. A third child was asked to use the wand to remind the children of the different questions they could ask their *talk partner*, such as '*what, when, where, why and how?*' Everyone signed these words as the symbol cards were pointed to.*

As the children carried out their 10 minutes of talking, the adults were moving around and between the children, picking up on bits of conversation, pointing out '*good bits of talk*' to the rest of the class, reminding them to take it in turns to swap and ask questions to find out even more. The adults stayed longer with some pairs and used questions to prompt the learners into conversation.

All around the room were colourful signs, words, pictures, numbers, photographs and reminders. The role-play area was a launderette this week. The book corner was orderly, had selections of picture books and early readers and had a till so that children could play *book shops* and the huge, ceiling-height hand-painted mural of fairytale characters had child-written name labels blu-taked to it. If I hadn't known who the 3 pigs were, I would have been able to tell from the labels. The writing area had a variety of writing papers, invitation cards, sticky labels, envelopes and stamps.

The children moved effortlessly into a large, random circle and were asked to remember the most important bits from their partner's talking that they were going to *tell*. They had a minute to rehearse to themselves, aloud if needed, what they were going to say to the person next to them about what their *talk partner* had said. The sentences were spoken and two children then shared with the class what they had been told. The teacher helped to develop the sentences with the whole class making suggestions until everyone was happy with the sentence. '*I was told that...Name...went to the cinema*' became '*I was told that ...Name...went to the cinema with his Mum to see a film because it was raining outside. Talk and tell* over, it was time for another spell of *learning and sharing*. The Velcro rip resounded once more.

5.5.3 Developing the Y1 curriculum and language support structures

The framing of the *talk and tell* sessions and the development of the curriculum approach as a whole are described in this section of the thesis.

As outlined in the Case Study 1 and Case Study 2, the structure of the intervention underwent a number of significant changes over the 3 years. The changes to the style of curriculum delivery were more straightforward in comparison, helped in particular by the teacher having been a Reception teacher for 3 years. More specifically, she had been this cohort's Reception teacher in the year prior to Case Study 3 and had established (for the second year in our school) an effective FS curriculum and associated good practice. In the first semi-structured interview with the teacher in September 2004 (schedule at *Appendix E.ii*), she outlined a number of specific changes she had made to delivering the Y1 curriculum, all of which were confirmed through observations and interviews with the learners and teaching assistants:

1. The use of stories, rhymes and poems was a daily event and the teacher said that most literacy based work started with one or all of these language-rich sources.
2. Pre-reading skills were taught using *Jolly Phonics* (Lloyd & Wernham, 1998) and pre-writing skills were taught using *Write Dance* (Oussoren, 2005); both systems include an emphasis on the kinaesthetic involvement of the *whole* child. These were seen as really important in encouraging enjoyment and learning through play and modelling.
3. Singing took place every single day in at least 2 sessions per day. Children were encouraged to sing as they worked, music was frequently played in the classroom and children had access to percussion instruments to support their understanding of identifying sounds as a pre-cursor to identifying phonic sounds.
4. Play was described as '*a full-time feature*' of the revised Y1 curriculum, with areas of the classrooms set up to link play with learning, for example, the writing area which had a theme linked to the key text for the fortnight, the maths area which had equipment to develop the current focus (*e.g.* shape and space, number, data handling *etc.*), the role play area which usually had a link to the topic focus and always included dressing-up clothes, a range of toys to develop symbolic and imaginary play and, of course, sand and water trays.
5. The classroom was set up to promote social interaction in small groups and in pairs and to encourage independence in accessing resources. The early years' consultant from the local authority was very keen to support the teacher to set the classroom up to facilitate these principles.

In Case Study 2, the *talk and tell* sessions had evolved to include a specific planning format in order to ensure the focus on was on children talking. The teacher said that she felt the emphasis on planning these sessions had helped her to make the best use of them. She commented during the first observation feedback (see section 4.3) that, at first, she had hoped for a '*framework*' to follow to ensure she was '*doing it right*' but after a while she could see that the strength of the programme was that it was not pre-determined or prescriptive and she could use it flexibly to

support the specific needs of her learners, which she was very familiar with because of the structure of the revised curriculum (see 5.5.5). However, it was noted in the first lesson observation (see 4.3) that the teacher had reverted to a *show and tell* approach where only a few children spoke within the 20 minute session to the whole class, limiting the experience of each child and making it another exercise in sitting and listening. The teacher had observed the newest *talk and tell* structure at the end of Case Study 2 and had been involved for planning its introduction into the main group cohort in Y1 but I had not sufficiently checked her understanding. She and I had both made opposing assumptions about our understanding of the structure. It was at this point that the intervention became known as *talk and tell* in an attempt to make explicit the fact that it was not the same as *show and tell*. A blank planning sheet is provided at *Appendix Q* for reference which details the structure, timings and purpose of the session. **Using the refined model, all children speak, or engage in a one to one conversation, for at least 10 minutes of the session.**

During feedback from the first lesson observation, both the teacher and teaching assistant felt that they had difficulty identifying a progression in the *talk* they were facilitating. At this point, Tough's descriptions of different *talk types* (1976) were shared and agreed upon as a useful model to work from; this was later developed with the whole staff, as discussed in Chapter 6. *Appendix R* details the range of *talk types* on a sheet produced through a whole staff training session (see Chapter 6). We talked about other areas they thought that they required further training for. After a lengthy discussion, we identified that staff needed training to ensure accurate use of the screening tool to assess children's language, to develop and extend children's utterances, to use effective questioning strategies to promote talking for thinking and to ensure they moved the sessions beyond chronological recounts which had tended to be most commonly used previously in *talking time* and still remained the favourites. It was also agreed that staff needed training in a diagnostic language tool to refine their knowledge of what specific language gaps children had. **Thus, training was raised as a significant issue in developing the intervention.**

Small-group speech and language support sessions continued with the expert assistant for those children who required further language development and this was based on introducing and reviewing vocabulary needed to access the planned learning for the fortnight. The teacher felt the sessions to be supportive for many children because,

'I think the difficulties in terms of speech and language are mainly in expressing themselves and saying exactly what they want to say. Also, kind of...having confidence, I think, to speak, they feel very self conscious when they're speaking, if they're by themselves or they feel that someone is listening and they don't have the words that they need...'

An important principle was seen as equality of access to all the support and this varied from teacher awareness of groups (*e.g.*, in our school quiet, well-behaved girls) who may easily be overlooked to vulnerable individuals who frequently miss school and many others in between.

Reading was developed informally through the 3-a-day system where the classroom teacher and assistant each observe and work closely with 3 key learners for the duration of the day, resulting in each child having focused attention for a whole day every week by one of the classroom's adults (see 6.2.2). This means that every child had individual reading input once a week with a member of staff and once a week with a volunteer helper who had been trained by the teacher. Picture books were used with the majority of children although this often brought pressure from parents who felt they should be taking home a *proper reading book*. Formal writing was not taught at all until the spring term and then only with those children who were ready. All children began some formal writing in the summer term.

5.5.4 Transition from YR to Y1

Transition from YR to Y1 is an important part of the study. This section reveals the difficulties and issues encountered within Case Study 3 in relation to transition.

Both the teacher and class teaching assistant said they felt that **having taught the class through the Reception year had made the transition to Y1 very effective**. Not having to get to know the children and not having to introduce them to a formal curriculum made a big difference and, because many of them have such complex needs (not just in language), that was a '*real bonus*'. Using the 3-a-day system means that between them, they focus on 6 children every day which in turn ensures that support is effectively targeted at each individual (see section 6.2.2). The class teaching assistant explained that if children start to struggle, they are given help and emotional support,

'We get them to see their progress, you ...you can highlight... we used to say to them, like [the teacher] would get their reception records out and say this is what you did last year and look how much you've come along, so it's nice if you've kept something to start with and say, look what you can do now and that helps to build their confidence as well...I think they're a lot more confident now and I think that's really important. When they're confident they can do things and progress further than they thought they could do. I think they're happier in themselves now because they can communicate that little bit more. They're happy to do things and say things.'

To assist the transition, it was decided to continue to assess the children's learning using the Early Learning Goals (ELGs). The teacher requested this because she felt it would help her to build on her knowledge of the children's strengths and areas to focus on and made the autumn term

assessments '*much more meaningful*' – reporting progress to parents was made simpler as they already understood the FS points system. The teacher felt it would be disheartening for a child's assessments to go from, for example, a 5 (out of 9) to a W (below Level 1). This meant that a child could move naturally from a numerical assessment to a 1C as and when that happened.

23 out of the 24 children in the Case Study 3 data set progressed to a 1B in reading by the end of the Y1 which had never previously occurred. The exception, SM15, who arrived in the spring term of YR, had scored as profoundly delayed in expressive language at the end of YR and by the end of Y1, his delay was mild in information and moderate in grammar. Nevertheless, he was assessed as 1B in his KS1 assessments which was an outstanding achievement, given his language delay in YR.

During the semi-structured group interview with 6 self-selected learners at the outset of Case Study 3 (see 4.3; schedule at *Appendix E.iii*), the children agreed that the move to Y1 had been '*terrific*' and that they were really enjoying their class and the staff in it. They identified that some things had changed, for example, the outdoor environment was not available all day now that they were in Y1. However, they were very happy that they had two sessions a day to use the equipment, one with YR and YN and one just for Y1. There was nothing they did not like about Y1 and they were especially pleased that they were trusted to work in pairs and small groups without the teacher at times. One child felt that Y1 was harder than YR because she had to '*keep tidying up the book corner*' now that more children were choosing books on their own. The others felt life in Y1 was just the same as YR. They all expressed surprise that it was not '*boring*' in Y1, which they had thought it would be, but it was even better because they had more equipment, the lessons were more fun and they were '*allowed to spend Golden Time with Y2*'.

However, it was not all good news all the way. In my telephone interview with the SLT in February 2005, she stated that (following a series of routine visits) she had noticed a decline in the provision for speech and language in YN. In an unexpected twist, the blossoming relationship between the structures and staff of YR and Y1 had inadvertently damaged the link between YN and YR. I also became aware that there was pressure from the Y2 teacher to revert to the old ways of working. **It became clear that a whole phase transition plan was needed to ensure the continued success of the project and to ensure that the language development of our youngest children was not jeopardised. Linked with this was the need for whole phase training in the development of speech and language.** These issues are discussed in more detail in section 6.2.5.

5.5.5 Impact on children's attitudes to literacy and learning

This section looks at the link between the new ways of working and children's attitudes to literacy and to learning.

My emerging theory at the end of Case Study 2 was that **with a revised curriculum and an intervention which meets the learners' language needs, children will have a more positive attitude to learning and to literacy than those children in the control cohort who had experienced formal learning from the spring term of the Reception year. Further, they will be more confident and have higher self-esteem.** Without question, as shown in the vignette in section 5.5.2, this was what I found. Children were happy, cheerful, smiling throughout, confident and very well-behaved while being challenged and supported.

This group of children could re-tell their news and their partner's news in sequence which was the complete opposite to what had been seen during observation of the control group, where children could not – or would not – attempt to orally re-tell a familiar story they had recently spent 2 weeks working from. This third cohort are not in any way exceptional as a Y1 class in our school and among them there are very many needs, difficulties and concerns. The observation in the pilot cohort had revealed a very similar picture to this one. I wonder how different things might have been for the control group if they had been able to access this type of curriculum, which the teaching of the *NLS* had deprived them of?

The teacher felt that the curriculum and intervention had impacted considerably on learners' attitudes. She identified that this was because:

'There's a lot more time available for talking about... a topic, talking about what we are going to be learning and... for instance, there's lots of things that lend themselves like the toys and the home and that kind of thing where it can be very hands on and very practical and we'd spend the first couple of sessions really doing a lot of talking about what they already know to kind of give them ownership of the topic that we're doing and then me explaining where we can... go from there. But there's ...lots of talking about describing words and that kind of thing.'

Changing the timetable from hour long lessons to small '*chunks*' meant that the learning times were now manageable for children. This also meant that staff had more time to talk to children and to support them. Because the whole class sessions were never longer than 20 minutes at a time, children got used to '*how long 20 minutes feels*', and so knew they could get help soon if they were having trouble understanding; needless to say, they were usually invited to ask questions if they did not understand. Within 20 minutes of the lesson seen at almost the same

point the year before, children were refusing to co-operate, crying, throwing things onto the floor, saying they couldn't do their work and being disruptive. The teaching assistant said,

'I think these children are more confident than [the control cohort]... they can see their own progress because we have the time to tell them... you know... we say, last term you couldn't do this and now you can... and they really like that, like I said before... we have time to observe 3 children each a day, all day, and that way every child has focused attention for a whole day every week... of course, we still pay attention to all the other children but this helps us to really support their needs and know what their needs are.'

Both staff stressed that they felt the familiarity of all the class routines was crucial to the way the children feel about themselves and their learning. The teacher felt that the *talk and tell* programme had become *'the best bit [because]... they really enjoy it and it's got such a set structure that they feel 'in charge' of it...'*

Other classroom routines, such as the visual timetable, were considered to be vital props to making sure the children know where they are in the day and what is coming next. **These props were seen as helping the children to feel more in control of their own day and consequently to feel more confident and have better self-esteem.**

The expert speech and language assistant works across the week with those children in YR and Y1 who have the poorest language skills, in pairs or small groups. This support is in addition to the revised curriculum and the tri-weekly whole class *talk and tell* sessions. She described how some of the learners are very anxious about what is *'coming up next'*, especially if they were new to the school either in YR or later as new entrants. She explained they often asked her *'when will I see my mummy?'* or *'when can I eat my lunch?'* and this could at times lead to real distress for some of them. She said, however, that using the visual timetable in the classroom before she takes them out for their session in the language base (in between the YR and Y1 classrooms) makes them more *'secure about leaving the classroom'*. She then uses her own visual timetable to cover the 20 minute session so that they know exactly what to expect between starting their work and returning to the classroom. The 'Velcro rip' is also a common feature of her work!

Children themselves were very confident to explain how the day went and a pair of them talked me through the visual timetable, pointing out their favourite times of the day. The children I spoke to all liked playing outside with Reception and Nursery, using the large equipment (which covers the 6 areas of learning in the outdoor environment), being trusted to get on with their work in groups or pairs, *talk and tell*, story-time and SPLASH! time. SPLASH! is a 50-55 minute session run twice a week in YR and Y1 where parents and carers can come into the class and support their child's learning. They can also bring with them any pre-school age children. *Appendix S* shows a

promotional poster for SPLASH! time. The expert SL teaching assistant felt that SPLASH! was successful because it helped to *'get them into the classroom so they can see what we do and that it's not some great big mystery and...well, it's ...nothing they can't do at home as well'*. The classroom teaching assistant also runs the toddler group on a Tuesday morning which she felt had been a key part of bringing more parental involvement to the class. Many of this cohort had attended the toddler group and some of the parents and carers had experienced support for their child's language development when they were only 18 months old. She explained the impact on one of the parents who attended:

'There's one parent in particular, she's come from when her little boy was about three months old right up until now he's... nearly three, and she's fantastic... she talks to everybody and she involves everybody, she's one of the mums that goes round and involves everybody and gets them to come along and gets them into the school...it really helps.'

She felt that the children and parents gained benefit when they attended the toddler group:

'I think ... they interact a lot better, and that comes from speaking and talking to each other, so they're used to it so when they... a few of them have gone up together... they'll form a little friendship and they will talk a lot more.'

The assistant also lives in the local community and she felt that this made her *'more approachable'* for some of the parents and that, as a result, they were more likely to accept her advice on matters to do with their child's well-being or learning. The class teacher agreed with this. She added that teachers *'talk the talk'* which can be intimidating for some of our families.

During an observation of the cohort's spring term class assembly (see 4.3) half way through the year, it was noted that the children were confident, keen and enthusiastic to perform in front of their families and the school community. For the first time at our school, every child in the Y1 class had a speaking or reading part in the assembly which dramatised the story of Farmer Duck (Waddell, 1996). Children spoke in strong, clear voices and seemed to thoroughly enjoy the experience. This was commented on by parents and carers, one of whom remarked that he had *'never seen such a brilliant assembly!'*. Every Y1 child I spoke to after the assembly could tell me the story and they were all able to tell me why they thought the Farmer deserved his fate!

All children selected for the learner interviews, held during the review of Case Study 3 in July 2006 (see section 4.3; schedule at *Appendix E.v*), had demonstrated language that was below *normal/limits* at the end of YR and in some cases (from the pilot and main group) was atypical as well (raw data are available at *Appendices M, N and O*). Both children from the control group (CM5,

CF7) still seemed to be suffering from a legacy of the sense of failure they had in Y1 despite now being at the end of Y4. Neither had a positive view of him/herself as a learner or of literacy as an area of learning. CM5 answered *'sometimes...maybe'* to the question *'do you like literacy?'* while CF7 said that she did not. CM 5 was not sure if he was *'clever'* replying *'I don't know really... I think I'm half or half and good and no... half and good, I reckon'*. His language was still impeding his ability to say what he wanted to say. He had not caught up and was still achieving at lower than Level 3 in reading and writing. His attitude to learning was much more negative than it had been in Y1 and his behaviour was a daily concern in his Y4 class. CF7 preferred *talk and tell* to other tasks in literacy; this had been introduced across the school for three 20 minute sessions a week after the end of the first year of Case Study 3, 2004-2005 (see Chapter 6). She said this was because *'we do like stuff like saying stuff about what we like doing and what happened in a story or what we want to do or what we can think of'*. She still felt that literacy was *'too hard'* and she struggled to answer any of my *'why?'* questions. CF7 was assessed as performing below Level 2 in reading and writing at the end of Year 4. CF7 appeared to have a worse sense of her learning competence than she had at the end of Y1. Her behaviour in class was described as *'intermittently very disruptive and at other times very withdrawn'*. The class as a whole have proven to be a very challenging one with a significant deterioration in behaviour seen during Y2. It is quite likely that the language delay they were suffering at the end of Y1 increased even more in Y2 and made it very difficult for them to cope with the Y2 curriculum.

All the pilot and main study children were more confident in their abilities, replying *'yes'* to every question asked regarding whether they were good learners or good at literacy and whether they liked these things (see *Appendix F*). The only reservation was PM6 (in Y3 by this point) who was not sure if he was good at learning because,

'in numeracy with division it took me quite a long time to do it and I worried about that...I'm good at other learning and ... well, yes I'm good at that but not at division...it's good to think you can but not always but you have to think you can or you just put your mind off it ... sometimes I think I might not be able to do it but then I can'.

His ability to articulate his views and reasoning was very impressive. This finding was representative of all 4 children from the pilot and main groups (see *appendix F*); they were able to construct their responses well, using their language to think aloud and develop explanations for their reasons. Language was not a barrier for these 4 learners in the way it still appeared to be for the 2 learners from the control group. All the pilot and main study interviewees referred at some point to the concept of trying their best, enjoying trying at their work especially with reading or writing *'hard words'* or having a go at something difficult. **They had the confidence and self-**

esteem to take risks in their learning. They also had very positive attitudes towards writing, which entirely contradicted the responses from the control group interviewees.

SF8 wanted to know if I liked learning. I told her I did.

5.5.6 Impact of the intervention on SL scores on the cohort

Quantitative data are presented here in this report to enable the reader to make comparisons with results from the previous 2 case studies. Although Case Study 3 is more qualitative in design, it is important to provide evidence that it has again proved effective in accelerating language development. Qualitative analysis of the quantitative data is less fully explained in the Case Study 3 report than in the reports for the control and pilot groups. The preceding qualitative analysis (from section 5.5.2 to 5.5.5) is the primary focus of Case Study 3.

Emerging theory at the end of Case Study 2 stated that **the new methods will result in accelerated language development for most learners**. I will demonstrate in this section that this theory has been shown to be correct in this case study for this group of children. *Appendix O* shows the total raw data for this cohort from the language screening. The cohort was screened at the end of YR, mid Y1 and the end of Y1 by the class teaching assistant; again, this was to minimise the chances of false positives and false negatives in the results arising from the children's unfamiliarity with the person carrying out the screening.

It was decided not to prompt the children when giving their responses in the end of YR screening so that the scores for the pilot and main groups would be comparable (see section 5.4.2). The end of Y1 screen was carried out in the same way as the end of Y1 pilot screen, with the children prompted according to the author's guidance (Renfrew, 1997).

When considering percentages, it is important to note the small number of children referred to, especially in gender and age breakdowns.

Table 5.21 shows the comparative averages for children's chronological age (CA), language screening test scores and the relative age equivalent bands at the end of Reception and Y1 for this group. Mid Y1 results are not included (although can be examined at *Appendix O*) but were used to keep track of progress and to make sure that the progress of neither boys nor girls slipped without detection:

| Averages | | | | | |
|------------------------------------|------------|------------|----------|------------|----------|
| | Average CA | Info score | Info age | Gram score | Gram age |
| Prior to intervention YR July 2004 | | | | | |
| Average (mean) | 5.0-5.5 | 29 | 4.6-4.11 | 19 | 3.6-3.11 |
| Post intervention Y1 July 2005 | | | | | |
| Average (mean) | 6.0-6.5 | 33 | 6.0-6.5 | 26 | 6.0-6.5 |
| | | | | | |
| Range | | | | | |
| | Average CA | Info Score | Info age | Gram score | Gram age |
| Prior to intervention YR July 2004 | | | | | |
| Min | 4.6-4.11 | 16 | <3.6 | 7 | <3.6 |
| Max | 5.6-5.11 | 35 | 7.0-7.5 | 27 | 7.6-8.5 |
| Post intervention Y1 July 2005 | | | | | |
| Min | 5.6-5.11 | 29 | 4.6-4.11 | 22 | 5.0-5.5 |
| Max | 6.6-6.11 | 37 | >8.5 | 30 | 7.6-8.5 |
| | | | | | |
| Standard deviation | | | | | |
| SD (n-1) | | Info score | | Gram score | |
| Prior to intervention YR July 2004 | | 4.79 | | 4.41 | |
| Post intervention Y1 July 2005 | | 1.85 | | 2.43 | |
| | | | | | |

Table 5.21 Averages at End of YR and Y1 for Main Study Group 2004-2005

Figure 5.T shows the impact of the intervention without allowing for scores that fall *within normal limits* (WNL) and provides a literal interpretation of delay, age equivalent (AE) and above average language development:

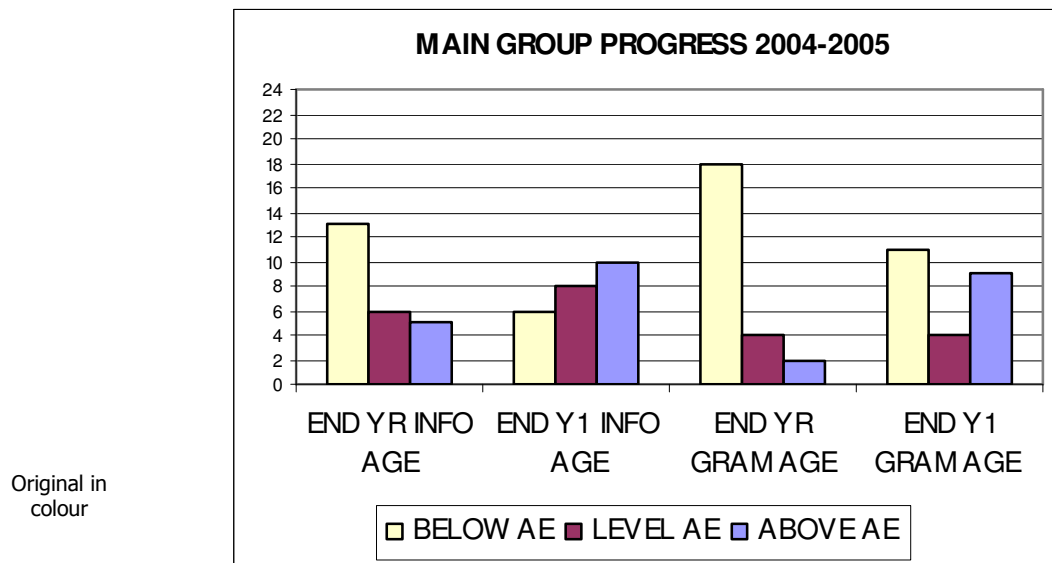


Figure 5.T Main Group Progress 2004-2005

Figure 5.U uses the parameters for *within normal limits* in order to allow comparison with the national norms. Grammar scores for this cohort were better at the end of YR than the pilot group; overall progress was very similar for both the pilot and main group in terms of increased percentage points (approximately 50):

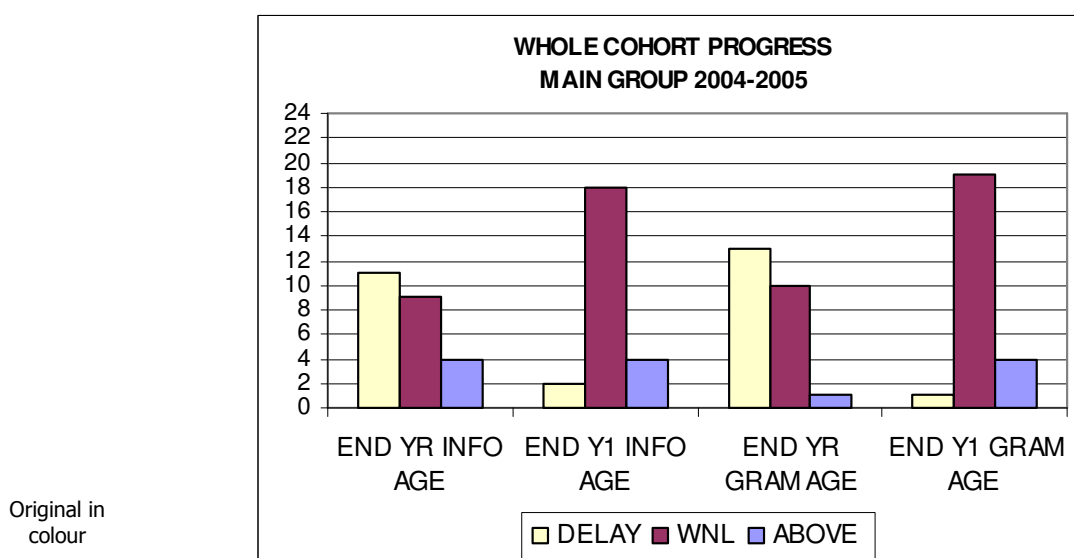


Figure 5.U Whole Cohort Progress Main Group 2004-2005

5.5.7 Progress by gender group

This section of the numerical data shows the relative progress of the gender groups to enable comparison with Case Study 1 and 2. Boys in Case Study 2 ended YR with higher scores than the girls and went on through Y1 to make better progress than girls, which was not expected and goes against national trends.

As soon as the end of YR *pilot* results were analysed, the new YR teacher (the teacher for this main study group) had been advised that she would need to ensure throughout YR that the quieter girls with poorer language skills were not overlooked in favour of the boys and that she should ensure equal access to all the available support, ensure a range of teaching strategies and resources and think carefully about groupings and pairings throughout the year. This had been done because a question was raised in Case Study 2 about equality of support offered to boys and girls.

Figures, 5.V and 5.W show the relative improvement of boys and girls in Case Study 3. Boys (n=10) made slightly less progress than girls (n=14) in information scores but made similar progress in grammar scores:

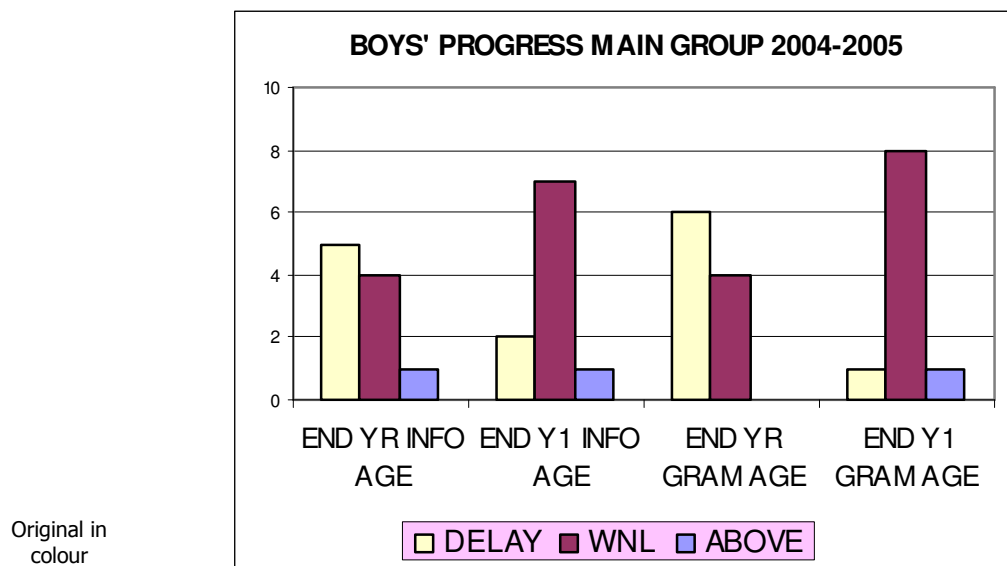


Figure 5.V *Boys' Progress Main Group 2004-2005*

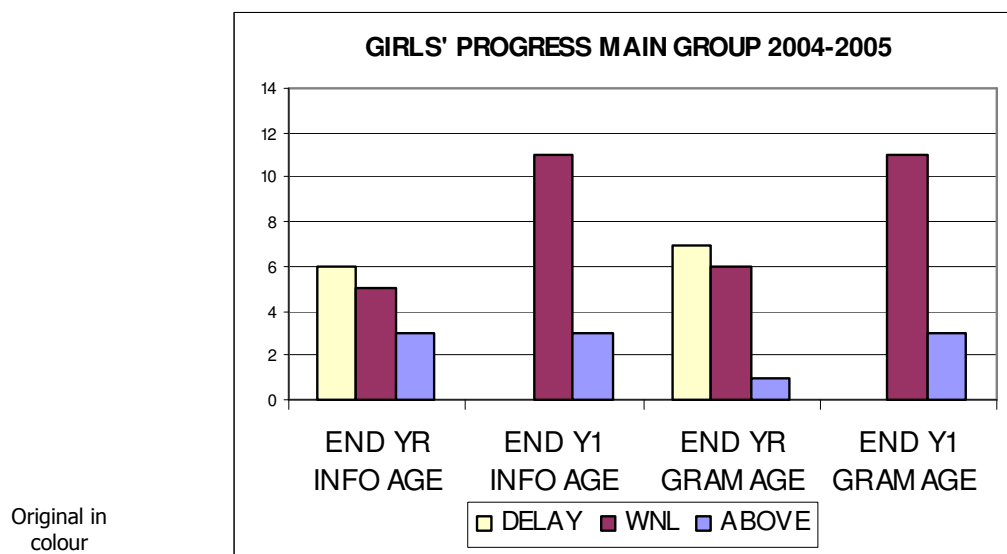


Figure 5.W *Girls' Progress Main Group 2004-2005*

In this cohort, girls had arrived in Y1 with better scores than girls in the pilot group. It was felt that this was due to the extra focus (as stated above) on teaching styles, groupings and equal access to support for all children in YR. It *is* possible that the slightly worse improvement by boys was also attributable to this strategy.

Tables 5.22 and 5.23 show that, in this cohort, girls made marginally better progress than boys in both aspects of language although this differential was very small:

| Information progress | Whole cohort | | Boys | | Girls | |
|-----------------------------|--------------|----|------|----|-------|----|
| | N | % | N | % | N | % |
| 6 months | 1 | 4 | | | 1 | 7 |
| 12 | 6 | 25 | 4 | 40 | 3 | 21 |
| 18 | 5 | 21 | 2 | 20 | 3 | 21 |
| 24 | 5 | 21 | 1 | 10 | 4 | 29 |
| 30 | 6 | 25 | 3 | 30 | 3 | 21 |
| 42 | | | | | | |
| 48 | | | | | | |
| Mean progress months | 20 | | 19 | | 20 | |

Table 5.22 Months' Progress Information Scores Main Study Group 2004-2005

| Grammar progress | Whole cohort | | Boys | | Girls | |
|-----------------------------|--------------|----|------|----|-------|----|
| | N | % | N | % | N | % |
| 6 months | 1 | 4 | | | 1 | 7 |
| 12 | 1 | 4 | | | | 7 |
| 18 | | 33 | | 50 | | 22 |
| 24 | | 29 | | 20 | | 36 |
| 30 | | 25 | | 30 | | 21 |
| 42 | | | | | | |
| 48 | | 4 | | | 1 | 7 |
| Mean progress months | 23 | | 22 | | 23 | |

Table 5.23 Months' Progress Grammar Scores Main Study Group 2004-2005

Unlike the pilot group, not all Case Study 3 children made 2 bands' progress in **both** information and grammar (12 months). The relative YR and Y1 results for these children are shown in Table 5.24. The 2 learners who made less than 12 months' progress did all make 1 band progress (which can cover up to 11 months, see section 5.4.3) in one aspect and 2 bands' progress (12 months) in the other. These results were not considered worrying as all children remained *within normal limits*.

| | Information | Grammar | Notes |
|-------------|--------------------------------|------------------------------------|---------------------------------|
| SF10 | ABOVE to ABOVE 12mts | WNL to WNL (-1) 6 mts | Frequent absences (tonsillitis) |
| SF18 | ABOVE to WNL (+1) 6 mts | WNL (+1) to WNL (+1) 12 mts | Already well ahead |

Table 5.24 Progress Less Than 12 Months Main Study Group 2004-2005

5.5.8 Impact on language delay

This section looks at the distribution of language delay across those with delay and tracks improvements in levels of delay as a result of the intervention and revised curriculum.

As shown in Figure 5.X, girls' moderate (and worse) delay was eradicated by the end of Y1 and there remained only 1 boy with moderate delay in his grammar score.

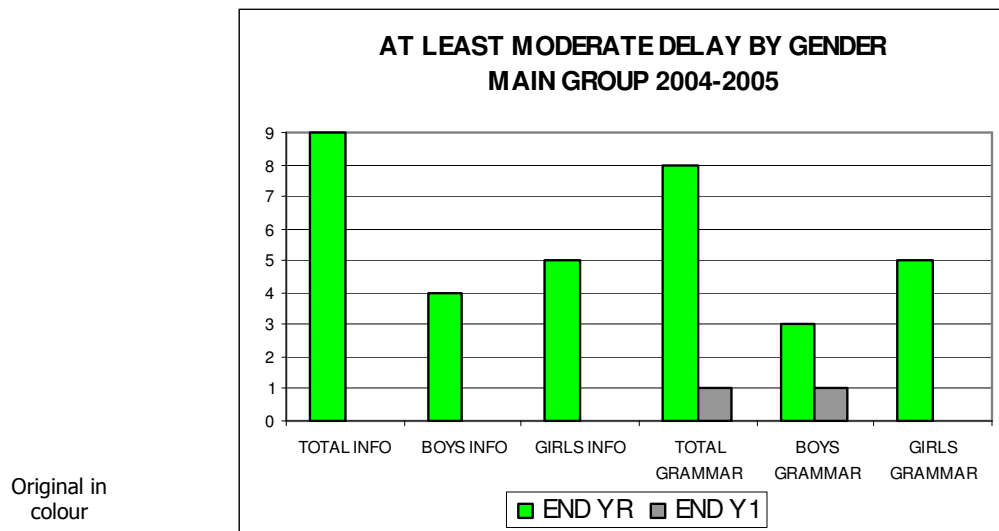


Figure 5.X At Least Moderate Delay Main Group 2004-2005

The pattern and movement of language delay proved interesting with good progress seen across the year. Figure 5.Y and Table 5.25 identify the progress of boys with delay as a group and as individuals, including the number of months' progress made by boys with delay at the end of YR:

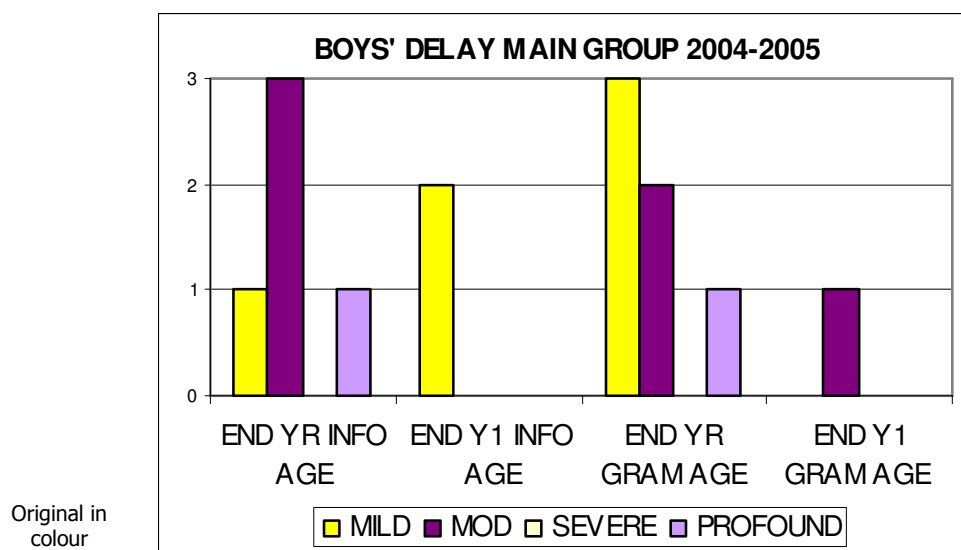


Figure 5.Y *Boys' Delay Main Group 2004-2005*

Boys with delay made good improvements in their language scores across the year with only 1 boy ending the year with moderate delay.

| Boys | Information YR to Y1 | Mts +/- | Grammar YR to Y1 | Mts +/- |
|------|-----------------------|------------|-----------------------|------------|
| SM4 | MODERATE to MILD | 18 | MILD to WNL (-1) | 30 |
| SM11 | MILD to WNL | 24 | | |
| SM13 | MODERATE to WNL | 30 | MODERATE to WNL | 30 |
| SM15 | PROFOUND to MILD | 30 | PROFOUND to MODERATE | 24 |
| SM19 | | | MILD to WNL (-1) | 18 |
| SM21 | MODERATE to WNL | 30 | MODERATE to WNL (-1) | 24 |
| SM24 | | | MILD to WNL (-1) | 18 |
| | Mean months' progress | 26 | Mean months' progress | 24 |

Table 5.25 *Movement in Boys' Scores YR to Y1 Main Study Group 2004-2005*

As is shown, all boys with expressive language delay made at least 18 months' progress and many exceeded this. The majority of boys with delay made 24 months' or more progress in information and grammar scores. SM15 made enormous progress to reduce his delay to mild in information and moderate in grammar. SM4 progressed from moderate to mild delay in information only. All other boys had caught up any delay and were now within normal limits.

Figure 5.Z and Table 5.26 show the results of the same categories for the girls:

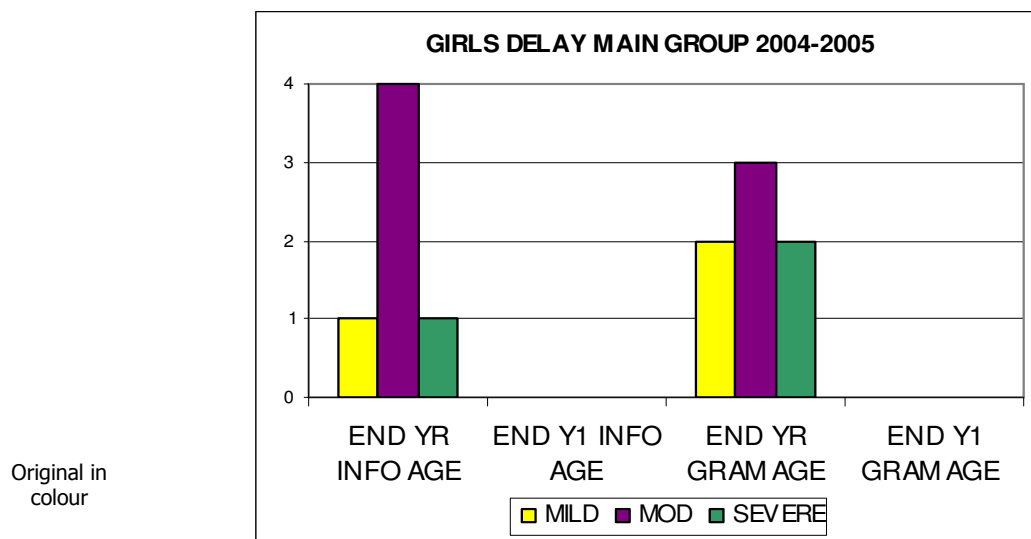


Figure 5.Z *Girls' Delay Main Group 2004-2005*

All girls made at least 18 months' progress with the majority making 24 months' or more progress in information scores and 30 months' or more in grammar scores. All girls with delay had caught up and no longer had language delay.

| Girls | Information YR to Y1 | Mts +/- | Grammar YR to Y1 | Mts +/- |
|-------------|-----------------------|---------|-----------------------|---------|
| SF2 | MODERATE to WNL (-1) | 24 | MODERATE to WNL (-1) | 24 |
| SF3 | MODERATE to WNL | 30 | MODERATE to WNL (-1) | 30 |
| SF8 | MODERATE to WNL (-1) | 24 | SEVERE to WNL (-1) | 30 |
| SF12 | MILD to WNL | 30 | MILD to WNL (-1) | 30 |
| SF16 | SEVERE to WNL (-1) | 30 | SEVERE to ABOVE | 48 |
| SF20 | | | MILD to WNL (-1) | 18 |
| SF22 | MODERATE to WNL | 30 | MODERATE to WNL (-1) | 24 |
| | Mean months' progress | 28 | Mean months' progress | 29 |

Table 5.26 *Movement in Girls' Scores YR to Y1 Main Study Group 2004-2005*

As is shown, all children with expressive language delay made at least 18 months' progress and the majority made at least 24 months' progress. Learners with language delay made better progress than the average progress for the whole cohort (see Tables 5.22 and 5.23). Girls with delay made better progress than boys with delay, especially in grammar.

5.5.9 Normal and atypical language development

This section of numerical data looks at the improvements within the cohort of the gender and age groups, in relation to *normal* language development. Figure 5.AA shows that this cohort made even better progress than the pilot group in achieving scores that were *within normal limits* and had no more than one age band between their grammar and information scores:

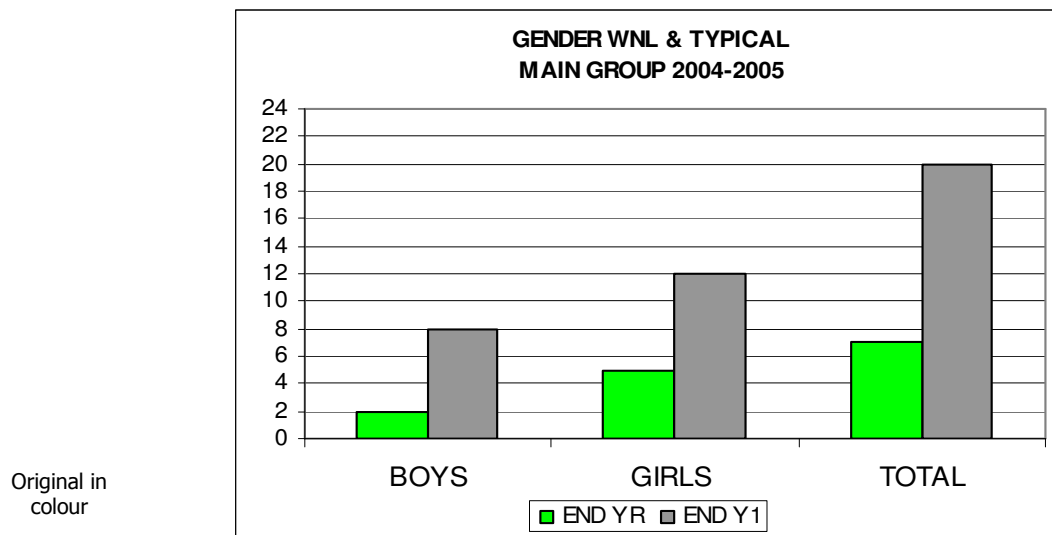


Figure 5.AA Gender Normal Language Development Main Group 2004-2005

Boys have made 10 percentage points more improvement in achieving *normal* language development than the girls, but remain slightly behind the girls in this.

Figure 5.AB shows the progress of the cohort with reference to children who were born in the summer. No summer-born children (G=3; B=3) achieved *normal* language by the end of YR but this had improved by the end of Y1. However, a difference remained between those born in the summer and those born in autumn and spring (G=11; B=7):

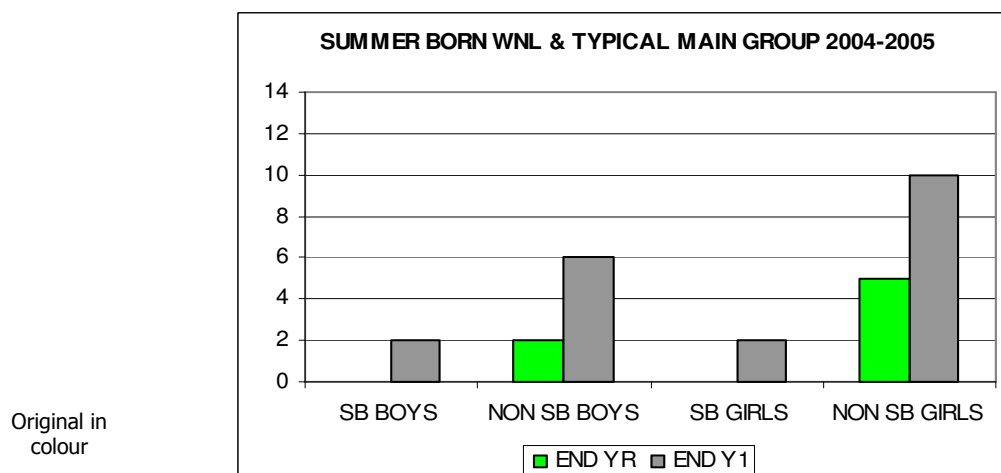


Figure 5.AB Summer-Born/Gender Normal Language Development Main Group 2004-2005

Thus, through the presentation of numerical data and their qualitative analysis, I have shown that children have made accelerated language development, as proposed in my emerging theory from Case Study 1 and Case Study 2.

What now needs to be shown is whether the new ways of working have had the anticipated impact on the KS1 assessments which followed 1 year after the end of the main part of Case Study 3 (see 4.3). At this point, in July 2006, a review of Case Study 3 was undertaken specifically to identify the impact on KS1 assessments and to interview learners from all 3 case studies in order to find out how their views of learning, literacy and their own competence in these had developed (see 5.5.5).

The following section looks at the impact of the intervention programme and the revised YR and Y1 curriculum on the KS1 assessments for the cohort. These are presented for the whole class, which includes children who had not been included in the data sets (*e.g.*, EAL). Following this, the KS1 assessment results are presented just for the learners who had been in the school since the Reception class until the end of Y2.

As already stated, the intervention programme was continued into Y2 for the second year, following its success for the pilot cohort. The KS1 results for both whole classes from Case Study 2 and 3 are therefore made comparable.

5.5.10 Impact on later standards of literacy

The purpose of this research was to question whether the *NLS* was impeding the language development and, ultimately, the literacy development of the learners in the project school. The level of language difficulty suffered by the learners in Case Study 1 meant that they made very poor progress in learning. This poor progress continued and by the end of KS1, their levels of attainment in literacy were very low (as the previous cohort's had been, prior to the commencement of this research project). I am repeating the table showing their KS1 results here:

| 2004 | Reading | Writing | Maths | Total APS |
|--------------------|---------|---------|-------|-----------|
| School result L2+ | 50 | 37 | 60 | 10.8 |
| LA results L2+ | 83 | 79 | 91 | 15.6 |
| School result L2B+ | 30 | 17 | 30 | |
| LA results L2B+ | 70 | 58 | 78 | |
| School result L3 | 13 | 0 | 3 | |
| LA results L3 | 33 | 14 | 31 | |

(Source: School data 2004; LA Data 2004)

Table 5.27 2004 End of KS1 Percentage Results Control Group 2002-2003

At the end of the main part of Case Study 3, several staff commented at a whole staff information sharing meeting for *talk and tell* (not part of the formal research design but an *in the field* observation) that it was as though there were '2 schools' in our school; one school from Y4 (control group) up and another from Y3 down. Attainment tracking data across the school show this to be an accurate view. The same view has also been acknowledged by the local authority's primary adviser. This description is equally valid of children's attitudes and behaviour.

The research proposed a different approach to teaching the curriculum, including the introduction of an programme designed specifically to target the speech and language development of Y1 learners. **My emerging theory from Case Study 1 and Case Study 2 was that by using the new methods, children would be more likely to succeed in achieving an average level (L2+) in literacy (and the wider curriculum) by the end of KS1 and beyond. This has been demonstrated within Case Study 3.** Table 5.28 shows the KS1 results for the whole Case Study 3 class, including those learners who had not been included in the main study group data set (see section 3.4):

| 2006 WHOLE CLASS | Reading | Writing | Maths | Total APS |
|-------------------|---------|---------|-------|-----------|
| School result L2+ | 69 | 58 | 73 | 12.5 |

| | | | | |
|---------------------------|-----------|-----------|-----------|-------------|
| LA results L2+ | 83 | 81 | 91 | 15.3 |
| School result L2B+ | 42 | 27 | 50 | |
| LA results L2B+ | 70 | 60 | 76 | |
| School result L3 | 15 | 0 | 4 | |
| LA results L3 | 30 | 13 | 27 | |

(Source: School data 2006; LA Data 2006)

Table 5.28 2006 End of KS1 Percentage Results for Case Study 3 Cohort

As was shown in section 1.3, levels of pupil mobility are high in the school as a result of significant deprivation factors. As soon as people become more affluent they move out of the area. This factor usually has a marked impact on our results. Therefore, it is important to show the results at KS1 for the children who were taught using our revised methods from their Reception year to the end of Y2 which I refer to as the *stable cohort*. Appendix T shows individual KS1 results for all learners in the main cohort and tracks the progress of language scores for each learner and as part of the whole cohort and as gender summaries. SF6, SF7, SM11, SF12 and SF18 left the school before the KS1 assessments were undertaken, reducing the stable cohort to 19 learners. Table 5.29 gives an overview of the percentage attainment of the **stable** cohort in the 2006 KS1 assessments (moderated by the local authority):

| 2006 STABLE COHORT | Reading | B | G | Writing | B | G | Maths | B | G |
|---------------------------|----------------|-----------|------------|----------------|-----------|-----------|--------------|-----------|-----------|
| School result L2+ | 95 | 89 | 100 | 74 | 67 | 80 | 90 | 89 | 90 |
| LA results L2+ | 83 | 80 | 88 | 81 | 76 | 88 | 91 | 90 | 93 |
| School result L2B+ | 68 | 67 | 70 | 37 | 22 | 50 | 68 | 78 | 60 |
| LA results L2B+ | 70 | 64 | 76 | 60 | 50 | 69 | 76 | 74 | 78 |
| School result L3 | 21 | 0 | 40 | 0 | 0 | 0 | 5 | 11 | 0 |
| LA results L3 | 30 | 25 | 36 | 13 | 10 | 17 | 27 | 29 | 25 |

(Source: School data 2006; LA Data 2006)

Table 5.29 2006 End of KS1 Percentage Results for Case Study 3 Stable Cohort

Thus, in Case Study 1, I proposed that children taught **without** the *NLS* and **with** our new methods will be more successful in later literacy scores. **This outcome is shown for the stable cohort, all of whom were taught with a FS approach to the curriculum in YR and Y1 alongside the speech and language programme, *talk and tell*.** These results are discussed further in Chapter 6.

5.5.11 Milestones in the development of the intervention and curriculum

This section will identify the major events through the life of Case Study 3 up to and including the review phase.

The intervention programme continued to evolve during the life of Case Study 3. It suffered a potentially serious setback when the format was reverted to focusing on only one or two children speaking at the front of the class in the session, with all other children asking these children questions after a long wait. This could have been prevented with more careful training for the teacher. However, it was detected within a matter of weeks and addressed immediately.

The name of the programme changed from *talking time* to *talk and tell* to draw a distinction on its focus. The planning pro-forma was further developed to include types of talk and outcomes (*Appendix Q*).

A structure of *talk types* was used to develop the programme and make progression clearer. As discussed in detail in Chapter 6, the intervention programme was developed throughout the school in January 2006 following 3 sessions of whole staff training which has since been reviewed. All classes have been observed while carrying out the sessions. At the special needs review in July 2006, teachers across the school cited *talk and tell* as having led to significant improvements in children's understanding, writing skills and general attentiveness.

Training gaps were identified in various aspects of delivery of the programme, such as extending children's sentences, questioning, encouraging talking for thinking and using a diagnostic language assessment tool with a particular focus on receptive language. All FS and Y1 staff were trained in the Derbyshire screening tool (Knowles & Masidlover, 1982). Again, this is discussed in the next chapter.

To assist the transition of assessment, the *Early Learning Goals* were used in the first term of Y1 and until the child in question achieved a level of 1C. This made reporting to the parents easier and meant the teacher could focus on progression and ensure that the child had suitable input to meet his or her needs.

We encountered a significant problem with other members of the infant phase staff, who had not been sufficiently included in the framing of the project. This is discussed in the next chapter.

5.5.12 Reflections

As discussed in Chapter 7 (conclusions), the research has shown that **children in this school make much better progress in their speech and language and in later literacy attainment without the use of the *NLS* in YR and the first two terms of Y1.**

During Case Study 1, children with language delay did not catch up when taught using the *NLS* in YR and Y1, and in fact, many fell further behind and their scores worsened along with their attitudes to learning and self-esteem (Riley *et al.*, 2004; Locke & Ginsborg, 2003).

However, all children who were taught with a FS approach to curriculum delivery through YR and the first two terms of Y1 alongside a language intervention programme, caught up their language delay where it had been mild, while all but one caught up when their delay had been worse than mild. Learners with language delay made better progress on average than the average progress for the whole cohort (see Tables 5.22 and 5.23).

Girls made slightly better progress in terms of months' improvement than the boys but average progress was 20 months for information and 23 months for grammar in 12 months. Girls with delay made slightly better progress than boys with delay, especially in grammar.

Children who had been taught with a FS approach to curriculum delivery through YR and the first two terms of Y1 alongside a language intervention programme, exceeded local (and national) averages in reading and matched them in maths at the end of KS1 for L2+; writing was just below the average for L2+.

I again wonder how different things might have been for the control group if they had not been taught with the *NLS* in YR and Y1. Currently the control cohort (in Y5 at this point of writing) are on track to achieve 50% L4+ in reading and less than 30% in writing; the cohort ended YR with 30% language delay in information scores, 40% delay in grammar with 25% of the cohort having *normal* language development. The current Y4 class (pilot cohort) are on track to achieve 85% L4+ reading and 70% L4+ writing, just above current local and national averages; they left YR with delay of 55% in information, 71% in grammar and only 17% of the cohort had *normal* language development. It is too early to give a prediction for Y3 (main study cohort).

5.5.13 Recommendations for the intervention programme

At the end of the main research for Case Study 3, *i.e.*, in July 2005 before the 2006 review, it was necessary to look at what needed to be refined before further developing the intervention. Lessons learnt from the research were considered and I came to the following conclusions about what to do next:

- The intervention should be extended to every class in the school and be viewed as a *programme* within the school curriculum rather than an intervention, which implies it is an *add-on*. This would help children in the top 3 years who did not have access to this support to improve their understanding and ability to use language. Children with severe delay were receiving individual or small group support across the school already as part of a previous initiative, but, as has been seen, even a relatively minor level of language delay can impact on children's learning and their attitudes to learning.
- Training should be provided for all teaching and support staff in recognising language delay and understanding its implications for learning and behaviour as well as in how to build capacity for improving children's language skills into the curriculum. Following this, a whole school speech and language policy should be devised.
- Careful monitoring of the use of *talk and tell* across the school would be needed to ensure everyone's understanding and regular feedback meetings will help to ensure the project remains on track.
- A DVD should be made of effective *talk and tell* sessions for help to train existing and new staff.
- A bank of example plans should be built up through a whole staff INSET day for *talk and tell* to assist teachers and assistants in trying out different *talk types*. Staff should contribute to providing a range of examples on the *talk types* information sheet.
- An infant phase transition plan should be developed, covering Nursery to Y2 to ensure all staff understand the vision for language work and the curriculum format.
- The format should be applied to supporting the teaching maths in the early years and in the juniors.

5.5.14 Summary of Case Study 3

Case Study 3 has shown that **all of the theoretical propositions outlined at the end of Case Study 2 have been shown to be correct during the life of Case Study 3** (see 5.5.14).

For the second year, all learners made good progress as a result of abandoning the *NLS* in favour of a FS curriculum approach and the introduction of a language programme.

Having demonstrated the impact of the intervention and new curriculum on the speech and language scores of the learners in Case Study 3 which replicated the successes of Case Study 2, the programme has been developed further and implemented across the school. This is discussed in the next chapter.

Conclusions are presented in Chapter 7.

Chapter 6 – Discussion

6.1 Introduction

'What are the factors involved in improving standards of speech and language in Year 1; to what extent, how and why do these impact on children's attitudes to learning, language development and later literacy standards?'

In the previous chapter, each report has been presented with the data its case study was designed to uncover. The first case needed to look at the extent, scope and nature of the identified problem so that any possible intervention was framed on the actual difficulties encountered by the learners. The second case needed to show whether the proposed intervention and change to the curriculum did, in fact, lead to improvements in children's standards of speech and language. The third case needed to answer the ***so what?*** questions.

The intervention and revised curriculum were very effective. Whereas children in Case Study 1 made very little progress in learning or language scores, the opposite of this was true in Case Study 2 and 3. In the first study, just 37.5% of learners made 12 months' progress in both grammar and information scores throughout Y1. In Case Study 2, this increased to 100% and in Case Study 3 it was 92% - the remaining 8% made 12 months progress in one of the two aspects and 6 months in the other and they had started Y1 already *within normal limits* or above. During Case Study 1, the intervention and curriculum changes only ran for 10 weeks; however, it is possible that without this, their scores may have been even lower. In general, children with language delay in Case Study 1 fell further behind whereas those in Case Study 3 made better average progress than the average for the class. The two boys who did not completely catch up in Case Study 3 were well on their way to catching up with more than 18 months' progress made in language scores in just 12 months. All other children had completely caught up and no girls had delayed language at the end of the year. Children in Case Study 2 and 3 were not taught using the *NLS* in YR although those in Case Study 1 were. Children achieving *normal* language development increased dramatically using the new ways of working in Y1, as shown in Table 6.1:

| Case Study | End YR | End Y1 |
|-------------------|---------------|---------------|
| 1. Control | 25% | 42% |
| 2. Pilot | 17% | 71% |
| 3. Main | 29% | 83% |

Table 6.1 *Normal* Language Development Progress Across 3 Case Studies

However, demonstrating improved speech and language is just one aspect of this research and really only answers the ***if*** and ***to what extent*** elements of the research question. What matters most is understanding exactly what it was *about* the programme and revised curriculum that

helped to achieve improved standards; in other words, the key to the research is uncovering the **factors** which may improve standards of speech and language in Year 1.

This research is bounded by the context and setting in which it was carried out. In order for it to be useful to others concerned with the education of children in the first few years of primary school, it is essential to define **how** and **why** these factors impact on children's learning and attitudes. As a result, other professionals can benefit from the findings and the emerging theory and extrapolate it to address ongoing language problems for learners within their own settings. Emerging theory, grounded in the research, will be presented in the conclusion of this thesis within Chapter 7. *Appendix U* provides a matrix used to collate these factors and their theoretical explanations.

Thus, this chapter is intended to answer the research question. To do so, I will draw out the general **factors** that have been shown through the research findings to impact on children's attitudes to learning, language development and later literacy standards. I will describe **how** these have impacted and use the key literature to demonstrate **why** this may be. From these more general factors, a list of particular factors is elicited and presented in the conclusion.

6.2 What, to what extent, how and why?

The programme, as it stands, is not a product. It deliberately does not come as a prescriptive *framework* to follow step-by-step. It does not have level descriptors nor pre-defined assessment criteria for teachers to apply. Primarily this is precisely because one of the most important factors in improving the speech and language of children, in a given class or a whole school, is the teacher's understanding of what the children's needs are in that place and at that time. Teachers need to have the courage and support of their headteacher to do what is right to address those needs, regardless of whether they are covered at that point in the national framework.

6.2.1 Assessing, understanding and meeting the children's language needs

The research has shown that where staff recognise and understand the children's language needs, the children make better progress in their learning and language development and have better attitudes to learning.

In Case study 1, children were taught a curriculum which had very little to do with their particular language needs. Their learning derived from the national framework aimed at Y1 children of all abilities and from all backgrounds. Of course, the teacher differentiated the work within the learning objectives but often these objectives had no specific relationship to where the children

were in terms of language development. In return, the children were unco-operative, unhappy, despondent, unmotivated and frustrated. In the lesson observed (5.3.2), children did not have the oral language skills needed to carry out the task which resulted in learners not enjoying the lesson and making inadequate progress throughout it. Ginsborg and Locke (2002) argued that without adequate language skills, children are hindered in the school environment; because there was an abyss between their needs and the teaching, the children I interviewed seemed to feel that they were failing at school – and they were just 5 and 6 years old at that time. Despite an hour a day of formal literacy teaching for 2 terms of Y1 (which they had also experienced for 2 terms in YR), children were making almost no progress. Children with language delay, both boys and girls, fell even further behind by the end of Y1 and even children with only slightly below average language skills made very poor progress, with just less than 37.5% of the class making 12 months' language progress in the year and 42% achieving *normal* language development. By the end of KS1, these more language-competent children managed to achieve L2+ in the reading assessments but 50% of the class had not; only 37% achieved L2+ in writing. Hence, **it seems there may be a correlation between the percentage of children with *normal* language at the end of Y1 and those achieving L2+ at KS1.** (I will demonstrate this further at the end of the next paragraph.)

By contrast, in Case Study 3, teachers had time to implement a curriculum which was relative to the needs of the class. As a result, children co-operated, were happy learners and were motivated, positive and enthusiastic in their learning. Because their language needs were considered and addressed, they made good progress in lessons, in their language development and in later literacy standards. At the end of YR, around 50% of the Case Study 3 cohort had language delay and only 29% had *normal* language but by the end of Y1, with their language needs obviously a priority in the teaching delivered, 83% had achieved *normal* language. Again, the correlation between this percentage and those achieving L2+ at KS1 appears to be linked; of the stable cohort (*i.e.*, those children who had been at our school from YR to the end of Y2 and thus, had benefited from our curriculum in YR and Y1 as well as *talk and tell* in Y1 and Y2), 95% achieved L2+ in reading and 74% did so in writing. If these two percentages are added together and averaged, 84.5% is the product; 83% of children had *normal* language development at the end of Y1 - the mean Y2 literacy result is 1.5 percentage points higher than the figure for Y1 *normal* language. In Case Study 1, 42% had *normal* language development at the end of Y1 while the mean percentage of children achieving L2+ in reading and writing in Y2 is 43.5% (50% + 37% averaged) – again, 1.5 percentage points higher than the figure for Y1 *normal* language development. While I am quite sure that I have not uncovered a remarkable theorem (probably more likely a remarkable numerical coincidence), **it seems that there is some correlation**

between levels of *normal* language development at the end of Y1 and the likelihood of success in KS1 literacy assessments.

Why is it so important to teach according to the language needs of the class and individuals? Language skills underpin so much of a child's developmental potential. Locke (2002a) argues that teacher talk, so dominant in the delivery of a framework with pre-determined learning objectives, is only effective if children can follow or understand it. She adds that many children fail to learn because they cannot make sense of, or remember, the long and complex sentences used by the teacher.

Dockrell and Lindsay (2001) argue that poor language skills stand in the way of emotional and social development of children. The Case Study 1 cohort together with the year above them (our current Y6) have been described as being one of '*2 schools*' within our school (see section 5.5.10) because of their lack of ability to manage their own emotional and social needs as well as their often negative view of learning and of their own learning competence. Conversely, from the pilot cohort down, the classes are all very positive with fewer emotional issues, significantly better behaviour and much better attainment (as stated in section 5.5.12). Johnston (2005) stated that children with language delay are at greater risk of academic failure and mental health problems. The Mental Illness Needs Index for the area (NDC, 2000) shows that residents in the ward already have a greater risk than the rest of the city of suffering mental health problems. Language needs left unattended will only make all of these problems worse for our children. **Thus the first general factor is recognising, assessing, understanding and meeting the children's language needs.**

6.2.2 The YR and Y1 curriculum

In order to accommodate children's language development needs, an appropriate *constructivist* curriculum is essential (McQuail *et al.*, 2003). **This research has shown that children have made better progress when they have been taught with a flexible, constructivist, interactive curriculum, delivered in a Foundation Stage approach, which has been designed to meet their individual and whole class language and developmental needs.**

The oral-rich curriculum offered in YR and Y1 was designed to combat the '*shameful neglect*' (Corden, 1999) of oracy in the framework of the *NLS*, which had seemed to harm the success of children in Case Study 1, and which is evident even now the children are in Y5 (Aubrey, 2002; Wood & Bennett, 2000; Anning & Edwards, 1999).

Children from Case Study 1 were taught formally using the *NLS* during YR (from the spring term) and Y1. The teaching was externally moderated by Ofsted and others and was assessed as *good*. However, children's language development was poor and results at the end of KS1 were also poor. The *instructivist* curriculum was considered responsible for this in our school (McQuail *et al.*, *ibid.*). Concern has been expressed about the damaging impact of a '*too-early*' start to formal education particularly for children from socially disadvantaged backgrounds such as those the school serves (Locke & Ginsborg, 2003; Sharp, 2002; Croxford, 1999; Halpern, 1992; Resnick & Goldfield, 1992)

Throughout Case Study 2 and 3, the *NLS* was not taught until the third term of Y1 so that the spoken aspects of language could have primacy. Recent research has outlined the link between effective spoken language skills and later literacy development (Griffin *et al.*, 2004; Catts & Kamhi, 1999; Kavanagh, 1991; Snow, 1983; Clark & Clark, 1977; Clay, 1979; Goodman & Goodman, 1979). Palmer (2004) argues that successful development of literacy depends on language and listening skills and these were the underlying principles of our revised curriculum which was carefully designed to meet the needs of the children; it was successful in improving language development by the end of Y1 and literacy attainment by the end of Y2.

As stated, 95% of learners in Case Study 3 (who had been in the school in YR and remained until the end of Y2) achieved L2+ in reading while 74% did so in writing. However, success was not limited to the end of KS1. Despite a curriculum consisting of considerably less formal teaching of reading than previously delivered in the school (prior to Case Study 2), 23 out of the 24 children in the main study cohort achieved at least a 1B in the end of Y1 assessments. The only child not to achieve this had been assessed as having profound language delay at the end of YR but this improved to mild delay (information) and moderate delay (grammar) by the end of Y1.

The format of the curriculum was an important part of the changes. Instead of hour long lessons, the timetable was divided throughout YR and Y1 into smaller learning *chunks* which were designed to ensure that learners were supported through the use of adults and other resources in the classroom. The 3-a-day system allows the teacher and class teaching assistant to focus on 3 children each every day, meaning that all children have access to a full day's support every week where the adult can lead conversations and interactions, gradually handing responsibility for these to the child (Bruner, 1983). In week 1, this would be from the teaching assistant and in week 2 from the teacher. All children are supported additionally as required but this system allows for focused intervention and development and gives opportunities for children to develop skills and understanding outside of what might have been achievable without the expert support, thus meaning that they extend their learning within their *zone of proximal development* (Vygotsky,

1978). Staff felt it gave them time to talk to the children and encourage them in their learning which they saw as having a positive impact on children's confidence. In fact, children from the pilot and main study groups who were interviewed demonstrated their confidence and their willingness to take risks in their learning which they seemed to enjoy.

Just as section 6.2.1 has shown that there is a link between *normal* language development and later literacy success, this research has also shown the link between effective curriculum design and improved language skills, reduced language delay and increased levels of *normal* language. Another numerical coincidence shows that in both Case Study 2 and Case Study 3, children's levels of *normal* language development rose across the year by 54 percentage points while in Case Study 1, it rose by only 17%, some of which may have been attributable to the 10 week intervention programme and revised curriculum.

Alongside good development of oral skills, the new curriculum consists of early learning principles shown to support children's learning. This curriculum ensures that children have access to play, to investigative activities, to exploration and to language in all its forms. New vocabulary is developed, extended and reviewed at regular points. Above all, there is a special place for the use of stories, rhymes, songs, poetry and jokes to encourage a love of language, the ability to recognise sounds and an understanding of the role of text. Story makes a significant contribution to children's later literacy development (Wade, 1984) by extending vocabulary and verbal artistry (Grainger, 1997), advancing knowledge of literary conventions (Fox, 1993) and developing knowledge of ritual 'story parts' such as beginnings and endings which help children in later years with compositional elements of their written work (French & Woll, 1981). Children's early knowledge of story is the most influential indicator of later educational achievement (Wells 1986). The use of story in the *NLS* was frequently by means of short extracts of texts, used to facilitate a learning objective rather than for developing a love of language and the freedom such language can give children to express their thoughts, feelings and desires and to understand the world around them (Halliday, 1973).

One of the criticisms levelled at our approach has been that, at the end of KS1 at L2B our writing attainment is much lower than our reading attainment. This also impacts at L3. To me, it is perfectly obvious why this is the case. Writing is not taught formally until the third term of Y1 and thus, children have only had 2 full terms of input by the time the KS1 assessments take place and so they will not have got as far *in the short term* as children who have had more time to develop writing skills. However, because they are more developmentally ready to learn to write when they start to do so, they make rapid progress. The analogy of the tortoise and the hare springs to mind.

Learning is not a race, it is a lifelong adventure; setting out too early without adequate preparation can mean loss of motivation and stamina and not *ever* getting as far on the journey as the person who set out half a day later, after a good look at the map, a decent breakfast and a warm-up. It is noteworthy that at 6 years, the UK has one of the best profiles for reading achievement in Europe and yet by 15 years, we have one of the worst. The principle is the same. *Appendix V* shows extracts from 3 recent examples of unsupported written work from average ability children in the current Y3 class (from the main Case Study 3 cohort) to show how much progress they make by the spring term of Y3 (March 2007). These are contrasted by extracts from 3 examples produced in the same term (March 2007) from learners in Y5 (the control Case Study 1 cohort) who had similar YR language scores. The results speak for themselves – the main study group started formal learning in writing 4 terms later than the control group and yet, inside 2 years they are about to outperform children who have had 5 years of formal literacy teaching. Moreover, 70% of the Y4 class (Case Study 2 group) are on track to achieve L4+ in writing in their end of KS2 tests, a few percentage points above the current national average. Given their huge levels of language delay on entry, this shows very good progress.

However, the local authority focus is very much on standards achieved by the end of Y2, regardless of the negative impact such focus has been shown in this study to have on children with poor early language skills. This focus (and the concomitant downward pressure) is almost certainly a result of the attitudes of the government and the authors of the *Primary Strategy*, of which the *NLS* is part. Alan Johnson, Secretary of State for Education and Skills (DfES, 24 August 2006) states, '*We are determined to improve standards at KS1 where I am concerned that we are not building fully on earlier success*'. Further, the *Primary Strategy* document states:

'The standards that children achieve at the age of seven, particularly in reading, are strongly associated with future progress, and we are determined that children be assessed rigorously and effectively at this age' (DfES, 2003, 2.26).

Palmer (2004) calls for an end to this '*the sooner the better culture*'. Goodwin (2001) states that despite widespread knowledge of the importance of talk in children's learning, modification of teaching strategies has been very gradual. I argue that the expectation on schools to deliver *good* KS1 assessment results is the reason for this. **This research shows that *good* KS1 results can be achieved without risking the future success of our children's learning.** Senior personnel from my own local authority, having expressed serious doubts from the outset of the pilot project, have commissioned an article about its success which is to be published in the authority's magazine in April 2007 (*Appendix W*).

In contrast to the view expressed by the Secretary of State, the Welsh Education Secretary, Jane Davidson, developed the rationale for the Welsh Foundation Stage project which began in September 2004 whereby many Welsh infant schools have extended the Foundation Stage to the end of Y2. The plan is to roll this project out to all Welsh schools by September 2008. Wales abolished the end of KS1 tests in 2001. Alongside the project in Wales comes the understanding of the need to fully cater for children's future learning needs and the concern for effective transition between YR and Y1; this is discussed in 6.2.5 in the context of this research. **Until the assessments at the end of KS1 are abolished in England, there is less chance of other schools having the courage and support of their local authority to provide the curriculum their children deserve and which I have had to battle to be able to provide.**

6.2.3 *Talk and tell and other support systems*

In section 6.2.2, I have shown that the revised curriculum in YR and Y1 is a key factor in improving children's spoken language. Within this curriculum, I developed the intervention which became known as *talk and tell* which has been a significant factor in the improvements seen for learners in Case Study 2 and 3. ***Talk and tell was described by the Case Study 3 teacher as 'the best bit' of the new curriculum in Y1 because 'they really enjoy it and it's got such a set structure that they feel 'in charge' of it'.*** It was felt to be important that the structure was familiar to the children and that its routines were predictable, repetitive and carried out regularly (Bruner, 1983) so that it became a common feature of the classroom. The children interviewed in July 2006 all said they liked doing *talk and tell* and in the main this stemmed from their enjoyment of talking to their peers and being able to have a chat with them. PF14 (by this point at the end of Y3) felt that *talk and tell* helped her to structure her writing as did PM6; both learners from the pilot group had very positive attitudes to writing. The Case Study 3 children had not yet had the link between talking and writing made explicit since the purpose of *talk and tell* up to Y2 is intended to be for the sake of the talk itself and as such to support the children's overall language development rather than just to be a tool to develop writing. There is an implicit link between talking and writing in each plenary when the teacher writes a model sentence but this is not overtly extrapolated into the children's own writing until Y3. CF7, although not enjoying learning or literacy, felt that *talk and tell* was the thing she liked best at school.

Talk and tell is developed from the principles of children talking to communicate within a social interaction and conversation (Heath, 1983; French & Woll, 1981), to develop their thinking through exploratory talk (Halliday, 1973) and to begin to use decontextualised language (Poveda *et al.*, 2005) for increasingly abstract purposes. The subject content of all *talk and tell* sessions originates within the experience of the child – it is not used to introduce subject content for new learning.

However, it does often provide an opportunity to introduce, develop and extend vocabulary which will be needed for new learning. This rationale stems from the understanding that, '*children learn through talking about things that are meaningful and relevant to them and their oral language reflects their current understandings of what is being considered*' (Goodwin, 2001, p.70). Edwards and Westgate (1994, p.6) argue that, '*talk is central...because it helps learners to make explicit to themselves and others what they know, understand or can do.*' Bruner describes talk as a '*cognitive amplifier*' (1972) which helps children make meaning from the words and language that they hear (Wells, 1986).

Children need to listen to others speaking in order to develop their own vocabulary (Nation & Snowling, 2004) and the structure of the session allows for listening to the teacher modelling in the introduction, a *talk partner* in the main 10 minute session and members of the whole class in the plenary. It is important that at times, the partner is a *more experienced communicator* (Vygotsky, 1978) to help children acquire the necessary language to articulate the thoughts which they have but cannot yet express; this is supported by the adults and the teacher's choice of pairings. As children's language improves, this becomes easier to manage.

The programme does not set out to *explicitly* teach grammar but in Case Study 2 and 3, children's grammar scores developed more rapidly (by around 4 months on average) than their information scores. By presenting children with language structures as examples (some of which they may or may not be exposed to at home), they begin to incorporate these into their own use of spoken language as well as creating their own unique structures (Chomsky, 1968; Bruner, 1983; Pinker, 1994). In some sessions, children will be taught to use, for example, a *because sentence* or a *comparing sentence* (see *Appendix R*) but these will not be broken down into grammatical parts with children expected to know their syntactical terms or properties, unlike in some of the objectives in the *NLS* or the *Grammar for Writing* materials (DfES, 2000) provided by the *NLS*. Generally, of the 3 sessions per week, one will be based on children sharing their news, one on expressing views about something to do with the topic currently being explored in class and the third will be a more specific teaching focus from the *talk types* overview (*Appendix R*).

Although outside of the remit of this research, it is noteworthy that the *talk and tell* programme is now running throughout the school in every class including Nursery. The format varies slightly, inevitably, according to the age of the children but the principles remain consistent throughout. Staff in the KS2 classes have identified the impact of this on children's language, particularly for

children with special educational needs but also for more able children in terms of structuring their ideas and developing confidence.

Boys and disadvantaged children from socio-economically deprived areas have been shown to make inadequate progress in language skills and later learning (Riley *et al.*, 2004; Locke & Ginsborg, 2003; Croxford, 1999; Halpern, 1992; Resnick & Goldfield, 1992), but children with language delay made very good progress through the pilot and main studies, with girls' delay totally eradicated by the end of Y1 in Case Study 3. Only 2 boys still had delay, one of whom had been assessed with profound delay at the end of YR and who made 30 months' progress in information and 24 months in grammar in just 12 months. The other had improved by 18 months from moderate to mild delay in information only. While the focus on boys is a national concern, we found that girls in the pilot project group did less well than boys in YR and Y1. Tizard and Hughes (1984) found that girls were not comfortable to expose their use of language in the classroom despite being language-competent in the home environment. There was considerable emphasis initially on developing the boys' language and providing them with more access to support; we altered this philosophy during Case Study 2 and 3 to ensure equality of access to the support systems for all children. Girls in our school appear more confident to learn when the ethos is more equal rather than when the ethos seems to favour the boys. This may have resulted in boys reverting to making marginally less progress than the girls in Case Study 3.

Alongside *talk and tell*, support is also provided through daily small-group or individual language sessions with the expert speech and language assistant. The principles of this work are exactly the same as for *talk and tell*. **The children work with the adult to develop their language in a social situation through interaction with that adult** (Tomasello, 2003; Bruner, 1983), developing vocabulary in the main. This ensures that those children with the greatest need have the opportunity to work with a more competent communicator. Snack and chat time allows children to use talk for their own purposes and to recognise the value of social interaction; this is discussed further in the next section.

6.2.4 The classroom culture and environment

A classroom culture and environment centred on the principles of play, social interaction, investigation and kinaesthetic support was shown to significantly improve children's language development.

Throughout Case Study 2 and 3, children were encouraged to bring their own language into the classroom and to feel safe doing so. *Talk and tell* was a key factor in this provision

along with the revised curriculum and timetable structure. Children need to trust their school environment (Winnicott, 1971) and their teachers (Labov, 1972). Using a more formal curriculum makes it harder to take children on from where they are, as has been shown above in 6.2.1. The culture of the classroom is a key factor in improving children's learning and language since a child's learning is affected by the culture in which it takes place (Vygotsky, 1978; Wood, 1988). Children's language is more effectively used and developed in *safe settings* (Labov, 1971).

In using less formal teaching strategies and incorporating many individual and small group learning opportunities rather than long whole class lessons (as shown in section 6.2.2), **we have reduced the likelihood of adults using language which is too far removed from the children's experience and which could inhibit their learning** (Bernstein, 1970). Children will still need to adapt to unfamiliar language structures used in school (Barton *et al.*, 2005; Street, 1995; Heath, 1983) but, through the support structures already described (especially the use of *talk and tell*), teachers can *gradually* shift the language use of the children to more formal standard English structures for use in the classroom. This means that children's linguistic *habitus* is accommodated and gradually developed to include the language of learning (Bourdieu, 1986). This is especially important since the child's linguistic *habitus* underpins the types of language that children can confidently use. By developing the *habitus* to include new structures to support learning, children benefit from the social and cultural capital they will need to acquire in order to become effective learners and happy citizens.

Play was described in Case Study 3 as a 'full-time feature' of the revised curriculum and classroom environment. This was confirmed by the observations and learner interviews. Good provision was made for children's play development. This is a significant factor since children acquire language and literacy through the linguistic context of play (Fox, 1993) and it is through play that children learn that meaning can be carried in symbolic signifiers (Vygotsky, 1978). Chaney (1994) argues that in homes where there are fewer books or literacy models, play is an even more important aspect of children's literacy development. Provision for play in the classroom (as described in section 5.5.2) includes opportunities for symbolic and imaginative play since play is a natural catalyst for the development of speech and speech has been shown to be essential for thinking about learning and for literacy development (Vygotsky, 1978). Play helps children to manage their own emotional development and to cope with their lives. As was seen in Case Study 1, children's emotional development had been subjugated to their formal learning and the result had been an overwhelming majority of '*unhappy learners*'. This cohort still have difficulty in managing their feelings and this has been seen to get worse rather than better as they have moved through the school. Winnicott (1971) states that only through play is the child '*free to be*

creative and it is only in being creative that the individual can discover the *self*. He also argues that being creative is what makes life worth living. Montessori (1975) proposes that the school must provide opportunities for children to explore the *self* through play. Children in Case Study 2 and 3 still present as classes of very happy learners just as they did during the studies.

Vygotsky (1978) showed that language develops through a continuous exchange of information between the learner and his environment. Providing opportunities for the children to work in pairs and small groups in Case Study 2 and 3, facilitated a higher level of social interaction along with opportunities for the social use of language. Halliday (1973) argues that the whole theory and practice of education depends on the relationship between language and social interaction. Children were able to work collaboratively and come to shared understandings through language and experience (Bruner, 1972). This was less developed in Case Study 2 where children would often work in a group situation but would be undertaking an individual task. In Case Study 3, the teacher developed the context of group work to include more co-operative tasks and activities.

Visual and kinaesthetic supports for children's language, such as MAKATON® play an important role in helping to develop children's ability to process and understand language (Kouri, 1989). Staff felt that these gave access to the curriculum and intervention to those learners who had difficulty with receptive language difficulties as well as those who struggle to express themselves. They also reported that these helped children to feel more in control of their own day resulting in improved confidence and self-esteem.

Music, singing, physical learning and using the outdoor learning environment are all regular components in the structure of the school day which are facilitated by the classroom environment (Lloyd & Wernham, 1998; Oussoren, 2005). Where these forms of learning were embedded into the curriculum, children made better progress in language development, had more positive attitudes to learning and performed better at the end of KS1 compared to where the curriculum was more formal. **Thus, the classroom culture and the learning environment were important factors in the success of Case Study 2 and 3.**

6.2.5 Staff skills, knowledge and understanding

Developing the intervention programme and revised curriculum required considerable staff development and training. Where this was overlooked, the work of the research was at risk of failing to impact on the children's language development.

In Case Study 2, administering the language screening test brought with it difficulties which highlighted the need for good quality training. Assuming that staff had understood the principles of what we were doing proved to be a problem several times throughout the 3 years of this research, as described in the case study reports. Although it may seem as though this factor is more about improving the skills of the staff than improving children's standards of speech and language, I argue that the two things are inextricably linked. Everyone needs to be working to the same goals with the same understanding in order to effect the improvement in children's education experience that this research set out to achieve. As demonstrated in the case study reports, the key areas that required training throughout the study for Y1 (and YR) staff were:

1. Administering language assessments.
2. Recognising children's language difficulties and the impact these difficulties can have on them, including the effects on learners' self-esteem, attitude to learning and their ability to access the school curriculum.
3. Extending children's sentences, helping them to add precision and clarity and to form questions, using verb tenses, promoting talking for thinking and to look *at* language rather than look *through* language.
4. Understanding the long term benefits of play, social interaction and talk on children's cognitive, emotional and social development.

These areas are key to providing the right support to our children. Wells (1986) states that what children require from adults at school is evidence, guidance and support. Locke (2002a) advises that, while we cannot expect teachers to undertake detailed linguistics training, there should be a higher level of teacher understanding and knowledge of the key elements in improving children's language, which she identifies as those in point 3 above. Children's language has been shown to develop more rapidly where adults specifically extend the meaning and content of children's utterances (Barnes *et al.*, 1969; Cross, 1978). Staff require training to be able to make the best use of the opportunities offered by the revised curriculum, the *talk and tell* programme and our small group support.

Within Case Study 3, the transition between YR and Y1 was a key area to focus on. Children in the third study felt that the transition to Y1 was smooth and had been '*terrific*'. As an outcome of my previous research, the environment of the Reception classroom had been improved to incorporate the principles of effective early teaching and learning. What was important to this research project was developing and extending that into the Y1 classroom. The children's responses seem to

indicate that this had been successful. Staff felt that having already taught the class through the Reception year had made the transition to Y1 very effective. This advantage may not always be possible (and indeed was not for this academic year, 2006-7) and thus effective transition is a key element in this factor. In addition, **training for teachers in using the *Early Learning Goals* to assess children's learning in the first term of Y1 is essential to avoid an unnatural lurch from the Foundation Stage to the KS1 curriculum**, as outlined in 5.5.4.

However, the importance of transition from YR to Y1 was actually a smaller issue than a much more significant yet unexpected issue where the involvement of and commitment from all FS and KS1 staff in the development of children's language became a factor which almost ended the project (see section 5.5.4).

The Nursery teacher was new to the school and had not been adequately involved in the process of change. She understood that we had additional speech and language sessions for every child in the Nursery (see 1.4) but she saw this as an '*extra*' and previous good practice in developing language skills in Nursery had not been continued. The SLT revealed that because the children had such difficulty with language, the new teacher had begun to use less language in the Nursery. The new Reception teacher was working closely with the Y1 teacher to ensure the YR curriculum remained truly Foundation Stage in delivery which had inadvertently weakened the links between the teachers in Nursery and Reception. At this point it became clear that so much emphasis had been placed on supporting Y1, that the *vision* had not been adequately shared across the FS phase and into KS1. Thus, an apparently unpredicted disadvantage of the YR teacher taking her class into Y1 for Case Study 3 was that there had been no need to discuss the project more widely. It had been treated by staff (and myself) as a Y1 project and it was true to say that no-one else was really involved. The Case Study 2 teacher had received significant input, taking her class through the last 2 terms of YR and the whole of Y1 but she had by now gone on maternity leave and her expertise was not available to support the Case Study 3 teacher; in a short time, this resulted in the intervention reverting to a *show and tell* approach.

At the same time, the Y2 teacher (also the Literacy Manager) was becoming uncomfortable with the amount of play and informal work in Y1 and the fact that they were not '*doing the NLS*'. As reported in the study by Locke and Ginsborg (2003), she was anxious that the children would not be ready for Y2 and that she would not be able to '*get them through their SATs*'. She was not being deliberately awkward; she just did not want to be '*blamed when they do badly*'.

It became clear that a whole phase transition plan was needed to ensure the continued success of the project and to ensure that the language development of our

youngest children was not jeopardised. Once a transition plan had been established and training provided, things started to improve although the Y2 teacher was still anxious. She need not have been. When the children arrived in her class, she very quickly realised that they were ready and willing to learn. As shown in Table 5.29, the Case Study 3 stable cohort went on to achieve excellent KS1 results. At the beginning of the new school year, at her request, she became the Y1 teacher and is completely committed to the revised curriculum and the programme. Maintaining commitment through regular discussion with all staff has been essential.

Following the end of the main part of Case Study 3, discussions were held with staff across the school to consider implementing the programme, *talk and tell*, in every class. This raised additional training needs:

1. Whole school understanding of the issues around early language development and the long term implications poor language skills can have, including how to recognise this in older learners and support them to catch up.
2. Whole school understanding of the different types of talk and how to provide opportunities for them within the curriculum.

Thus, in order to ensure the success of any schemes to improve children's standards of speech and language, it is essential to involve the whole phase staff up to and including Y2 because there is an impact on everyone and progress can be impeded without commitment to the changes.

6.2.6 Making the school accessible to learners and their families

The quality of the mother's engagement and use of language with her child is a key factor in children's early language development (Sylva *et al.*, 2003; Murray, 2001; Stevens *et al.*, 1998; Wells, 1986; Tizard & Hughes, 1984; Cross, 1975; Snow, 1972); **as such it has to be a key factor for the school to facilitate this engagement.**

Developing links with the child's family and home from the earliest stage has been very effective in improving children's attitudes and their language skills. In Case Study 3, the class teaching assistant identified the impact of families attending the toddler group on the attitudes of those families to school and to supporting their children's learning and language. Our SPLASH! sessions bring parents and carers, and younger siblings, into the classroom to see for themselves the learning that children do in YR and Y1. In this way, we can reach those families who want to support their children's learning and help them to use and understand the *language of learning*.

Case Study 3 children identified that SPLASH! time was one of their favourite parts of the school week.

Children in my three case studies have demonstrated that their language is significantly delayed, given the screening test results. However, with the right approach to the curriculum and language support, they make rapid progress as shown in the case study reports. This confirms that they have the capacity to develop *learning language* with the support and guidance of the teacher. It is important that staff recognise the deficit is generally in the child's experience of using language for the purpose of learning and not in any pre-disposition to have delayed language (Wells, 1985; Tizard & Hughes, 1984; Labov, 1971; Bernstein, 1970). Children learn language in the context of the specific society they are a part of (Heath, 1983) and the *rules* of that society's language should be embraced within the school environment (Bernstein, 1970). The use of *talk and tell* helped to perform this function in the research because its very premise is to get the children talking rather than to keep them listening. Thus, in the classrooms it is the children's talk that has primacy.

Employing staff from the local community was also felt to be a factor in the success of Case Study 2 and 3 in terms of making links with children's families. In fact, a number of staff, including all four of the school's speech and language assistants, live in the local community and have the *cultural and social capital* (Bourdieu, 1986) of the children and their families. This helps to make the school a less intimidating place for our families and offers a more embracing culture which reassures and welcomes. When children move into the middle class world of school, it is important that the school does not seek to transmit its culture and knowledge through an elaborated code and act as a museum of middle class values (Bernstein, 1971). Bernstein said that for the culture of the teacher to become part of the consciousness of the child, the culture of the child must first be in the consciousness of the teacher and, ultimately, of the school (1970). Employing local staff makes that goal more likely to be achieved. It also helps to guard against a *them and us* culture arising where the middle class educators absolve themselves of their low expectations and blame the local area and all its problems for children's low levels of academic success (Rosenthal & Jacobson, 1968). Bernstein argued that the '*institution*' of school needs to challenge its own defects rather than focus on what may or may not be the defects of the child and thus must accept responsibility for children's achievements. Part of taking this responsibility is making sure that the school, whatever the national or local pressures, fights (if necessary) to provide a well-fitting curriculum for all its learners.

Ironically, in its quest for high standards for all (and especially for working-class children) the government have saddled schools with a literacy curriculum that works against the interests of these - and all - children.

Chapter 7 - Conclusions

7.1 Introduction

What are the factors involved in improving standards of speech and language in Year 1; to what extent, how and why do these impact on children's attitudes to learning, language development and later literacy standards?

In this final chapter, I will re-cap the key findings of the research and present a list of the factors which may improve children's standards of speech and language in the first year of KS1 which derive from the findings and discussion of the 3 case studies. I will then present the theory that is grounded in this research.

The thesis argues that a *too-early* start to formal literacy learning actually impedes effective language development. It serves to provide factual data on what happens to young children's learning and development when oracy is not part of their daily learning experience and it provides compelling evidence of the need to ensure sustained and effective teaching of the range of speaking and listening opportunities.

Watching children fail in my school was not something I was comfortable with. I had gone into headship with a background as a literacy specialist on a grand mission to bring equality and empowerment to the learners in this area of high socio-economic disadvantage with a determination to improve their life chances and to help them to discover joy in learning. Instead I was confronted with a group of 5 and 6 year olds telling me that they were '*thick, useless and no good*'. Clearly, that situation could not go unexplored nor unresolved.

The research has shown that children with apparently delayed language development in the Reception class can and do catch up by the end of Year 1 when the curriculum is a constructivist, interactive and language-based one and when it is not the *NLS* or, more recently, the *Primary Strategy*. In this study, children who started to learn formal literacy in the Reception class achieved less well at the end of KS1 than those who had a creative, flexible and less formal curriculum through Reception and the first two terms of Year 1. This project developed the *talk and tell* programme to support young children's language and learning development. However, other research has shown that children do not catch up, even with such extra language support, if the curriculum is not adapted to meet the learners' needs (Riley *et al.*, 2004; Locke & Ginsborg, 2003). There is nothing out of the ordinary about *talk and tell* - it is not a framework, a miracle cure or a solution to language difficulties on its own. It is the combination of the additional support it provides with an oral-rich early curriculum which effects significant language improvement in children's speech and language skills.

The revised *Primary Strategy* frameworks now include speaking and listening again in the primary curriculum after an absence of almost 8 years from the published national literacy programme. Nevertheless, there is still a very heavy emphasis on early reading and early writing and the likelihood is that these will dominate in the teacher's plans under the pressure of the requirement for children to achieve L2+ by the age of 7.

A bolt-on package was previously made available for speaking and listening in 2003 in response to a sustained outcry from academics and teachers. However, as now, children were still to be taught all the same objectives from the framework and they were to achieve the same standards in reading and writing by the same age as before and, as such, the reality was that many schools felt that they did not have the time to implement the additional programme. Further, its focus was very much on using language to assess children's reading and writing rather than on using language for the sake of language, for the sake of facilitating learning and cognitive development or for the sake of helping children to discover their *self* or to facilitate their social interaction skills.

It was against the described backdrop that this research project was conceived, developed and implemented.

7.2 The main findings

The main findings of this 3-part study were:

- Children with language delay did not catch up when taught using the *NLS* in YR and Y1, and in fact, many fell further behind and their scores worsened along with their attitudes to learning and self-esteem.
- In Case Study 1, children who started Y1 with moderate to severe language delay, in most cases, fell further behind by the end of the year.
- Learners made much better progress in their speech and language scores and in later literacy attainment *without* the use of the *NLS* in YR and the first two terms of Y1. They had the confidence and self-esteem to take risks in their learning. They also had very positive attitudes towards writing, which entirely contradicted the responses from the control group interviewees.
- Children who were taught with a FS approach to curriculum delivery through YR and the first two terms of Y1 alongside a language programme, caught up their language delay where it had been mild, while all but one caught up when their delay had been worse than mild. Learners with language delay made better average language progress than the

average progress for the whole cohort. These learners exceeded local (and national) averages in reading and matched them in maths at the end of KS1 for L2+; writing was just below the average for L2+.

- In the third (and main) study, girls made slightly better language progress in terms of months' improvement than the boys; girls with delay made slightly better progress than boys with delay, especially in grammar where the difference in average progress was 5 months. The difference in all other aspects was not significant and was in all cases 1 or 2 months. This contrasted the findings of Case Study 2 where boys made more progress than girls.
- Delivering a specific language programme throughout Y1 alongside a constructivist, oral-rich FS-style curriculum (in YR and Y1), combining play and investigation, resulted in Y1 children making accelerated progress in language development and ultimately, performing more successfully in literacy at the end of KS1; further, they were more confident, had higher self-esteem and a more positive attitude to learning and to literacy than those children who had experienced formal learning from the spring term of the Reception year.
- Explicit SL provision within a developmentally appropriate curriculum throughout YR and Y1 can reverse the national trend where children who are experiencing language delay often do not catch up but fall further behind as the language gap widens under more formal early teaching programmes.
- **This research has also shown the link between effective curriculum design and improved language skills, reduced language delay, increased levels of *normal* language and improved attainment in literacy.**

Thus, the study has found that the original theoretical propositions, presented in section 3.2.2, have been shown through the findings. The *NLS* was inadequate to meet the children's language and learning needs and the alternative curriculum and language programme did prove to be more effective in meeting their needs when measured by language screening scores and later literacy results at KS1.

7.3 The research question answered

7.3.1 *What are the factors?*

The factors sought in the research question have been drawn out through the discussion in Chapter 6 and fall into 6 main general areas:

- ***Assessing, understanding and meeting the children's language needs***
- ***The YR and Y1 curriculum***
- ***Talk and tell and other support systems***
- ***The classroom culture and environment***
- ***Staff skills, knowledge and understanding***
- ***Making the school accessible to learners and their families***

Through analysis of the findings of this research and the discussion presented in Chapters 5 and 6, I have divided the general factors into more specific factors - these are presented below. This list could support schools in devising and delivering an alternative to the *Primary Strategy* in order to improve children's attitudes to learning, language development and later literacy standards. Several of the factors could appear under more than one heading.

Assessing, understanding and meeting the children's language needs

- Accurate awareness of the children's language skills and needs, on an individual and class level through regular ongoing assessment to measure progress and help to catch those who might not be making such good progress.
- Flexible support strategies targeted at the needs of the learners without following a rigid, pre-determined framework.

The YR and Y1 curriculum

- Abandoning the literacy framework.
- Time to introduce and review new vocabulary for each new area of learning.
- Use of stories, rhymes, songs, poetry and jokes to encourage a love of language, the ability to recognise sounds and an understanding of the role of text.
- A developmentally appropriate curriculum which does not formally teach reading and writing until the summer term of Y1 and shows value for the spoken word.
- Opportunities for the children to work in pairs and small groups to develop social interaction and co-operative and collaborative opportunities.

- Continuous use of a FS approach from YN through to the end of Y1 which includes a stimulating learning environment and opportunities to use FS equipment, outdoor environments, resources and play areas.
- Use of the *Early Learning Goals* to assess children's progress in at least the first term of Y1.

Talk and tell and other support systems

- An effective, planned programme providing opportunities to talk with more experienced communicators and peers within a structure (such as *talk and tell*) which is regularly delivered, is very familiar to the learners and is done for the sake of the talk, not simply as an activity undertaken prior to writing for the sake of the writing.
- Using children's own language to gradually develop an understanding of more formal language structures and the language of learning.
- Equality of access to all the support systems for all learners.

The classroom culture and environment

- Visual and kinaesthetic supports for children's language, such as MAKATON® to develop children's ability to process and understand language.
- Time and facility for play and social interaction and an understanding of the long term benefits of these important activities on children's cognitive, emotional and social development.

Staff skills, knowledge and understanding

- Involvement of and commitment from all FS and KS1 staff in the development of children's language.
- A formal transition plan to involve everyone in the changeover of teaching methods and the ethos of the whole phase of learning from YN to Y2.
- Training for all key infant staff in how to recognise children's language difficulties and the impact these difficulties can have on them, including the effects on learners' self-esteem, attitude to learning and their ability to access the school curriculum.
- Training to enable staff to help children to extend their sentences, to add precision, to form questions, to promote talking for thinking and to look *at* language as well as look *through* language (Locke, 2002a).
- Whole school understanding of the issues around early language development and the long term implications poor language skills can have, including how to recognise this in older learners and support them to catch up.

- Whole school understanding of the different types of talk and how to provide opportunities for these within the curriculum.
- Regular discussion and feedback to monitor the development and delivery of the curriculum and language programme.

Making the school accessible to learners and their families

- Provision of opportunities to link the work of the school with the child's home environment by helping families to use the '*language of learning*' before their child comes to school, once they have started school and long into the future.
- Employing staff from the local community to give social and linguistic capital to learners and status to the language styles of the community.

7.3.2 To what extent, how and why do these impact on children's attitudes to learning, language development and later literacy standards?

Each of the above factors has been presented in the findings and through the discussion with explanations and illustrations of ***extent***, ***how*** and ***why*** they impact on children's attitudes to learning, language development and later literacy standards.

In general, it can be said that the factors impact considerably on these aspects of children's development because they meet the needs of the children and they take account of how children learn; of how children acquire language; of how language supports cognitive, emotional and social development; of how schools can provide a safe, stimulating and welcoming school environment; of how professionals can work together to ensure effective learning and happy children who achieve well and are inspired to achieve even more and of how families can be helped to support their child's learning throughout their school career.

7.4 The place of the research

This research makes a significant contribution to the academic community and to professionals working in and with schools. It gives a transparent and honest account of how ***changing the methods of working in Y1 can improve children's attitudes, language development and later literacy attainment***. It shows that current trends where children fall behind and fail to catch up (Ginsborg & Locke, 2002) can be reversed with the understanding of the role of spoken language in the primary school. ***It undermines the premise of the Primary Strategy that early formal learning is the way to achieve later success in learning and in literacy. It disputes the perceived wisdom that children should get on with reading and writing, 'the sooner the better' (Palmer, 2004). It is interesting that, while national standards at KS1 had hardly improved since 2001 under the formal curriculum, our standards in***

reading have risen to above national average (for the stable cohort) in the first 2 years of our revised curriculum.

The research presents the case for an embedded language programme which is not a bolt-on module but a truly integrated aspect of the curriculum. It also shows that children from areas of high socio-economic deprivation may arrive at school with apparently inadequate language skills but that they quickly make progress with the right systems and curriculum in place. However, this research does **not** argue for a two tier system of early education based on levels of children's social and economic deprivation. There is no assumption here that less affluent children have less capacity to learn or to develop effective language skills. I argue that children's apparent language deficit stems from the lack of experience they have of the *language of learning* before they enter a learning environment. The principles of language acquisition and the link to cognitive, social and emotional development are as valid for children from more affluent families as they are for children from less affluent families. The European model of delaying formal learning to the age of 6 or 7 does not distinguish between classes or levels of affluence and nor should this model.

As found by Riley *et al.* (2004) and Locke and Ginsborg (2003), this study also found that children's language development was impeded by a formal curriculum in Reception and children's language delay continued to worsen. Locke and Ginsborg (*ibid.*) feared that the long term effects of delayed language would mean children failing to access the curriculum in subsequent years. This research has confirmed that, for the control cohort, this has indeed been the outcome. Much support has been put in place for that group of learners but the damage has had a lasting impact and many of the class are unlikely to recover any joy in learning in the future. This study supports and extends the work of these researchers with Reception classes and evaluates it in the context of the Year 1 curriculum. It has found that what is of concern in the Reception class continues to be a concern in the Year 1 class. **However, by making changes to the curriculum, providing a flexible language programme and having the courage to meet the learners' needs through the use of spoken language rather than teaching formal reading and writing, children's lives can be improved and their life chances enhanced.**

By investigating the impact of a revised curriculum and language programme into Year 1, the work undertaken for this thesis has led to an original contribution to knowledge in practice. Policy and practice in the project school have been altered at each stage of this research to take account of the findings and to provide the best possible chances to our children for their future learning and, consequently, to their ability to access the entire school curriculum and to benefit from it throughout their school careers. **I believe that primary schools should follow this lead in the best interests of their learners so that they, like**

the project school, are not '*unwitting accomplices in sustaining forms of knowledge that actually work against their own best interests*' (Smyth, 1991).

7.5 Recommendations from the study

A vital aspect of the recommendations from this work is the need for policy makers and local authorities to re-think the dominant culture of '*the sooner the better*' (Palmer, 2004) approaches to learning. Politically, there seems to be a desperate desire to have, nationally, the highest performing 7 year-olds when compared with those from other countries. However, the link with this standard and future academic success is, in my opinion, flawed and not based on the evidence. As I cited in section 1.1, English six year olds outperform their European counterparts and yet, by fifteen years of age they have fallen well behind. McQuail *et al.* (2003) identified '*instructivist*' teaching methods as a root cause of this problem. I believe that, in order to secure effective early learning and give children the best possible chance of later (and sustained) academic success, we need to accept that a slower start **can** give the better foundation. Education policies affecting our youngest learners should be based on what serves their best interests in the longer term, not on gaining political advantage.

The factors which have been uncovered are recommended to all professionals working with children up to Year 1. In addition, I recommend the following points:

- **Teachers** should ensure that they provide much more access to spoken language in the early years and into KS1 through carefully considering their curriculum format.
- In addition to an appropriate curriculum, **dedicated time** should be given to develop children's own language through social interaction using a structure which is familiar to the children and is delivered regularly.
- The current implementation of the revised *Strategy Frameworks* should encourage **management teams** in schools to question when to introduce formal teaching of literacy to best suit the needs of their learners.
- **Headteachers** should provide support to early years' and KS1 teachers in developing an oral-rich curriculum to promote effective learning and should remove the barriers to achieving this within their schools.
- **Local authorities** should support schools to meet the needs of their learners and to take account of key theories of learning.
- **Government ministers** should investigate the approach taken by Jane Davidson, explore the reasons for the Welsh project, promote a Foundation Stage to at least the end of Year 1 and abolish the KS1 assessments.

- **The government** should learn from the example set by our European neighbours, who have much higher literacy rates at age 15, and understand the damage that is being done to our young children and their learning potential by enforcing a *too-early* formal learning curriculum.
- **Researchers** should investigate the longer term impact of developing a less formal curriculum and lobby those with the political capital to understand the damage children can suffer from the current ways of working. The research could be extended into Year 2 classrooms to assess the impact and potential benefits over and above the findings of this research where the curriculum becomes more formal at Year 2. Perhaps the Welsh model will provide clear evidence for this.

7.6 Summary

The theory, grounded in this research and bounded by its setting and context, argues that the reinstatement of a less formal, constructivist, oral-rich early years curriculum, up to and including Year 1, which includes dedicated time for supporting children's language skills through social interaction may positively contribute to improved standards of speech and language, to improved learning in literacy, to children's attitude to learning as well as to their view of their own learning competence. My final comment on the place of this thesis is below.

Final comment

It has recently been presented to me that the introduction of the new *Primary Strategy* frameworks for literacy and numeracy, with their explicit speaking and listening strands and interactive planning tool to promote the use of spoken language, means that there will no longer be reason to be concerned about children's oracy development. It is argued that there is no longer a problem; action has been taken and the academics have been listened to. However, I remain unconvinced.

The revised frameworks continue to place considerable emphasis on early teaching of reading and writing. This is contextualised by a recent Ofsted report for a school close to mine which was carried out after the publication of the new frameworks. Under the heading, ***what the school should do to improve further***, the requirement was:

'Raise standards in writing at the end of Year 2 by increasing the opportunities for writing at length in Years 1 and 2 and giving more attention to writing in the Nursery and Reception Year.'

Hence, I argue that this comment underpins the research with as much relevance now as it had when it was first begun, in the summer of 2003.

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Appendices

Voluntary Informed Consent Procedures

NB – this was read to the selected learners and then handed to them to take away

26th June 2006

Dear

I would like to ask you some questions about how you feel about learning and how much you do, or don't, enjoy literacy. You can be completely honest with me – I won't be telling your teacher what you said! You won't have to do a test or anything difficult – I am interested in your opinions and, because of this, only you know the right answer. I don't want you to say what you think I want to hear, I want you to say how you really feel.

You will be helping us to make literacy and learning more enjoyable at school. You will also be helping me with some university work I am doing that I have to write a report about.

I will tape record your answers and you can listen to this straight away afterwards if you want to. I will then type up what you said to go in my report but it won't have your name on it anywhere and I promise no-one will know that it was you who said it. You don't have to answer all of the questions if you don't want to and you can ask me to stop at any point as well.

Before I interview you, I will write to get your parent or carer's permission if you tell me that you are interested in helping with this. You can then sign the permission slip yourself. If you (or your parent or carer) change your mind after signing, that is not a problem - you will not have to go ahead with the interview.

Thank you for your help.

Yours sincerely,

Appendix A.ii**Voluntary Informed Consent Procedures**

26th June 2006

Dear Parent/ Carers of ,

As many of you know, I have been conducting research over the past 3 years into the most effective ways to help children to develop their speech and language skills alongside these assessments. I am now writing up my report as a thesis for publication and submission to Brighton University. To write my report, I need to interview some children about their opinions on their own learning. I am only aiming to gather the children's opinions and as such, there are no correct answers – there is not a test involved in the process. I will also use the information gathered to improve our curriculum delivery within the school.

Your child has indicated a willingness to take part in this interview. It will take about 15 minutes and no contentious or sensitive questions will be asked. You are very welcome to observe the interview, although the answers need to come from the children themselves! The answers will be tape-recorded but no-one apart from me and your child will hear the tape. I will feed back what I found out to teaching staff but I will only say what I found out as a whole – I won't reveal individual children's answers.

The school will not be named in the report and **all references to any specific child will be completely anonymous and untraceable.** I will be the only person who knows which children have been interviewed and how the children have been coded (which will be randomly applied) and it is likely that children will be referred to as 'X1' or 'Y5' or another similar label. I will use parts of the interview within my report, typing up some or all of what was said but there will be no way of anyone (including staff) knowing the speaker's identity.

Please let me know by Friday 23rd June 2006 ***if you are happy*** for your child's answers to be used in the study or ***if you do not want me to go ahead with the interview.*** If you have any questions at all about the work or the contents of this letter, please do not hesitate to contact me. If you would like to observe the interview, just let me know and I will arrange a mutually convenient date and time. Interviews will take place in the week of 3rd July 2006. If you or your child change your mind after giving permission and would prefer not to take part, please let me know and this will be respected. Please ask your child to sign to give permission if he/she would like to take part with your consent.

Thank you in advance for your kind co-operation.

Yours sincerely,

Appendix A.ii contd.

Voluntary Informed Consent Procedures

Please delete as appropriate:

- I am happy for you to interview my child and I understand that my child will not be named or identifiable in any part of the report.
- I ***may*** be happy for you to interview my child but at the moment, I have a question I need to ask you before I can give my consent.
- I prefer that my child is not interviewed.

Thank you. Now please decide between the next 2 statements, if applicable:

- I would like to accompany my child for the interview
- I do not wish to accompany my child for the interview (you will receive a copy of the questions asked after the interview, on the same day)

Signed:

Date:

Child's signature:

Child's name:

Appendix A.iii**Voluntary Informed Consent Procedures**

July 2006

Dear Parent/Carer of,

As agreed with you earlier in the term, I have interviewed your child today and asked him/her the following questions:

- Are you good at literacy - how do you know?
- Do you like literacy - why/not?
- Are you good at learning – how do you know?
- Do you like learning - why/not?
- Are you clever - how do you know?
- Do you like doing Talk and Tell (talk programme in lessons) - why/not?

The answers will help us to improve the conditions for learning and we are grateful for his/her help. The chat was tape-recorded but no-one apart from your child and me will hear the tape. I will feed back what I found out to teaching staff but I will only say what I found out as a whole – I won't reveal individual children's answers.

I will also include what I found out in my thesis, which is being published later this year. I will use parts of the interview within my report, typing up some or all of what was said but all children will be completely anonymous and there will be no way of identifying the children who helped me – their privacy will be respected.

If you have any questions about this, please let me know.

Many thanks,

Appendix B.i**Voluntary Informed Consent Procedures**14th July 2003

Dear Parents and Carers of all Reception Class and Year 1 children,

I am about to undertake a long-term research project looking into the most effective ways to help children to develop their speech and language skills. From September, I will be conducting lesson observations, chatting with groups of children and formally interviewing children, as well as looking at children's written work. If I need to formally interview your child, I will ask your permission before I do so and your wishes will be respected.

I will eventually be writing up my report as a thesis for publication and submission to Brighton University. As part of my report, I need to make reference to in-school assessments routinely made for classes and individual children from entry to Reception class up to Year 3. To be able to do this, I need to use assessment data referring to your child for 1) speech and language; 2) baseline or Foundation Stage profile; 3) KS 1 results for literacy aspects. These results have already been reported to you in the termly and/or annual assessment reports sent home to you. Results not yet assessed (e.g. KS1, Y3 and Y4 results for 2004, 2005 and 2006) will be routinely sent home with your child's annual report.

The school will not be named in the report and **all references to any specific child will be completely anonymous and untraceable.** I will be the only person who knows how the children have been coded (which will be randomly applied) and it is likely that children will be referred to as 'X1' or 'Y5' or another similar label. Children's assessments will be analysed in relation to the whole class and other groups such as male/female, free school meals and term of birth (that is, summer born or autumn/spring born). This is taken from the information that has already been given to the school by you. I may also use extracts of children's written work within my report and information from my lesson observations and discussions I have had with children – again, this will all be completely anonymous.

This project will help to improve the work of the school and hopefully, the high quality curriculum offered to your child so I would be grateful if you would agree to your child being included in the research project, even if you do not wish his/her individual data and information to be used. ***As the Headteacher, I have already undertaken some in-school observations and discussions during this term in the Year 1 class before deciding to carry out this research project. Please indicate on the slip if you would like me to disregard any information I have which includes your child so that it is not in the report.*** I would like to include my findings from this early investigation in my report if possible. I hope that this report will enable other schools and teachers in Great Britain to find out about the teaching and learning model that we are working hard to develop through the research and curriculum design. You are entitled to see a copy of any data I will be using, even if you have already seen it in another format. You have the right to withdraw your consent at any time even after it has been given, if you so wish.

Please let me know by Monday 21st July 2003 whether you are happy for your child's data to be used in the study by returning the attached form. If you have any questions at all about the work or any of the contents of this letter, please do not hesitate to contact me.

Thank you in advance for your kind co-operation.

Appendix B.i contd.**Voluntary Informed Consent Procedures**

Please select the appropriate statement:

- I am happy for my child and his/her data to be included in the research project.
- I *may* be happy for my child and his/her data to be included in the research project but, at the moment, I have a question I need to ask you before I can give my consent.
- Please do not include any reference at all to my child in the research project.
- Please disregard any information you have already gathered about my child before obtaining this consent (applies to Year 1 only).

Thank you. Now please select the appropriate statement from these:

- I am happy for you to use my child's assessment data from entry at Reception Class to the end of the 2005/06 academic year (July 06) and personal information about my child's gender, free school meals entitlement and term of birth. I understand that my child will not be named or identifiable in any part of the report.
- I *may* be happy for you to use my child's assessment and personal information but at the moment, I have a question I need to ask you before I can give my consent.
- I prefer that my child's data and information are not included.

Thank you. Now please decide between the next 2 statements, if applicable, and select the appropriate one:

- I would like to see a copy of my child's data and information before you use them.
- I do not wish to see a copy of my child's data and information before you use them.

Signed:

Child's/children's names:

Date:

Appendix B.ii**Voluntary Informed Consent Procedures**

12th July 2004

Dear Parents and Carers of all Reception Class children,

I am undertaking a long-term research project in Year 1 looking into the most effective ways to help children to develop their speech and language skills. From September, I will be conducting lesson observations, chatting with children in groups and formally interviewing individual children, as well as looking at children's written work. If I need to formally interview your child individually, I will ask your permission before I do so and your wishes will be respected.

I will eventually be writing up my report as a thesis for publication and submission to Brighton University. As part of my report, I need to make reference to in-school assessments routinely made for classes and individual children from entry to Reception class up to Year 3. To be able to do this, I need to use assessment data referring to your child for 1) speech and language; 2) baseline or Foundation Stage profile; 3) KS 1 results for literacy aspects. These results have already been reported to you in the termly and/or annual assessment reports sent home to you. Results not yet assessed (e.g. KS1 results for 2006) will be routinely sent home with your child's annual report.

The school will not be named in the report and **all references to any specific child will be completely anonymous and untraceable.** I will be the only person who knows how the children have been coded (which will be randomly applied) and it is likely that children will be referred to as 'X1' or 'Y5' or another similar label. Children's assessments will be analysed in relation to the whole class and other groups such as male/female, free school meals and term of birth (that is, summer born or autumn/spring born). This is taken from the information that has already been given to the school by you. I may also use extracts of children's written work within my report and information from my lesson observations and discussions I have had with children – again, this will all be completely anonymous.

This project will help to improve the work of the school and hopefully, the high quality curriculum offered to your child so I would be grateful if you would agree to your child being included in the research project, even if you do not wish his/her individual data and information to be used. I hope that this report will enable other schools and teachers in Great Britain to find out about the teaching and learning model that we are working hard to develop through the research and curriculum design. You are entitled to see a copy of any data I will be using, even if you have already seen it in another format. You have the right to withdraw your consent even after it has been given, if you so wish.

Please let me know by Monday 19th July 2004 whether you are happy for your child's data to be used in the study by returning the attached form. If you have any questions at all about the work or any of the contents of this letter, please do not hesitate to contact me.

Thank you in advance for your kind co-operation.

Yours sincerely,

Appendix B.ii contd.**Voluntary Informed Consent Procedures**

Please select the appropriate statement:

- I am happy for my child to be included in the research project, including taking part in observed lessons and small group interviews.
- I *may* be happy for my child to be included in the research project but at the moment, I have a question I need to ask you before I can give my consent.
- Please do not include any reference to my child in the research project and please do not interview my child in a group (or individually).

Thank you. Now please select the appropriate statement from these:

- I am happy for you to use my child's assessment data from entry at Reception Class to the end of the 2006 academic year (July 06) and personal information about my child's gender, free school meals entitlement and term of birth. I understand that my child will not be named or identifiable in any part of the report.
- I *may* be happy for you to use my child's assessment and personal information but at the moment, I have a question I need to ask you before I can give my consent.
- I prefer that my child's data and information are not included.

Thank you. Now please decide between the next 2 statements, if applicable, and select the appropriate one:

- I would like to see a copy of my child's data and information before you use them.
- I do not wish to see a copy of my child's data and information before you use them.

Signed:

Date:

Child's/children's names:

Appendix C

Voluntary Informed Consent Procedures

Dear

Thank you for agreeing to take part in my EdD research project.

Your contributions will be treated with the greatest care in terms of your privacy and anonymity and I can guarantee that I will do everything possible to preserve this. However, my name will be published on the thesis so there is a possibility that the school may be identifiable. As we are a small school, it may therefore be possible for your identity to be uncovered.

If you have any concerns about this, please discuss them with me and we can hopefully come to an agreement or compromise that re-assures you. You may withdraw from the research at any point, even if you have previously given your consent.

I am very grateful for your support.

Best wishes,

Appendix D

Extract from research database showing colour coding of findings and themes. First lesson observation (31/3/03)

Observations have previously been carried out (in the Headteacher role) and by local authority staff during the year. Teaching was considered to be effective against the requirements of the *NLS* (observation feedback sheets and QA sheets).

This research lesson observation was a lesson based on re-tellings of the 'Three Little Pigs' story. The objectives for the lesson were *'to re-tell stories, to give the main points in sequence and to pick out significant incidents'* (Y1.3, T5, *NLS*) and *'to notice the difference between spoken and written forms through re-telling known stories; compare oral versions with the written text'* (Y1.3, T3, *NLS*). Unfortunately, many of the children could not successfully re-tell the story orally during the input session of the lesson and were therefore not able to carry out the independent sequencing task nor to compare the written and oral versions. The guided reading group worked with the teacher to read a version of the story; standards of reading heard were poor and, despite the story being a well-known one, children found it difficult to predict what might happen next when asked. This observation identified that pupils did not appear to make adequate progress during the literacy lesson and nor did many of them appear to enjoy the lesson. Both of these assumptions were to be followed up. Key reflections made during the observations:

- Children not particularly engaging with the teaching
- Poor attitudes towards the work – sighing when asked to join in
- Many distractions to the 'flow' of the teaching
- Much fidgeting during class input
- Very few children offering responses to questions – same 3 or 4 all the time (CM6, CF9, CF14, CM17)
- Children not on task during independent work – many not completing work
- Several children seem distressed and say they can't do the work – this is followed by 1 pupil throwing paper and pencils onto the floor and crying (CM15)
- Some children actively disengaged – e.g. CF3 in book corner, CF7 by door
- It does 'feel' like there is a language issue here – this will need to be checked out by interviewing other key players
- Some children not able to manage instructions with more than 1 idea – e.g. sequence the story pictures, pick out the main points and then write a sentence for each one - impossible!
- Plenary – not effective – very few children can say what they have learnt today
- Pupil progress not good despite technically efficient and resourceful teaching
-

After the lesson, some of the learners were individually, informally interviewed through open ended discussion as part of school improvement procedures (**NOTE added later – retrospective permission has been sought to include this data – see appendix B.i).**

Children were not pre-selected for this and came if they wanted to. 2 of the 12 learners said they *'really enjoyed the lesson because it was funny'* (CM6) and *'loved it because...I love telling stories because my mum always does lots of stories'* (CF14). When asked if they were good at literacy they replied respectively *'yes, I think so'* and *'most of the time'*. However, the other children who were asked gave overwhelmingly negative answers which included:

Appendix D contd.

'I hate literacy... (why?) ... because it's boring and I don't like it.' (CF7)

'I'm not good at it...it's too hard.' (CM15)

'I can't read ... I'm useless at it.' (CF22)

'Writing is hard for me ... I can't really write proper words.' (CM5)

'I'm thick.' (CF3; CF10; CM17)

I had a clear sense that these children viewed themselves as having failed, by the age of six, in one of the most important areas of learning in the primary school. Discussion with the class teacher and teaching assistant confirmed that the lesson was fairly typical in terms of levels of disruption, pupil response and achievement. They described as '*hard work*' any attempt to enthuse children to '*have a go*' and try at something they might not succeed in. the teacher commented that the low level of the children's language skill '*gets in the way of almost everything I try and do*'.

Appendix E.i

CASE STUDY 1 - EXPLORATORY INTERVIEW WITH SLT 7/4/03

Key focus areas:

- How is it that these children making such little progress in literacy?
- Do you think their language skills are a problem? How does this affect their progress?
- What can we do about it?
- How do you feel the current teaching supports the children's learning?
- Is there something else we should be doing? Should we make changes to the curriculum?
- How will their language skills impact on their success at school if we don't make these changes?

Appendix E.ii

CASE STUDY 3 - YEAR 1 TEACHER SEMI-STRUCTURED INTERVIEW 27/9/04

1. Looking at the FSP data for the end of Reception year, what are the main strengths of the class as a whole?
2. Looking at the FSP data for the end of Reception year, what are the main weaknesses of the class as a whole?
3. How have you changed these aspects of Y1 delivery as a result of our work:
 - a. Curriculum
 - b. Timetable
 - c. Resources
 - d. Classroom organisation, including adults
 - e. Assessment
4. What actions have you taken to ensure a high standard of teaching and learning during this transitional time?
5. Is there anything else you would like to say or add?

Appendix E.iii

CASE STUDY 3 - SEMI-STRUCTURED GROUP INTERVIEW WITH LEARNERS 27/9/04

1. How do you like your new class?
2. What do you like about Year 1?
3. What don't you like about Year 1?
4. Is Year 1 harder than Reception?
5. Is Year 1 how you thought it would be?
6. Has anything surprised you about Year 1?
7. Is there anything you think I should know about your class?

Appendix E.iv

CASE STUDY 3 -SEMI-STRUCTURED INTERVIEWS
WITH TEACHING ASSISTANTS – 11/7/05

Can you describe the SL intervention work you have done this year?

Can you describe the key principles of the interventions you have used?

What has been the impact of this? How do you know?

What has been the most successful part of the intervention? How do you know?

And the least successful parts? How do you know?

What would you do more of next time? Why?

What would you do less of? Why?

Which children have done particularly well with the speech and language development? How do you know?

Which children have made little progress? How do you know?

What has been the benefit of this to the children's learning? How do you know?

What has been the benefit of this to the children's attitude to learning? How do you know?

Any disadvantages?

Any other comment?

Appendix E.v

CASE STUDY 3 - SEMI-STRUCTURED INTERVIEW WITH LEARNERS 3/7/06

- Are you good at literacy - how do you know?
- Do you like literacy - why/not?
- Are you good at learning – how do you know?
- Do you like learning - why/not?
- Are you clever - how do you know?
- Do you like doing *Talk and Tell* - why/not?

Appendix F**MATRIX TO COLLECT RAW PUPIL RESPONSES TRANSCRIBED FROM
SEMI-STRUCTURED INTERVIEWS 3/7/06****Control Group**

| | Are you good at literacy - how do you know? | Do you like literacy - why/not? | Are you good at learning – how do you know? | Do you like learning - why/not? | Are you clever - how do you know? | Do you like doing Talk and Tell - why/not? |
|-----|---|--|---|--|--|---|
| CM5 | Sort of...Not too bad When I do my writing.. I'm not good at writing ...every time when I have a go...like at home... and I think that's bad... and then like ...so I don't do it in class | Sometimes maybe... I like it when we listen to like poems and haikus and stuff like that and Jamaican stories Not always if I get up in a grumpy mood and sometimes I don't have breakfast but now I'm going to have breakfast every day It's fun sometimes ..I like African stories...my teacher is going to Africa | Um.... I'm not sure...maybe Cos sometimes our teacher tells us I go... like ok.. I don't mind learning cos at least I'm learning something cos I want to have a job or something when I'm older | Well...Yes It's fun and sometimes she gives us activities and stuff and then you've done it and the teacher gives us another activity | ...I don't know really...I think I'm half or half and good and no.. half and good I reckon My teacher and my dad tell me I am clever.. sometimes at mine I think...I'm not. I can't do it cos I think I can't and the other day I thought well, I might as well try...least it's something to do and that | Yes...maybe I don't like it when we just talk about people's feelings and people were talking about dead people the other day and that...I don't like talking about dead people.. it goes through your mind, yeah? (is talking a good way to learn?) no...I reckon we should whisper |
| CF7 | A little bit (looked at floor) Because say like we was doing like carpet work, yeah? And there was a question and I think I'm right, yeah? and then I say it wrong by accident and then other people say yes but I'm saying no | No answer.... (prompt) .. No If I want to say it and I want to say... write it down and .. I don't really know how to write it down It's too hard (would you be happier to speak in literacy rather than write it down – yes) | No answer... (prompt) a little bit Cos sometimes I get the wrong answer (couldn't expand) | A little bit Not able to say why | No (instant answer) Couldn't say how she knew | Yes, I like Talk and Tell best We do like stuff like saying stuff about what we like doing and what happened in a story or what we want to do or what we can think of |

Appendix F contd.**Pilot Group**

| | Are you good at literacy - how do you know? | Do you like literacy - why/not? | Are you good at learning – how do you know? | Do you like learning - why/not? | Are you clever - how do you know? | Do you like doing Talk and Tell - why/not? |
|------|---|--|---|---|---|--|
| PF14 | <p>Yes (nodded)</p> <p>Because I always do good work and I understand it</p> <p>My teacher tells me every day I'm good at it</p> | <p>Yes (appeared confident?)</p> <p>Because it's really interesting to find out stuff like .. in guided reading you can find out some good information</p> | <p>Yes</p> <p>Not sure how I know...</p> <p>I'm not frightened by it and sometimes I like to try new things</p> <p>I remember stuff quite well</p> | <p>Yes</p> <p>Because when you are older. if you learn.. you'll get a good job and go to college</p> <p>It's interesting</p> <p>I know I can probably understand what it is we are learning and if I don't, well I can always just ask can't I?</p> | <p>Yes</p> <p>Because when I do my work I'm good at it and I get it right and I like that</p> <p>Even if it's hard I like to have a go at it and I can always ask if I'm stuck</p> <p>My mum tells me I'm clever and my friends ... and my teacher</p> | <p>Yes</p> <p>I prefer writing now though but it helps me to plan what I want say</p> <p>You get to chat to new people you don't usually talk to and find out their ... what they do and that</p> |
| PM6 | <p>Um...I've got better at it every year...yes I am</p> <p>Because I try my best and ... I listen to what I've got to do and I usually get the answer right but sometimes if it's a hard question I just guess</p> <p>When I read I can usually read it all</p> | <p>Yes ..literacy more than numeracy</p> <p>I like art but I like guided reading too</p> <p>I like trying hard words by splitting them up</p> <p>It's mostly easy but hard sometimes but I like it when it's hard because it makes my brain work</p> | <p>No response... (prompt).... In numeracy with division it took me quite a long time to do it and I worried about that</p> <p>I'm good at other learning and ... well, yes I'm good at that but not at division</p> <p>It's good to think you can but not always but you have to think you can or you just put your mind off it</p> <p>Sometimes I think I might not be able to do it but then I can</p> | <p>Yes (smile)</p> <p>It makes your brain work and at school you can learn and ... as well at home you don't learn</p> <p>You can learn at home with a computer but I haven't got one</p> <p>I like learning new things</p> | <p>Most of the time... when I want to stick my head to the work</p> <p>When we were in year 2 and we went into year 3 and in the first few ...weeks.. we done some work about the snakes and how many eggs she laid on the sheet and I got it wrong and I felt a bit silly and I had to do a red circle at the top</p> <p>Yes I do usually feel clever but in year 1 I was clever but I was a bit silly but deep inside I knew I was clever but I did like to be silly and I felt not clever because I liked it</p> <p>My teachers (named) tell me I'm clever but not in year 1</p> | <p>Yes</p> <p>Because you can talk to your friends and tell them what you did and what you enjoy in your lessons</p> <p>It helps you with your listening skills and doing good listening</p> <p>When you speak you have to think about how the sentence sounds and that helps with writing and my writing's better now cos I like to think about what I want to say and do it like writing</p> |

Appendix F contd.**Main Group**

| | Are you good at literacy - how do you know? | Do you like literacy - why/not? | Are you good at learning – how do you know? | Do you like learning - why/not? | Are you clever - how do you know? | Do you like doing Talk and Tell - why/not? |
|-----|---|--|---|--|--|---|
| SM4 | <p>Yes</p> <p>I do it at home</p> <p>My teacher and my dad tell me I'm clever at it</p> | <p>Yes (hesitate)</p> <p>Because when I get older I can have a good job</p> <p>(question re-phrased to ensure meaning)</p> <p>I like it when I try to spell words – I can spell 'sister'.</p> <p>I like just trying words to see if I can spell them</p> <p>I think about words when I'm reading and I try to get it right</p> | <p>Yes (hesitate)</p> <p>I just know. People do tell me.</p> | <p>Yes (def)</p> <p>It's fun.</p> <p>I love numeracy</p> <p>I like everything</p> <p>I really like topic</p> | <p>Yes (def)</p> <p>Because I'm always thinking about things, you know if we like talk about something in class then I think about it and ... usually I get loads of questions I want to ask</p> <p>I've always thought I'm clever ... I don't really know how though</p> | <p>Yes (big smile)</p> <p>Cos you can tell people all what you like doing and what you done and all that</p> |
| SF8 | <p>No idea... (embarrassed?)</p> <p>Yes</p> <p>I read everything and I get on with it</p> <p>My teacher says I'm good</p> <p>Sometimes it's hard, sometimes easy.</p> <p>I write really neatly</p> <p>Reading is good. I sometimes get stuck on words and ... though...others I can remember like cat, dog, mum and that</p> <p>Sometimes I get it wrong but I just try</p> | <p>Yes (hesitation but confident about the answer)</p> <p>It's my favourite subject</p> <p>You get to learn lots of things like food, people and animals... and you can read about things like that and do writing about it</p> | <p>Yes (hesitation but confident about the answer)</p> <p>Because I do lots of writing at home and I read all my mum's chapter books but she don't know I read them ... don't tell her ...</p> <p>When my teacher tells us something new I find it interesting and I want to find out even more about it</p> <p>I can remember things</p> | <p>Yes</p> <p>I like learning about people like Bob Geldof and live aid and Florence Nightingale</p> <p>Sometimes it's hard because if you have a headache you just have to carry on and it gets badder and badder but you got to do it</p> <p>You get to find out loads of stuff and I really like that</p> | <p>Yes (hesitation but confident about the answer)</p> <p>I know lots of words and I can usually do the work at school</p> <p>My friends and my teacher and my mummy daddy and my brother tell me I'm clever...well, sometimes my brother says I'm not clever but he can be mean sometimes</p> | <p>Yes</p> <p>You get to hear what other people do and what they like and you can tell them what you like and what you done</p> <p>I like chatting to do my learning</p> <p>Pupil asked me : Do you like learning?</p> |

Appendix G**3/7/06 Notes (from handwritten research journal) typed up for the database about the interview process:**

Interviewing the children was a potential source of anxiety for them. In order to probe into what the children really feel, it is important to try to distance my usual role as Headteacher if this is possible. There is the risk that children will tell me what they think I want to hear and so I needed to raise this explicitly with them. I suspected some of them might wonder why they'd been chosen, was it because they are good children/good at literacy/good at learning – or the opposite, this could be a worry for them so I went out of my way to explain that they had been chosen because I knew they were very helpful and that I felt they would give me honest answers and would not worry about 'saying the wrong thing'. This discussion was held individually with each respondent about a week before the interviews, when I first asked their permission to approach their parent/carer about taking part. I also told them that they had previously scored a low score when they were in Year 1 in the 'picture and talking' test and I wanted to see how they had improved since then. This was potentially sensitive as I didn't want them to think that I was suggesting that they were not clever or had failed in any way. I went out of my way again to point out some of their individual successes at school and I hope I was able to show them that I had a high regard for each of them. All of the children said they were happy to be interviewed the next week and many of them checked with me a number of times during the week to make sure I hadn't forgotten.

I think our work on pupil voice over the last 2 years has really helped here because learners are used to being consulted on school life. Often this takes the form of a questionnaire so I drew attention to how similar this process would be, only they were talking to me rather than writing down what they think. Obviously, as CM5 identified, the annual questionnaire is anonymous and this isn't. In bullet form, here are some of the concerns that I covered and/or strategies I employed to reassure the children that I really did want to hear how they really felt about the questions:

- Lots of reassurance at the beginning of each interview about anonymity of their answers within the school and their right to privacy.
- Reminded they can stop any time.
- Explained what literacy is just to make sure they understand the context (they all did).
- Reminded about no right or wrong answer – only their opinions matter (I stressed this heavily).
- Reminded that without them, I wouldn't be able to complete my research and so I was really relying on them and was really grateful to them for offering to help me. This was expanded to show how their honesty would help other children in the school and maybe even children in other schools if my research was published.
- Lots of developing of questions and sub questions to guide the responses and encourage the flow of words.
- Thanked at end and told they were superstars!
- If they raised a negative view/point, I thanked them for it and told them how useful their raising it would be to me.
- Listened back to their own tape.
- Took letter home with interview questions for carers.

Some pupils (CM5 and PM6) appeared anxious to represent themselves as 'good' (in terms of behaviour) and this was reflected in their answers. To get round this I had to

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rephrase the questions or couch them carefully so as to take away any value judgements; I also had to explicitly tell them that it was ok not to like school or some/any aspect of it and that my concern would only be about how it could be made better/more enjoyable for them.

CM5 seemed to say what he thought I wanted to hear – I'm not convinced his answers were fully genuine, more how he thinks he should feel about things I was asking. He often says he can't do his work and that he is 'stupid' when in class, getting distressed if he doesn't have immediate support. However, in the interview he really wanted me to think that he did cope with his work without worrying about it. He had interesting eye movements, often flicking his eyes left and right. He was rosy cheeked and needed a drink of water at the end of the interview. Once we had finished, he completely reverted to the child I know very well and relaxed. Without the tape on, I tried asking him one or two of the same questions for the second time but he jumped back into 'startled' mode when I did this. We chatted again and he showed me his amusing impressions of a famous footballer before returning to class, seemingly happy.

CF7 found the interview really difficult and the full impact of her SL delay made it very hard for her to express what she wanted to say. She spent a good deal of the time avoiding my gaze and looked at the floor a considerable amount. She became quite pale and seemed a little reluctant to say she didn't like something but when she did and the reaction was ok, she picked up her confidence and it was a very moving interview because she has a very poor image of herself as a learner. She is clearly struggling with her work and with school in general. She is a very sociable girl and is outstandingly good at sport and PE. After the interview had finished I spent a good deal of time with her trying to get her to reflect on the areas of her school life she excelled in and she did leave happy. I found it very upsetting to see the impact of her learning difficulties on her as a person. She was one of the children who originally inspired me to develop this programme and I am totally convinced that, with better early oral skills, she would not be struggling so much now. In our authority, SL work is not done with junior children without a statement of SEN and it was hard to see what specific help I could get her since she had been turned down for the statement we had sought while she was in Year 3. However, I spent a long time on the phone and have finally persuaded a number of agencies to meet in the quest for reviewing her need for a statement.

PM6 appeared to particularly worry about his behaviour in Year 1 and seemed to want to reassure me that he is better behaved now. He was made to feel more comfortable and my intentions were re-stated to let him know there was no need to worry. He continued to worry, or so it seemed, and looked deeply into my eyes when he said the following (that he may have felt I might view as negative): '... well, yes I'm good at that but not at division' ; 'Yes I do usually feel clever but in year 1 I was clever but I was a bit silly but deep inside I knew I was clever but I did like to be silly and I felt not clever because I liked it'. He appeared confident to express his views and preferences.

PF14 seemed totally at ease and was happy to chat about herself and her views on her own learning. She had a sophisticated conversational style, was very engaging and maintained extremely good eye contact, without being intimidating! She used her hands to gesture while talking.

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SM4 was very chatty and enthusiastic – his positivity was inspiring! Good eye contact.

SF8 appeared very embarrassed at being asked if she was good at literacy. She looked very taken aback. Despite my assurances and preparation before the interview, she said afterwards that she thought I would be asking her questions about her learning (like, how do you spell) rather than how she felt about it. After her initial reservations, she was a confident and spirited respondent.

Children in the control group still haven't achieved good self esteem as learners. They didn't mention 'trying' or 'having a go'. They appeared insecure during the interview and very uncomfortable.

Children in the pilot and main groups seem to have much better self esteem. They seemed confident to 'try'.

Why is this? Are their achievements matched by their self esteem in each of the groups? Need to check assessments and RAPT screens. How does their written work reflect their language skills?

Appendix H

TRANSCRIPT OF SEMI-STRUCTURED INTERVIEW WITH YEAR 1 CLASS TEACHER
11/7/05

Interviewer: Interview with Year 1 teacher. Tell me about the nature of the children at this school in the Year 1 class; what difficulties they have, what strengths they have.

Teacher: ...I think the difficulties in terms of speech and language when they first come into Year 1 are mainly in expressing themselves and saying exactly what they want to say. Also, kind of...having confidence, I think, to speak, they feel very self conscious when they're speaking, if they're by themselves or they feel that someone is listening and they don't have the words that they need...'

Interviewer: And why do you think that is?

Teacher: ...I think it's a lot to do with their self esteem. When they're...they haven't got confidence to say exactly what they want to say or they are thinking what I want them to say or what someone else might want them to say. I think they're not confident to speak out in front of a large group of children like a lot of young children are.

Interviewer: OK...

Teacher: Because of maybe what they've said before at home or what they've done before at home

Interviewer: Do you think it stems mainly from home, or from school or from both?

Teacher: ...Mainly from home I think....obviously school can have a big impact in how they feel about themselves and how they feel about themselves when they're talking, that what they're saying is valid...

Interviewer: Thinking about our approach to teaching in Year 1, do you think we cater for their specific language needs?

Teacher: Yes... it's what it's all about...

Interviewer: Ok, so in terms of their lack of confidence, is that across the board? Even the able children are less confident to speak out loud?

Teacher: It's pretty much across the board. I mean they're quite unconfident to do a lot of things where the focus is on them in front of other, other children especially as well.

Interviewer: What about in front of other adults? Is it more of a problem in front of children or is it more in front of adults? Or is it equal?

Teacher: Fairly equal really. I think the children obviously, when they feel comfortable with an adult, and an adult's actually going to listen to them then I think they are much more confident to talk one to one with an adult. But any kind of new adult or any new people, it makes them feel quite uncomfortable.

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Interviewer: What about standing up and talking in front of the class with you as the teacher then how are they with that?

Teacher: They feel quite uncomfortable about that and quite shy. But because I started off focusing on the questioning that the other children...did when the children were talking then it kind of got to the stage where a lot of the children would just say one sentence and then expecting questioning which was going very, really, really well but the...what children wanted to say...it wasn't really progressing very much at first...

Interviewer: Do they listen to each other well?

Teacher: ...Yeah, I think they are listening. I mean I think they found that hard first of all but that's definitely something that's improved and I think that's something that I focused on at the beginning of the year and you can see a real clear improvement in that, the listening and the questioning.

Interviewer: And can you see improvement from their attitude to speaking and listening in the classroom during Year 1 from when they were in Reception?

Teacher: Yeah I think what makes a big difference is that them knowing exactly what to expect like from...so the routine is always very, very similar in what we do so if its the news telling we do it in the same way every single time and that makes big a difference in how much they want to say...because they know exactly kind of what's expected, but they also know exactly the kind of questions I'm going to ask, so we do it the same way every single time we talk about it...

Interviewer: So they feel secure in a way?

Teacher: Yeah I think that makes a big difference. By the end of this year, they have become really confident to speak and ... well, what we do with them...you know...it has made them like different children

Interviewer: Okay. So in terms of in the classroom, to try and address their difficulties what do the TAs do in speech and language group work?

Teacher: They work with small groups or with individuals to develop vocab and talking 'in sentences' as well as having more relaxed chatty sessions with them. They discuss turn-taking, talking in an appropriate voice, making eye contact and other things that....well, the ideas of 'good listening' ...

Interviewer: Ok, well bearing in mind that you have taught them in a Foundation Stage approach in Reception and Year 1, what have you changed about the actual delivery of the Year 1 curriculum, to make it more accessible to children?

Teacher:Well I've always been a Reception teacher and.... I've never taught Year 1 in a normal ... you know, a normal Year 1 class...In a normal way...I think that it's more kind of exploring, exploratory things especially within...at the beginning of a topic. I still teach from the Y1 objectives but I do it using the Foundation Stage style...approach...

Interviewer: OK... what does that look like?

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Teacher: There's a lot more time available for talking about, talking about a topic, talking about what we are going to be learning and...you know for instance, there's lots of things that lend themselves like the toys and the home and that kind of thing where it can be very hands on and very practical and we'd spend the first couple of sessions really doing a lot talking about what they already know to kind of give them ownership of the topic that

we're doing and then me explaining where we can...kind of go from there. But there's you know, lots of talking about describing words and that kind of thing.

Interviewer: Okay, one of the criticisms here the year before last ..actually also last year... in Year 1, was....that the Year 1 timetable was too focused, too tight. So it was like an hour of art, an hour of this, an hour of that, half an hour of that. What have you done to alleviate that being such a problem?

Teacher: ...Well I've kind of changed the topic lessons from whole class teaching to short sessions with an activity slot. I changed it originally to make it...to make it with a rotation sort of thing so that they're, so the children can predict what we will be doing each day because at the beginning of the day, that's when we do our activities...and then every day a group rotates round...to do a different activity. One activity would be art based, one can be an independent one and then geography, history and two of them will be focus groups working with an LSA

Interviewer: So throughout a day, they take part in those different activities...

Teacher: Yes.

Interviewer: And they know what's coming next

Teacher: Yes

Interviewer: And do those activities change each day or does it go on for the week?

Teacher: It goes on for the week.

Interviewer: Okay. So how does that work with literacy?

Teacher: With literacy, there's... well, 5-set activities. One is always, nearly always, a speech and language activity so it's an independent activity, so if we're doing fairy tales or something like that it would be... I would have the costumes out for the fairy tales and we'd dress up and they would act, re-enact the story

Interviewer: Without an audience, just amongst themselves?

Teacher: Yes.. to encourage them to play co-operatively and to work things out together through talking... And then passing into a plenary time or a Talk and Tell time

Interviewer: And the expectation would be perhaps, that it's an independent activity and they are not immediately supervised and they are able to get on with that?

Teacher: Yeah and either use puppets, dressing up, magnetic toys, or...it would be some kind of stimulus and they would use that time to talk about it. And they were

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good at that, and I mean obviously the less able pupils would have found that quite hard if it was something round the table but if it was dressing up they were...they got very good at that. And they were really using the language of the genre, because we talked about that at the beginning of a new module of work.. you know, once upon a time, a land far far away, happy ever after and all those phrases we associate with fairy tales

Interviewer: So you were able to assess that and so they were using the language so for example if you were doing fairy stories they were using the language of narrative

Teacher: Yeah

Interviewer: Dressing up, being that character. So would they have had the story read to them or something before?

Teacher: Yeah we would be doing that story that week – most literacy activities start with a story or a poem or a set of songs

Interviewer: Right.

Teacher: ...And it would be slightly different if there's a non-fiction text. It might be looking for books and quite often like looking for the contents page in a book to find out if its a non-fiction book...so then they'll be talking but its a quite practical...one of them would be a practical non-written activity and another one would be guided reading and there's quite a lot of talking involved...

Interviewer: And that would be a focus activity with an adult?

Teacher: That's with an adult, yeah. And...then I would normally do a writing activity or an activity sometimes with me describing, describing it and sometimes with the children doing writing and often an ICT based activity as well. This is where my writing corner is so important ... children have easy access to all sorts of opportunities to write...and this way it's child-initiated and child led; you know, some of them, like...wrote for ages, you know, the whole session.... And they go round 'reading' it to the other children who are doing unsupervised literacy activities

Interviewer: And are there also children on the computer?

Teacher: On the computer, yeah, with two laptops.

Interviewer: Right, how many children at each activity at once?

Teacher: So it will be a group of about 5 or 6.

Interviewer: Right.

Teacher: And then every day they would rotate, rotate around.

Interviewer: And do you explain at the beginning of the week, what all the activities involve? How do you go about explaining to the children?

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Teacher: Yeah, we explain it every, every....every day really we'd have a little explanation of that...that particular activity

Interviewer: To each group or to the class as a whole?

Teacher: At the beginning of the week, its normally to the class as a whole and then, I mean, because it's so similar every week they do pretty much know what it is. And they are also a very good class kind of getting the things out that they know that they need and sitting and waiting until I tell them. If I am working with that group then they will wait until I talk to another group. I mean, it's normally only one group I have to explain to because normally obviously one group do their early reading programme, those that are ready, as well and another group will be doing dressing up and that and they know...they know the thing with that so...and then another group with the TA

Interviewer: And how long does this all take?

Teacher: Well, it's usually about 15...20 minutes for that....that part. We do spend probably an hour a day doing literacy activities but never as a whole hour...you know, we do a whole class input which is often around rhymes or songs or story and that's earlier in the day, after that we have a phonics input, not always as a whole class because the TAs take a group each so we can differentiate for phonics; then we have this rotating session straight after play; just before lunch we do 'write dance'....

Interviewer: How long was that roughly?

Teacher: .. So all these things take about 15 minutes....we easily do an hour a day... And groups would have the opportunity to go outside and access the learning environment outside with Nursery and Reception every day

Interviewer: What sort of things would they do?

Teacher: Outside?

Interviewer: Yeah

Teacher: Well they've got the...they've got the...they've got big bikes and they got physical things, and they've also got 6 areas of learning out there as well. So will be, its not necessarily, it wont necessarily be literacy for those children out there but... it could be like sand and water and...

Interviewer: Okay...and how does that apply itself then to other topic areas like history and geography? How...give me a rough idea of what you do for that?

Teacher: What for the topic rotation?

Interviewer: Yeah

Teacher: Well I planned over the half term that each...I worked out the learning objectives for each of the...from the medium term plans for each of the topics and then worked out what activities the children could do which would be...good for them to do independently and which needed an adult to do..

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Interviewer: So again there's a focus group for...

Teacher: There's different focus each day and...for each of the topics, that would be a kind of 15, 20 minute carpet session, never more than that...

Interviewer: Right, with the whole class.

Teacher: With the whole class yeah, with half of them using the smart board...and then, and then the children would do their, do their activities.

Interviewer: And that would rotate as well?

Teacher: And that would rotate, yeah. For the week, yeah.

Interviewer: Okay what do you think that benefits of making those changes have been?

Teacher: ...I think that because it's such a set routine and the children are very aware of the expectations and I think, that...the TA and I are very consistent in what...what are expectations of the children are. But also what needs to be done in terms of their learning and that can make a big difference in the children's behaviour and how they approach the task that they do because they know what's expected and they know because they've seen another child do that activity the day before, what they might be able to achieve from that activity. Or I often put more complex or difficult independent activities, by giving it to the more able groups at the beginning of the week

Interviewer: Why do you do that?

Teacher: So that the less able children can see potentially exactly what can be achieved

Interviewer: How do you model that with them?

Teacher: I sort of say 'this is what Shannon's (*example name not present on the school roll*) done'

Interviewer: How does Talk and Tell fit into the changes?

Teacher: Really, it's been the best bit... they really enjoy it and it's got such a set structure that they feel 'in charge' of it... So they take it in turns and they know what questions to ask because we did a lot of that in Reception and also we've got a speaking and listening board which comes out every time we do Talk and Tell.

Interviewer: Right... tell me about the speaking and listening board?

Teacher: It's got the pictures on how to be a good listener, so we always talk about that and someone comes up with a magic wand and goes along

Interviewer: Okay.

Teacher: It's got who, what, when and why and they know the signs for those as well. So we always do the signs for who, what, when and why ... on the back of it is a

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partners list of talking partners....but then I, after the first term I abandoned updating the list because...they're perfectly capable of getting in their own talking partners

Interviewer: With anyone?

Teacher: With anyone, yeah. But sometimes I make sure who is with who...but there's not really anyone that any child won't work with. And before we do any kind of talking someone comes up with a magic wand and goes through the talking rules

Interviewer: To remind the group?

Teacher: Yeah, so it reminds the whole group. And also there's an extra one which is never on there and it's kind of what's the most important thing about listening apart from all that is that you've got to think about the same thing that the person is thinking about and I always do a couple of examples, so if I'm talking about going swimming, what should Kevin (*no child of this name in the school*) be thinking about? He should be thinking about the fact I'm going swimming

Interviewer: Okay

Teacher: ... So then after the children have done their...telling each other their news or whatever the task has been, you know, doing the talking they were asked to do with their partner, then we sit in a circle for the plenary...

Interviewer: Okay...

Teacher: ...and then they tell the person next to them something that their partner told them in their task and that person can ask questions. Then I choose a couple of children and I'm ... I probe them to extend the length and complexity of their sentences.. like ...*Name* went to his Gran's...OK Why did he go there? ...Ok so, *Name* went to his Gran's because it was his birthday and she had made him a lovely cake... do you see what I mean?

Interviewer: Yeah... you ask questions that will lengthen the sentence or extend the child's thinking... to bring in more complex structures

Teacher: So...he will say a little bit but then I can model extending it...

Interviewer: Mmm, yes ... until the children can do the modelling too

Teacher: ...So that.... Yes, that would work really well, we haven't really got that far but that is a good next step.

Interviewer: So is it always about news?

Teacher: That's every Monday, news time. And then the other Talk and Tell, they've been doing like stimulus pictures as well, getting pictures from a box in the classroom and it's got a certain story in. And so the children...I choose sort of a select group of children

Interviewer: Yeah...

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Teacher: And it rotates and they look at the pictures and then they make up a bit of the story

Interviewer: To tell the class?

Teacher: Yeah tell the class.

Interviewer: How much time do they get to prepare that?

Teacher: They...well, the ten minute slot in the middle of the session... but I will stop them part way through to make sure they are focused

Interviewer: Right, so during the talking slot they are preparing.

Teacher: Yeah...and then we started off with Talk and Tell at the beginning of the year...with certain topics that the children knew they would have a chance to talk about. So when we started with toys...then they knew that they could all bring a toy in...and they had a little bit of paper that said...that they would be talking about the toy tomorrow and they could bring a toy in or talking about that it was their turn next. About five children a day would do that. We do that on top of the Talk and Tell structure

Interviewer: Yeah. And how did they know what sort of things to talk about? Or how did you introduce it, did you go first?

Teacher: Yeah I did go first, yeah...but also sometimes it's quite structured and its got the topics and they know that they're going to talk about their favourite toy or they're going to talk about a toy they like and they bring it in and they're expecting that or they know the stimulus pictures, and then sometimes it's, it was more...like let's go on the carpet and talk about this now, its more something they're not prepared for...

Interviewer: Right. A bit like 'Show and Tell'...

Teacher: But generally with the topic it's something they know

Interviewer: Yeah.

Teacher: They can kind of prepare for it. And some children don't like talking in front of the whole class, but they do if it's something they can prepare for...

Interviewer: Yeah.

Teacher: So that makes sense.

Interviewer: Ok ... so are you clear on the difference between Show and Tell and Talk and Tell?

Teacher: Yeah, yeah, I am now! I wasn't.... I know you explained it all to me right back when I was in Reception and we talked about how to develop the intervention...although it didn't have the name then, did it?

Appendix H contd.

Interviewer: No, we came up with the name later when it seemed as though there was a confusion...

Teacher: Yeah... I think I *was* really confused about that at the beginning of Year 1, which you picked up on in that observation... quite early on, I don't remember...

Interviewer: November... it was November

Teacher: November, yeah.... We were just ... I think it was just after half term... anyway, I suppose I just thought that was what you'd meant, you know, it was in my experience and I linked the two things in my own mind but I can really see how it's completely different now ... Talk and Tell is about developing conversation skills much more and understanding the features of different types of talk... the other way I used before, a bit like when I was at primary school in the US, just gives them the chance to speak in front of the whole class on their own or with a partner which can build their confidence but doesn't necessarily mean they learn more about the structure of language...although some children can...

Interviewer: Yes, that's what Chomsky says...

Teacher: Right... but not all children can do that... a bit like some children can learn to read without much help and just a pile of books and others need it really clearly taught....and like...you know, memorising and building...

Interviewer: Okay. And what do you think, what...what benefits have you seen from having Talk and Tell sessions?

Teacher: ...I think the children enjoy it once their confidence has increased, because it does give them time to...for other children to be focused on them in a partner situation

Interviewer: Does it help their confidence to increase?

Teacher: Yeah I think it does, yeah.

Interviewer: For most children?

Teacher: Yeah, definitely

Interviewer: How do you know?

Teacher: Because they are just so much more confident – I've watched them grow so much

Interviewer: How do you know it's the Talk and Tell and not everything else?

Teacher: I suppose it is the combination of everything....yeah it would be...but the Talk and Tell gives them the 'voice' or the 'space' to put everything into place. I don't think they would have done so well without those sessions.

Interviewer: Anything else?

Appendix H contd.

Teacher: Well yes, it's had such a huge impact... you know, they are ...like... really keen to take part and to follow the familiar routine

Interviewer: Has that been important?

Teacher: What, the familiarity?

Interviewer: Yes

Teacher: Oh yes, probably one of the most important things I think

Interviewer: Why is that?

Teacher: Because there were no surprises, they learnt to trust the framework and so, because they didn't worry about what they might be asked, they were happy just to relax and do the work, talk about the topic we were looking at

Interviewer: So that helped?

Teacher: Totally...

Interviewer: Ok, good ... what other benefits were there?

Teacher: Well, of course, they are all much better at communicating than they were...you know, if they want to use something someone else is using, they will use language rather than a physical approach !!! (*laughter*)

Interviewer: Always best!

Teacher: Yes, and they will ask me really good questions if they...when they don't get what we're talking about, you know, they can ask me to say it another way. Before they'd just tune out if they weren't getting it.

Interviewer: So that's been a lot better?

Teacher: Yeah, loads...

Interviewer: Anything else?

Teacher: I suppose when I'm teaching, I feel like they are following me and not sitting there confused!

Interviewer: That's great...what do you think has helped make T&T successful?

Teacher: Like I said, the familiarity is crucial, they like it the way it is... and...the fact that they can talk to other children And definitely when I help them to extend their sentences...and sometimes we take a sentence a child gives and we totally re-word it with more sophisticated vocab as a whole class, you know, everyone calling out different words and then I write on the board and we all read it back ...we have got really short sentences and turned them in to long ones that say the same thing but have...like.. *however* and *although* and *because* or *if* bits in it as well!

Appendix H contd.

Interviewer: Anything else?

Teacher: Having the planning pro-forma really helped me because sometimes I found myself sticking always to narratives and chronological reporting styles because they were the areas I knew about...I needed more confidence to do other types of talk...in fact, I didn't really know about different types of talk so that training we did...you know where you got us to identify different types and where you find them...and then we started to unpick the different ways we could use them..

Interviewer: That was helpful?

Teacher: Yes, it meant I could move them on to other types of sentences.

Interviewer: And how did that go?

Teacher: Yeah, good. Children are using longer sentences, they are adding describing words and more complex ... they're using more complex sentences, like with because and instead of and those sorts of sentences...

Interviewer: Ok...and with the speech and language groups that run...from the class teacher's perspective, what are the advantages of having that going on and are there any disadvantages in terms of how you organise the class and things like that? Start with the advantages to it..

Teacher: ...I think the advantage is fairly clear in the children's attainment and what...how much they're achieving. And also I think...the children really like going out of the class....they like having that attention in a small group

Interviewer: Yeah?

Teacher: And I think it really helps them focus their learning and they know they're going out to do some extra learning...

Interviewer: And they feel positive about it?

Teacher: And they feel very positive yeah, very positive. And that's, you know, every single child likes to go out

Interviewer: When you took that class on in Reception, was that positivity there? Or were they a lot more uncertain?

Teacher: I think they were a lot more wary of kind of other...of other adults which has made a difference ... I think, you know, what, what really shocked me more than anything was the fact that they were very nervous

Interviewer: Right...

Teacher: And very many didn't have that confidence, and they didn't because they couldn't predict how people were going to respond and react to them

Interviewer: Right, right.

Appendix H contd.

Teacher: So I think when they felt comfortable that, that an adult could talk to them and...

Interviewer: Yeah.

Teacher: Wasn't going to be angry with them, wasn't going to be upset ... That's when they started to feel much more confident, going out into small groups with other children. And I mean they still feel happy...I think they felt quite happy about one to one...work as well. So I think it was something that...that was quite gradual to build up

Interviewer: Yeah...

Teacher: But I think it was it also just getting to know the adults

Interviewer: And across the two years, you've seen a...a big improvement in that...aspect of the children's development?

Teacher: Yeah.

Interviewer: And so...do you feel that there is a clear link between the speech and language groups and attainment, the improvement in attainment

Teacher: Oh yeah, yeah definitely.

Interviewer: What makes you think that that's partly responsible?

Teacher: ...I think because TA1...and myself and TA2 work very closely together, and TA1 would know the key words I'm keen for her to be talking about, you know, for each particular term and the topic. That...because she's got such a clear idea of what needs to be learnt, you know she'd go in at a very basic level in terms of speech and language. So, if I'm doing homes for instance in history, I really want to go in with the fact that...the expectation that children know what a chair is, and what a bath is and where the bathroom is and what it's for kind of thing...Because I'm taking it to the level of what happened in the past

Interviewer: Yeah

Teacher: But obviously there's a core, well no not a core, but a group of children who aren't quite sure what the bathroom is, or the bath or what toilet paper is sort of thing . And that...I'm not working towards that, towards those, towards that level. I'm working at the middle level. So that's where TA1 and TA2 have those children, to bring them up to, kind of the same level as the rest of the children in terms of their understanding of particular words.

Interviewer: So if you were going to focus in now on four children in that class, just to try and assess the impact that all the speech and language work has had, what would you be saying?

Teacher: Well I know *Name* has made quite a lot of progress ... It's gone from him saying nothing to...quite a lot

Appendix H contd.

Interviewer: Are there any children that were sort of below middle that are now well and truly in the middle that perhaps might not have made, or that you didn't think would make such good progress ?

Teacher: *Name*

Interviewer: Yeah. You moved her up a band recently on your target setting.

Teacher: And*Name*

Interviewer: Okay. I'll also explore this myself by looking at your assessments and linking with the speech and language work, whether they're in a speech and language group. Looking at their data, has there been any significant impact on the standard of reading?

Teacher: ...Yes I think definitely, I think across the whole class there has been but I think it's because it has been a particular focus

Interviewer: Reading has been a particular focus?

Teacher: Yeah. A lot of the talking work we've done has been started off with reading a story or rhymes so they have a really good attitude towards books and they just pick them up all the time and.. well, read, even if they can't actually read.. they're generally really happy to be buried in a book and to talk about it with a partner or an adult...And then we try and do reading twice a week

Interviewer: Do you hear every child?

Teacher: I hear every child over two weeks [*using the 3-a-day method*] and so do the TAs. And then we also have four parent helpers who come in over, over a period of a week so...

Interviewer: And do you feel your class are happy children?

Teacher: I hope so... yeah, they are, they have a really good attitude and want to do well, even the ones who find it all hard, you know... they really look forward to the times when they can talk to each other and all the adults and...they know that there will be challenging things for them but that we'll help them...and that's where playing really counts because it makes them secure... while they're playing, they are more likely to try out new ideas.

Interviewer: Thank you so much for doing this interview ...I hope it wasn't too painful! Is there anything else you'd like to say?

Teacher: Well.... only that I have really seen progress and the children are achieving well...and in the main, it's all without tears ... they just settled into Year 1 with absolutely no fuss... they were ready, you know... it wasn't any different at first but now, because they can...well, communicate with each other... it just seems to be coming naturally to them to want to start to write and to read.

Interviewer: That's so good to hear. Thank you for all your hard work and for your time today.

Appendix I

OBSERVATION 1/11/04

Looking for evidence of:

- i) what are the main changes to key aspects of delivery?
- ii) what is the impact of these changes to the children's views of learning, literacy and themselves (if not too early to identify)?
- iii) what is the impact on pupil response and pupil progress in lessons?

Specifically in these areas:

- Curriculum
- Timetable
- Resources
- Classroom organisation, including adults
- Assessment

Appendix J – Case Study 1 initial matrices***Theoretical proposition 1***

| The <i>NLS</i> , up to and including Year 1, has been inadequate in meeting the language development and learning needs of these particular socio-economically disadvantaged children | | |
|---|---------------------|------------------------|
| | Confirming evidence | Disconfirming evidence |
| Observations | | |
| Interviews | | |
| Documents | | |
| Records | | |
| Artefacts | | |
| Field-notes | | |
| Other | | |

Appendix J contd.***Theoretical proposition 2***

| An alternative curriculum and a language intervention programme might improve standards of speech and language and subsequently standards of literacy. | | |
|---|----------------------------|-------------------------------|
| | Confirming evidence | Disconfirming evidence |
| Observations | | |
| Interviews | | |
| Documents | | |
| Records | | |
| Artefacts | | |
| Field-notes | | |
| Other | | |

Appendix K

GROUP:

TOTAL:

M:

F:

| | YR Inf | | | YR Gram | | |
|-------|--------|-------|---|---------|-------|---|
| | Boys | Girls | T | Boys | Girls | T |
| Above | | | | | | |
| Level | | | | | | |
| Below | | | | | | |

| | Mid Y1 Inf | | | Mid Y1 Gram | | |
|-------|------------|-------|---|-------------|-------|---|
| | Boys | Girls | T | Boys | Girls | T |
| Above | | | | | | |
| Level | | | | | | |
| Below | | | | | | |

| | End Y1 Inf | | | End Y1 Gram | | |
|-------|------------|-------|---|-------------|-------|---|
| | Boys | Girls | T | Boys | Girls | T |
| Above | | | | | | |
| Level | | | | | | |
| Below | | | | | | |

Appendix K contd.

GROUP:

TOTAL:

M:

F:

END YR

| | MALE | | | | FEMALE | | | | TOTAL | | | |
|------------|------|--|---|--|--------|--|---|--|-------|--|---|--|
| | Inf | | G | | Inf | | G | | Inf | | G | |
| ABOVE | | | | | | | | | | | | |
| WNL (+/-1) | | | | | | | | | | | | |
| MILD | | | | | | | | | | | | |
| MODERATE | | | | | | | | | | | | |
| SEVERE | | | | | | | | | | | | |
| PROFOUND | | | | | | | | | | | | |
| | | | | | | | | | | | | |

MID Y1

| | MALE | | | | FEMALE | | | | TOTAL | | | |
|------------|------|--|---|--|--------|--|---|--|-------|--|---|--|
| | Inf | | G | | Inf | | G | | Inf | | G | |
| ABOVE | | | | | | | | | | | | |
| WNL (+/-1) | | | | | | | | | | | | |
| MILD | | | | | | | | | | | | |
| MODERATE | | | | | | | | | | | | |
| SEVERE | | | | | | | | | | | | |
| PROFOUND | | | | | | | | | | | | |
| | | | | | | | | | | | | |

END Y1

| | MALE | | | | FEMALE | | | | TOTAL | | | |
|------------|------|--|---|--|--------|--|---|--|-------|--|---|--|
| | Inf | | G | | Inf | | G | | Inf | | G | |
| ABOVE | | | | | | | | | | | | |
| WNL (+/-1) | | | | | | | | | | | | |
| MILD | | | | | | | | | | | | |
| MODERATE | | | | | | | | | | | | |
| SEVERE | | | | | | | | | | | | |
| PROFOUND | | | | | | | | | | | | |
| | | | | | | | | | | | | |

Appendix K contd.

GROUP:

Pupils with significant downwards/upwards movement

| Boy | Information | Grammar |
|-----|-------------|---------|
| | | |
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| | | |
| | | |
| | | |

| Girl | Information | Grammar |
|------|-------------|---------|
| | | |
| | | |
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| | | |
| | | |

| Pupil ref | Boys Gap btn info & grammar (no. bands) | Girls Gap btn info & grammar (no. bands) | Total |
|-----------|---|--|-------|
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Appendix K contd.

More than 2 bands above AE in both

| | Boy | Girl | Total |
|--------|-----|------|-------|
| End YR | | | |
| End Y1 | | | |

More than 2 bands above AE in info or grammar

| | Boy | | Girl | | Total | |
|--------|------|---------|------|---------|-------|---------|
| | Info | Grammar | Info | Grammar | Info | Grammar |
| End YR | | | | | | |
| End Y1 | | | | | | |
| Total | | | | | | |

At least 12 months progress in both

| | Boy | Girl | Total |
|--------|-----|------|-------|
| End Y1 | | | |

At least 12 months progress in info or grammar

| | Boy | | Girl | | Total | |
|--------|------|---------|------|---------|-------|---------|
| | Info | Grammar | Info | Grammar | Info | Grammar |
| End Y1 | | | | | | |
| Total | | | | | | |

Appendix K contd.
(screenshot)

| | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| <div>UNL AND TYPICAL END YR</div> <table><tr><td>M</td><td>F</td><td>T</td></tr><tr><td>/</td><td>/</td><td>/</td></tr></table> | M | F | T | / | / | / | <div>MID YL</div> <table><tr><td>M</td><td>F</td><td>T</td></tr><tr><td>/</td><td>/</td><td>/</td></tr></table> | M | F | T | / | / | / | <div>END YL</div> <table><tr><td>M</td><td>F</td><td>T</td></tr><tr><td>/</td><td>/</td><td>/</td></tr></table> | M | F | T | / | / | / |
| M | F | T | | | | | | | | | | | | | | | | | | |
| / | / | / | | | | | | | | | | | | | | | | | | |
| M | F | T | | | | | | | | | | | | | | | | | | |
| / | / | / | | | | | | | | | | | | | | | | | | |
| M | F | T | | | | | | | | | | | | | | | | | | |
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| <div>FSM (UNL AND TYPICAL) END YR</div> <table><tr><td>M</td><td>F</td><td>T</td></tr><tr><td>/</td><td>/</td><td>/</td></tr></table> | M | F | T | / | / | / | <div>MID YL</div> <table><tr><td>M</td><td>F</td><td>T</td></tr><tr><td>/</td><td>/</td><td>/</td></tr></table> | M | F | T | / | / | / | <div>END YL</div> <table><tr><td>M</td><td>F</td><td>T</td></tr><tr><td>/</td><td>/</td><td>/</td></tr></table> | M | F | T | / | / | / |
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| M | F | T | | | | | | | | | | | | | | | | | | |
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| M | F | T | | | | | | | | | | | | | | | | | | |
| / | / | / | | | | | | | | | | | | | | | | | | |
| <div>SB (UNL AND TYPICAL) END YR</div> <table><tr><td>M</td><td>F</td><td>T</td></tr><tr><td>/</td><td>/</td><td>/</td></tr></table> | M | F | T | / | / | / | <div>MID YL</div> <table><tr><td>M</td><td>F</td><td>T</td></tr><tr><td>/</td><td>/</td><td>/</td></tr></table> | M | F | T | / | / | / | <div>END YL</div> <table><tr><td>M</td><td>F</td><td>T</td></tr><tr><td>/</td><td>/</td><td>/</td></tr></table> | M | F | T | / | / | / |
| M | F | T | | | | | | | | | | | | | | | | | | |
| / | / | / | | | | | | | | | | | | | | | | | | |
| M | F | T | | | | | | | | | | | | | | | | | | |
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| <div>FSM + SB (UNL AND TYPICAL) END YR</div> <table><tr><td>M</td><td>F</td><td>T</td></tr><tr><td>/</td><td>/</td><td>/</td></tr></table> | M | F | T | / | / | / | <div>MID YL</div> <table><tr><td>M</td><td>F</td><td>T</td></tr><tr><td>/</td><td>/</td><td>/</td></tr></table> | M | F | T | / | / | / | <div>END YL</div> <table><tr><td>M</td><td>F</td><td>T</td></tr><tr><td>/</td><td>/</td><td>/</td></tr></table> | M | F | T | / | / | / |
| M | F | T | | | | | | | | | | | | | | | | | | |
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| M | F | T | | | | | | | | | | | | | | | | | | |
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Appendix L.i***Case Study 1 - Data gathering/analysis matrix***

| | Observations | Interviews | Documents, Records & Artefacts | Other Field-Notes |
|--|---------------------|-------------------|---|------------------------------|
| Accessibility of the Curriculum | | | | |
| Classroom Layout | | | | |
| Differentiation | | | | |
| Group Activities | | | | |
| Language Use – Adult | | | | |
| Language Use – Child | | | | |
| Pupil Attitudes and Disposition | | | | |
| Pupil Interaction | | | | |
| Pupil Progress | | | | |
| Pupil Response | | | | |
| Resources | | | | |
| Teaching Styles | | | | |
| Other Notes | | | | |

Appendix L.ii - Case Study 3 initial matrices***Theoretical proposition 1***

| With a revised curriculum and an intervention which meets the learners' language needs, children will have a more positive attitude to learning and to literacy than those children in the control cohort who had experienced formal learning from the spring term of the Reception year. | | |
|--|----------------------------|-------------------------------|
| | Confirming evidence | Disconfirming evidence |
| Observations | | |
| Interviews | | |
| Documents | | |
| Records | | |
| Artefacts | | |
| Field-notes | | |
| Other | | |

Appendix L.ii contd.***Theoretical proposition 2***

| With a revised curriculum and an intervention which meets the learners' language needs, children will be more confident and have higher self-esteem than those children in the control cohort who had experienced formal learning from the spring term of the Reception year. | | |
|--|----------------------------|-------------------------------|
| | Confirming evidence | Disconfirming evidence |
| Observations | | |
| Interviews | | |
| Documents | | |
| Records | | |
| Artefacts | | |
| Field-notes | | |
| Other | | |

Appendix L.ii contd.***Theoretical proposition 3***

| The new methods will result in accelerated language development for most learners. | | |
|---|----------------------------|-------------------------------|
| | Confirming evidence | Disconfirming evidence |
| Observations | | |
| Interviews | | |
| Documents | | |
| Records | | |
| Artefacts | | |
| Field-notes | | |
| Other | | |

Appendix L.ii contd.***Theoretical proposition 4***

| They will be more likely to achieve average attainment (L2+) in literacy at the end of KS1 than learners from cohorts who had been taught using the <i>NLS</i>. | | |
|--|----------------------------|-------------------------------|
| | Confirming evidence | Disconfirming evidence |
| Documents | | |
| Records | | |
| Field-notes | | |
| Other | | |

Appendix L.ii contd.***Theoretical proposition 5***

| Explicit SL provision within a developmentally appropriate curriculum throughout YR and Y1 will result in the reversal of the national trend, which shows that children who are experiencing language delay often do not catch up but fall further behind | | |
|--|----------------------------|-------------------------------|
| | Confirming evidence | Disconfirming evidence |
| Whole cohort | | |
| Boys | | |
| Girls | | |
| Other | | |

Appendix M**RAW DATA – CONTROL GROUP**

| Age ref | Gen | SB | FSM | Name | Age ref | Reception Age | July 2002 Info score | Info age | Gram score | Gram age | End Year One Age | Jul-03 Info score | Info age | Gram score | Gram age | I+/- | G+/- |
|---------|-----|----|-----|----------|---------|---------------|----------------------|------------|------------|----------|------------------|-------------------|------------|------------|-----------|------|------|
| 6 | M | Y | Y | CM1 | 4 | 5.0 - 5.5 | 36 | 7.6 - 8.5 | 26 | 6.0-6.5 | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 0 | 4 |
| 7 | F | N | N | CF2 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 31 | >8.5 | 1 | 8 |
| 7 | F | N | Y | CF3 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 20 | 4.0-4.5 | 4 | 1 |
| 7 | F | N | Y | CF4 | 5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 24 | 5.6-5.11 | 6.6 - 6.11 | 37 | >8.5 | 24 | 5.6-5.11 | 1 | 0 |
| 7 | M | N | N | CM5 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 1 | 1 |
| 6 | M | N | N | CM6 | 4 | 5.0 - 5.5 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 6.0 - 6.5 | 37 | >8.5 | 30 | 7.6-8.5 | 1 | 0 |
| 7 | F | N | Y | CF7 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 19 | 3.6-3.11 | 6.6 - 6.11 | 30 | 5.0 - 5.5 | 22 | 5.0 - 5.5 | 3 | 3 |
| 6 | M | Y | Y | CM8 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 23 | 5.0-5.5 | 2 | 0 |
| 6 | F | N | N | CF9 | 4 | 5.0 - 5.5 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 28 | 6.6-6.11 | -2 | 4 |
| 7 | F | N | Y | CF10 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 28 | 6.6-6.11 | 2 | 7 |
| 7 | F | N | Y | CF11 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 | 1 | 3 |
| 7 | M | N | N | CM12 | 5 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 24 | 5.6-5.11 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 30 | 7.6-8.5 | 1 | 6 |
| 6 | M | N | N | CM13 | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 28 | 6.6-6.11 | 6 | 5 |
| 5 | F | Y | Y | CF14 | 3 | 4.6 - 4.11 | 30 | 5.0 - 5.5 | 20 | 4.0-4.5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 6 | 10 |
| 7 | M | N | Y | CM15 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 1 | 2 |
| 6 | F | Y | Y | CF16 | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 4 | 3 |
| 7 | M | N | N | CM17 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 25 | 6.0-6.5 | 4 | 4 |
| 6 | M | N | N | CM18 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 15 | <3.6 | 6.0 - 6.5 | 29 | 4.6 - 4.11 | 21 | 4.6-4.11 | 5 | 6 |
| 7 | M | N | N | CM19 | 5 | 5.6 - 5.11 | 35 | 7.0 - 7.5 | 24 | 5.6-5.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 25 | 6.0-6.5 | -2 | 1 |
| 6 | F | N | Y | CF20 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 28 | 6.6-6.11 | 3 | 7 |
| 6 | F | N | N | CF21 | 4 | 5.0 - 5.5 | 33 | 6.0 - 6.5 | 23 | 5.0-5.5 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 24 | 5.6-5.11 | 1 | 1 |
| 5 | F | Y | N | CF22 | 3 | 4.6 - 4.11 | 33 | 6.0 - 6.5 | 23 | 5.0-5.5 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 24 | 5.6-5.11 | 1 | 1 |
| 7 | F | N | Y | CF23 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 28 | 6.6-6.11 | 4 | 4 |
| 7 | F | N | Y | CF24 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 16 | 3.6-3.11 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 20 | 4.0-4.5 | 2 | 4 |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 25 | 6.0-6.5 | 2 | 3 |
| 7 | | | | Median | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 22 | 5.0-5.5 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 2 | 3 |
| 7 | | | | Mode | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 28 | 6.6-6.11 | 1 | 4 |
| | | | | Range | | | | | | | | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 24 | 3.6 - 3.11 | 16 | 3.6-3.11 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | -2 | 0 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 6.6 - 6.11 | 37 | >8.5 | 31 | >8.5 | 6 | 10 |
| | | | | SD (n-1) | | | 3.05030291 | | 3.12510869 | | | 2.412227307 | | 3.512916 | | | |

Appendix M contd.

RAW DATA – CONTROL GROUP

| GIRLS ONLY | | | | GIRLS | | | | BOYS | | | | BOYS | | | |
|------------|------|-----|-----|--------|---------|---------------|------------|------------|------------|------------|------------------|------------|-------------|------------|------------|
| Age ref | Gend | Sum | FSM | Name | Age ref | Reception Age | Info score | Info age | Gram score | Gram age | End Year One Age | Info score | Info age | Gram score | Gram age |
| 7 | F | N | N | CF2 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 23 | 5.0 - 5.5 | 0 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | >8.5 |
| 7 | F | N | Y | CF3 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 19 | 3.6 - 3.11 | 0 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 4.0 - 4.5 |
| 7 | F | N | Y | CF4 | 5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 24 | 5.6 - 5.11 | 0 | 6.6 - 6.11 | 37 | >8.5 | 5.6 - 5.11 |
| 7 | F | N | Y | CF7 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 19 | 3.6 - 3.11 | 0 | 6.6 - 6.11 | 30 | 5.0 - 5.5 | 5.0 - 5.5 |
| 6 | F | N | N | CF9 | 4 | 5.0 - 5.5 | 33 | 6.0 - 6.5 | 24 | 5.6 - 5.11 | 0 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 6.6 - 6.11 |
| 7 | F | N | Y | CF10 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6 - 4.11 | 0 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 6.6 - 6.11 |
| 7 | F | N | Y | CF11 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0 - 4.5 | 0 | 6.6 - 6.11 | 30 | 5.0 - 5.5 | 5.0 - 5.5 |
| 5 | F | Y | Y | CF14 | 3 | 4.6 - 4.11 | 30 | 5.0 - 5.5 | 20 | 4.0 - 4.5 | 0 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 7.6 - 8.5 |
| 6 | F | Y | Y | CF16 | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 4.6 - 4.11 | 0 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 5.6 - 5.11 |
| 6 | F | N | Y | CF20 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 21 | 4.6 - 4.11 | 0 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 6.6 - 6.11 |
| 6 | F | N | N | CF21 | 4 | 5.0 - 5.5 | 33 | 6.0 - 6.5 | 23 | 5.0 - 5.5 | 0 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 5.6 - 5.11 |
| 5 | F | Y | N | CF22 | 3 | 4.6 - 4.11 | 33 | 6.0 - 6.5 | 23 | 5.0 - 5.5 | 0 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 5.6 - 5.11 |
| 7 | F | N | Y | CF23 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6 - 5.11 | 0 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 6.6 - 6.11 |
| 7 | F | N | Y | CF24 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 16 | 3.6 - 3.11 | 0 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 4.0 - 4.5 |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 21 | 4.6 - 4.11 | | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 6.0 - 6.5 |
| 7 | | | | Median | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 21 | 4.6 - 4.11 | | 6.6 - 6.11 | 33 | 6 - 6.5 | 5.6 - 5.11 |
| 7 | | | | Mode | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 23 | 5.0 - 5.5 | | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 5.6 - 5.11 |
| | | | | Range | | | | | | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 27 | 4.0 - 4.5 | 16 | 3.6 - 3.11 | | 5.6 - 5.11 | 30 | 5 - 5.5 | 4.0 - 4.5 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 24 | 5.6 - 5.11 | | 6.6 - 6.11 | 37 | >8.5 | >8.5 |
| | | | | | | | 2.49945049 | | 2.36736047 | | | | 2.248320496 | 3.539417 | |
| BOYS | | | | BOYS | | | | BOYS | | | | BOYS | | | |
| Age ref | Gend | Sum | FSM | Name | Age ref | Reception Age | Info score | Info age | Gram score | Gram age | End Year One Age | Info score | Info age | Gram score | Gram age |
| 6 | M | Y | Y | CM1 | 4 | 5.0 - 5.5 | 36 | 7.6 - 8.5 | 26 | 6.0 - 6.5 | | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 7.6 - 8.5 |
| 7 | M | N | N | CM5 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0 - 4.5 | | 6.6 - 6.11 | 30 | 5.0 - 5.5 | 4.6 - 4.11 |
| 6 | M | N | N | CM6 | 4 | 5.0 - 5.5 | 36 | 7.6 - 8.5 | 30 | 7.6 - 8.5 | | 6.0 - 6.5 | 37 | >8.5 | 7.6 - 8.5 |
| 6 | M | Y | Y | CM8 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 23 | 5.0 - 5.5 | | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 5.0 - 5.5 |
| 7 | M | N | N | CM12 | 5 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 24 | 5.6 - 5.11 | | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 7.6 - 8.5 |
| 6 | M | N | N | CM13 | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 23 | 5.0 - 5.5 | | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 6.6 - 6.11 |
| 7 | M | N | Y | CM15 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 21 | 4.6 - 4.11 | | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 5.0 - 5.5 |
| 7 | M | N | N | CM17 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 21 | 4.6 - 4.11 | | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 6.0 - 6.5 |
| 6 | M | N | N | CM18 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 15 | <3.6 | 0 | 6.0 - 6.5 | 29 | 4.6 - 4.11 | 4.6 - 4.11 |
| 7 | M | N | N | CM19 | 5 | 5.6 - 5.11 | 35 | 7.0 - 7.5 | 24 | 5.6 - 5.11 | 0 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 6.0 - 6.5 |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 22 | 6.0 - 6.5 | | 6.0 - 6.5 | 33 | 6 - 6.5 | 6.0 - 6.5 |
| 6 | | | | Median | 4.5 | 5.0 - 5.5 | 30.5 | 5.0 - 5.5 | 23 | 5.0 - 5.5 | | 6.0 - 6.5 | 33 | 6 - 6.5 | 6.0 - 6.5 |
| 6 | | | | Mode | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 23 | 5.0 - 5.5 | | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 7.6 - 8.5 |
| | | | | Range | | | | | | | | | | | |
| 6 | | | | Min | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 15 | <3.6 | | 6.0 - 6.5 | 29 | 4.6 - 4.11 | 4.6 - 4.11 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 30 | 7.6 - 8.5 | | 6.6 - 6.11 | 37 | >8.5 | 7.6 - 8.5 |
| | | | | | | | 3.77859468 | | | | | | 2.716206505 | 3.657564 | |

Appendix M contd.**RAW DATA – CONTROL GROUP**

| Age ref | Gen | SB | FSM | Name | Age ref | Reception Age | July 2002 Info score | Info age | Gram score | Gram age | End Year One Age | Jul-03 Info score | Info age | Gram score | Gram age | I+/- | G+/- |
|------------|-----|----|-----|--------|---------|---------------|----------------------|------------|------------|----------|------------------|-------------------|------------|------------|----------|------|------|
| 6 | M | Y | Y | CM1 | 4 | 5.0 - 5.5 | 36 | 7.6 - 8.5 | 26 | 6.0-6.5 | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 0 | 4 |
| 7 | F | N | Y | CF3 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 20 | 4.0-4.5 | 4 | 0 |
| 7 | F | N | Y | CF4 | 5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 24 | 5.6-5.11 | 6.6 - 6.11 | 37 | >8.5 | 24 | 5.6-5.11 | 1 | 0 |
| 7 | F | N | Y | CF7 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 19 | 3.6-3.11 | 6.6 - 6.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 | 3 | 4 |
| 6 | M | Y | Y | CM8 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 23 | 5.0-5.5 | 2 | 0 |
| 7 | F | N | Y | CF10 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 28 | 6.6-6.11 | 2 | 7 |
| 7 | F | N | Y | CF11 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 | 1 | 3 |
| 5 | F | Y | Y | CF14 | 3 | 4.6 - 4.11 | 30 | 5.0 - 5.5 | 20 | 4.0-4.5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 6 | 10 |
| 7 | M | N | Y | CM15 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 1 | 2 |
| 6 | F | Y | Y | CF16 | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 4 | 3 |
| 6 | F | N | Y | CF20 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 28 | 6.6-6.11 | 3 | 7 |
| 7 | F | N | Y | CF23 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 28 | 6.6-6.11 | 4 | 4 |
| 7 | F | N | Y | CF24 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 16 | 3.6-3.11 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 20 | 4.0-4.5 | 2 | 4 |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 2 | 3 |
| 7 | | | | Median | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 2 | 3.5 |
| 7 | | | | Mode | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 23 | 5.0-5.5 | 4 | 4 |
| | | | | Range | | | | | | | | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 27 | 4.0 - 4.5 | 16 | 3.6-3.11 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 20 | 4.0-4.5 | 0 | 0 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 26 | 6.0-6.5 | 6.6 - 6.11 | 37 | >8.5 | 30 | 7.6-8.5 | 6 | 10 |
| FSM FEMALE | | | | | | | | | | | | | | | | | |
| Age ref | Gen | SB | FSM | Name | Age ref | Reception Age | July 2002 Info score | Info age | Gram score | Gram age | End Year One Age | Jul-03 Info score | Info age | Gram score | Gram age | I+/- | G+/- |
| 7 | F | N | Y | CF3 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 20 | 4.0-4.5 | 4 | 0 |
| 7 | F | N | Y | CF4 | 5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 24 | 5.6-5.11 | 6.6 - 6.11 | 37 | >8.5 | 24 | 5.6-5.11 | 1 | 0 |
| 7 | F | N | Y | CF7 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 19 | 3.6-3.11 | 6.6 - 6.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 | 3 | 4 |
| 7 | F | N | Y | CF10 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 28 | 6.6-6.11 | 2 | 7 |
| 7 | F | N | Y | CF11 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 | 1 | 3 |
| 5 | F | Y | Y | CF14 | 3 | 4.6 - 4.11 | 30 | 5.0 - 5.5 | 20 | 4.0-4.5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 6 | 10 |
| 6 | F | Y | Y | CF16 | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 4 | 3 |
| 6 | F | N | Y | CF20 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 28 | 6.6-6.11 | 3 | 7 |
| 7 | F | N | Y | CF23 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 28 | 6.6-6.11 | 4 | 4 |
| 7 | F | N | Y | CF24 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 16 | 3.6-3.11 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 20 | 4.0-4.5 | 2 | 4 |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 3 | 4 |
| 7 | | | | Median | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 3 | 4 |
| 7 | | | | Mode | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 28 | 6.6-6.11 | 4 | 4 |
| | | | | Range | | | | | | | | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 27 | 4.0 - 4.5 | 16 | 3.6-3.11 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 20 | 4.0-4.5 | 1 | 0 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 24 | 5.6-5.11 | 6.6 - 6.11 | 37 | >8.5 | 30 | 7.6-8.5 | 6 | 10 |

Appendix M contd.**RAW DATA – CONTROL GROUP**

| FSM MALE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------|---|-----|---|--------|-----|------------|---------|------------|------|-----------|------------|------------|------------|-----|--------------|------|--------|--|------------|----------|------------|----------|------|------|--|--|--|--|--|
| Age | | Gen | | SB | FSM | Name | Age ref | Reception | | July 2002 | | Info score | | Age | End Year One | | Jul-03 | | Info score | Info age | Gram score | Gram age | I+/- | G+/- | | | | | |
| 6 | M | Y | Y | CM1 | 4 | 5.0 - 5.5 | 36 | 7.6 - 8.5 | 26 | 6.0-6.5 | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 0 | 4 | | | | | | | | | | | | |
| 6 | M | Y | Y | CM8 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 23 | 5.0-5.5 | 2 | 0 | | | | | | | | | | | | |
| 7 | M | N | Y | CM15 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 1 | 2 | | | | | | | | | | | | |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 23 | 5.0-5.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 25 | 6.0-6.5 | 1 | 2 | | | | | | | | | | | | |
| 6 | | | | Median | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 23 | 5.0-5.5 | 1 | 2 | | | | | | | | | | | | |
| 6 | | | | Mode | 4 | 5.0 - 5.5 | #N/A | #N/A | #N/A | #N/A | 6.0 - 6.5 | #N/A | #N/A | 23 | 5.0-5.5 | #N/A | #N/A | | | | | | | | | | | | |
| | | | | Range | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | Min | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 0 | 0 | | | | | | | | | | | | |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 26 | 6.0-6.5 | 6.6 - 6.11 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 2 | 4 | | | | | | | | | | | | |
| SUMMER | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Age | | Gen | | SB | FSM | Name | Age ref | Reception | | July 2002 | | Info score | | Age | End Year One | | Jul-03 | | Info score | Info age | Gram score | Gram age | I+/- | G+/- | | | | | |
| 6 | M | Y | Y | CM1 | 4 | 5.0 - 5.5 | 36 | 7.6 - 8.5 | 26 | 6.0-6.5 | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 0 | 4 | | | | | | | | | | | | |
| 6 | M | Y | Y | CM8 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 23 | 5.0-5.5 | 2 | 0 | | | | | | | | | | | | |
| 5 | F | Y | Y | CF14 | 3 | 4.6 - 4.11 | 30 | 5.0 - 5.5 | 20 | 4.0-4.5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 6 | 10 | | | | | | | | | | | | |
| 6 | F | Y | Y | CF16 | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 4 | 3 | | | | | | | | | | | | |
| 5 | F | Y | N | CF22 | 3 | 4.6 - 4.11 | 33 | 6.0 - 6.5 | 23 | 5.0-5.5 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 24 | 5.6-5.11 | 1 | 1 | | | | | | | | | | | | |
| 5 | | | | Mean | 3 | 4.6 - 4.11 | 31 | 5.6 - 5.11 | 22 | 5.0 - 5.5 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 2 | 3 | | | | | | | | | | | | |
| 6 | | | | Median | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 24 | 5.6-5.11 | 2 | 3 | | | | | | | | | | | | |
| 6 | | | | Mode | 4 | 5.0 - 5.5 | #N/A | #N/A | 23 | 5.0-5.5 | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | #N/A | #N/A | | | | | | | | | | | | |
| | | | | Range | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | #N/A | #N/A | | | | | | | | | | | | |
| 6 | | | | Max | 4 | 5.0 - 5.5 | 36 | 7.6 - 8.5 | 26 | 6.0-6.5 | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | #N/A | #N/A | | | | | | | | | | | | |

Appendix N

RAW DATA – PILOT GROUP

| Age ref | Gend | Sum | FSM | Name | Age ref | Reception | July 2003 | Info score | Info age | Gram score | Gram age | End Year One | Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- |
|---------|------|-----|-----|--------|---------|------------|------------|------------|-----------|------------|------------|--------------|------------|------------|------------|------------|----------|------|------|
| 7 | F | N | N | PF1 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 28 | 6.6-6.11 | 4 | 7 | | |
| 7 | F | N | Y | PF2 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 4 | 5 | | |
| 6 | M | Y | Y | PM3 | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 19 | 3.6-3.11 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 23 | 5.0-5.5 | 4 | 4 | | |
| 7 | M | N | Y | PM4 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 3 | 3 | | |
| 6 | F | Y | Y | PF5 | 4 | 5.0 - 5.5 | 35 | 7.0 - 7.5 | 30 | 7.6-8.5 | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 32 | >8.5 | 1 | 2 | | |
| 7 | M | N | Y | PM6 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 18 | 3.6-3.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 6 | 8 | | |
| 7 | F | N | Y | PF7 | 5 | 5.6 - 5.11 | 26 | 3.6 - 3.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 30 | 5.0 - 5.5 | 24 | 5.6-5.11 | 4 | 4 | | |
| 7 | F | N | N | PF8 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 28 | 6.6-6.11 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 30 | 7.6-8.5 | 4 | 2 | | |
| 7 | M | N | N | PM9 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 3 | 5 | | |
| 7 | M | N | Y | PM10 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 26 | 6.0-6.5 | 2 | 5 | | |
| 7 | F | N | N | PF11 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 6 | | |
| 6 | M | N | Y | PM12 | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 28 | 6.6-6.11 | 3 | 7 | | |
| 6 | M | N | Y | PM13 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 28 | 6.6-6.11 | 3 | 7 | | |
| 6 | F | N | Y | PF14 | 4 | 5.0 - 5.5 | 26 | 3.6 - 3.11 | 15 | <3.6 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 5 | 6 | | |
| 6 | F | N | Y | PF15 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.0 - 6.5 | 37 | >8.5 | 34 | >8.5 | 6 | 11 | | |
| 6 | F | N | Y | PF16 | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 26 | 6.0-6.5 | 2 | 6 | | |
| 7 | M | N | N | PM17 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 18 | 3.6-3.11 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 5 | 8 | | |
| 6 | F | Y | Y | PF18 | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 6 | 6 | | |
| 5 | F | Y | N | PF19 | 3 | 4.6 - 4.11 | 26 | 3.6 - 3.11 | 17 | 3.6-3.11 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 23 | 5.0-5.5 | 3 | 6 | | |
| 6 | F | N | N | PF20 | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 6 | | |
| 5 | M | Y | Y | PM21 | 3 | 4.6 - 4.11 | 27 | 4.0 - 4.5 | 18 | 3.6-3.11 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 26 | 6.0-6.5 | 4 | 8 | | |
| 5 | M | Y | N | PM22 | 3 | 4.6 - 4.11 | 25 | 3.6 - 3.11 | 21 | 4.6-4.11 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 28 | 6.6-6.11 | 8 | 7 | | |
| 5 | M | Y | N | PM23 | 3 | 4.6 - 4.11 | 24 | 3.6 - 3.11 | 19 | 3.6-3.11 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 24 | 5.6-5.11 | 10 | 5 | | |
| 5 | M | Y | Y | PM24 | 3 | 4.6 - 4.11 | 25 | 3.6 - 3.11 | 19 | 3.6-3.11 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 6 | 5 | | |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 28 | 4.0 - 4.5 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 5 | | |
| 6 | | | | Median | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 6 | | |
| 7 | | | | Mode | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 6 | | |
| | | | | Range | | | | | | | | | | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 24 | 3.6 - 3.11 | 15 | <3.6 | | | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 21 | 4.6-4.11 | 1 | 2 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 35 | 7.0 - 7.5 | 30 | 7.6-8.5 | | | 6.6 - 6.11 | 37 | >8.5 | 34 | >8.5 | 10 | 11 |
| | | | | | | | 2 51912971 | | 3 1759969 | | | 1 84891272 | | | | 2 8629326 | | | |

Appendix N contd.**RAW DATA – PILOT GROUP**

| Boys Age ref | Gend | Sum | FSM | Name | Reception | | July 2003 | | Gram score | Gram age | End Year One | | Jul-04 | Info score | Info age | Gram score | Gram age | I+/- | G+/- |
|------------------|------|-----|-----|-----------|-----------|------------|------------|------------|------------|--------------|--------------|------------|------------|------------|----------|------------|----------|------|------|
| | | | | | Age | ge ref | Info score | Info age | | | Age | Info score | | | | | | | |
| 6 | M | Y | Y | PM3 | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 19 | 3.6-3.11 | 6.0 - 6.5 | | 34 | 6.6 - 6.11 | | 23 | 5.0-5.5 | 4 | 4 |
| 7 | M | N | Y | PM4 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.6 - 6.11 | | 34 | 6.6 - 6.11 | | 26 | 6.0-6.5 | 3 | 3 |
| 7 | M | N | Y | PM6 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 18 | 3.6-3.11 | 6.6 - 6.11 | | 33 | 6.0 - 6.5 | | 26 | 6.0-6.5 | 6 | 8 |
| 7 | M | N | N | PM9 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.6 - 6.11 | | 31 | 6.0 - 6.5 | | 26 | 6.0-6.5 | 3 | 5 |
| 7 | M | N | Y | PM10 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | | 31 | 5.6 - 5.11 | | 26 | 6.0-6.5 | 2 | 5 |
| 6 | M | N | Y | PM12 | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.0 - 6.5 | | 33 | 6.0 - 6.5 | | 28 | 6.6-6.11 | 3 | 7 |
| 6 | M | N | Y | PM13 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 6.0 - 6.5 | | 34 | 6.6 - 6.11 | | 28 | 6.6-6.11 | 3 | 7 |
| 7 | M | N | N | PM17 | 5 | 5.6 - 5.11 | 27 | 4.6 - 4.11 | 18 | 3.6-3.11 | 6.6 - 6.11 | | 34 | 6.6 - 6.11 | | 26 | 6.0-6.5 | 5 | 8 |
| 5 | M | Y | Y | PM21 | 3 | 4.6 - 4.11 | 29 | 4.0 - 4.5 | 18 | 3.6-3.11 | 5.6 - 5.11 | | 31 | 5.6 - 5.11 | | 26 | 6.0-6.5 | 4 | 8 |
| 5 | M | Y | N | PM22 | 3 | 4.6 - 4.11 | 25 | 3.6 - 3.11 | 21 | 4.6-4.11 | 5.6 - 5.11 | | 33 | 6.0 - 6.5 | | 28 | 6.6-6.11 | 8 | 7 |
| 5 | M | Y | N | PM23 | 3 | 4.6 - 4.11 | 24 | 3.6 - 3.11 | 19 | 3.6-3.11 | 5.6 - 5.11 | | 34 | 6.6 - 6.11 | | 24 | 5.6-5.11 | 10 | 5 |
| 5 | M | Y | Y | PM24 | 3 | 4.6 - 4.11 | 25 | 3.6 - 3.11 | 19 | 3.6-3.11 | 5.6 - 5.11 | | 31 | 5.6 - 5.11 | | 24 | 5.6-5.11 | 6 | 5 |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 28 | 4.0 - 4.5 | 19 | 3.6-3.11 | 6.0 - 6.5 | | 33 | 6.0 - 6.5 | | 25 | 6.0-6.5 | 4 | 6 |
| 6 | | | | Median | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | | 33 | 6.0 - 6.5 | | 26 | 6.0-6.5 | 4 | 6 |
| 7 | | | | Mode | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.6 - 6.11 | | 34 | 6.6 - 6.11 | | 26 | 6.0-6.5 | 3 | 5 |
| | | | | Range | | | | | | | | | | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 24 | 3.6 - 3.11 | 18 | 3.6-3.11 | 5.6 - 5.11 | | 31 | 5.6 - 5.11 | | 23 | 5.0-5.5 | 2 | 3 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.6 - 6.11 | | 34 | 6.6 - 6.11 | | 28 | 6.6-6.11 | 10 | 8 |
| | | | | | | | 2.48022482 | | 1.6213537 | | | | 1.24011241 | | | 1.62135372 | | | |
| | | | | Reception | | July 2003 | | | | End Year One | | Jul-04 | | | | | | I+/- | G+/- |
| Girls Age ref | Gend | Sum | FSM | Name | Age ref | Age | Info score | Info age | Gram score | Gram age | Age | Info score | Info score | Info age | Info age | Gram score | Gram age | | |
| 7 | F | N | N | PF1 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | | 33 | 6.0 - 6.5 | | 28 | 6.6-6.11 | 4 | 7 |
| 7 | F | N | Y | PF2 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 | 6.6 - 6.11 | | 33 | 6.0 - 6.5 | | 24 | 5.6-5.11 | 4 | 5 |
| 6 | F | Y | Y | PF5 | 4 | 5.0 - 5.5 | 35 | 7.0 - 7.5 | 30 | 7.6-8.5 | 6.0 - 6.5 | | 36 | 7.6 - 8.5 | | 32 | >8.5 | 1 | 2 |
| 7 | F | N | Y | PF7 | 5 | 5.6 - 5.11 | 26 | 3.6 - 3.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | | 30 | 5.0 - 5.5 | | 24 | 5.6-5.11 | 4 | 4 |
| 7 | F | N | N | PF8 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 28 | 6.6-6.11 | 6.6 - 6.11 | | 35 | 7.0 - 7.5 | | 30 | 7.6-8.5 | 4 | 2 |
| 7 | F | N | N | PF11 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | | 33 | 6.0 - 6.5 | | 26 | 6.0-6.5 | 4 | 6 |
| 6 | F | N | Y | PF14 | 4 | 5.0 - 5.5 | 26 | 3.6 - 3.11 | 15 | <3.6 | 6.0 - 6.5 | | 31 | 5.6 - 5.11 | | 21 | 4.6-4.11 | 5 | 6 |
| 6 | F | N | Y | PF15 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.0 - 6.5 | | 37 | >8.5 | | 34 | >8.5 | 6 | 11 |
| 6 | F | N | Y | PF16 | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | | 31 | 5.6 - 5.11 | | 26 | 6.0-6.5 | 2 | 6 |
| 6 | F | Y | Y | PF18 | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 | 6.0 - 6.5 | | 33 | 6.0 - 6.5 | | 26 | 6.0-6.5 | 6 | 6 |
| 5 | F | Y | N | PF19 | 3 | 4.6 - 4.11 | 26 | 3.6 - 3.11 | 17 | 3.6-3.11 | 5.6 - 5.11 | | 29 | 4.6 - 4.11 | | 23 | 5.0-5.5 | 3 | 6 |
| 6 | F | N | N | PF20 | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | | 33 | 6.0 - 6.5 | | 26 | 6.0-6.5 | 4 | 6 |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 28 | 4.0 - 4.5 | 21 | 4.6-4.11 | 6.0 - 6.5 | | 33 | 6.0 - 6.5 | | 26 | 6.0-6.5 | 3 | 5 |
| 6 | | | | Median | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | | 33 | 6.0 - 6.5 | | 26 | 6.0-6.5 | 4 | 6 |
| 6 | | | | Mode | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | | 33 | 6.0 - 6.5 | | 26 | 6.0-6.5 | 4 | 6 |
| | | | | Range | | | | | 20 | 4.0-4.5 | 6.0 - 6.5 | | 33 | 6.0 - 6.5 | | 26 | 6.0-6.5 | 4 | 6 |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 26 | 3.6 - 3.11 | 15 | <3.6 | 5.6 - 5.11 | | 29 | 4.6 - 4.11 | | 21 | 4.6-4.11 | 1 | 2 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 35 | 7.0 - 7.5 | 30 | 7.6-8.5 | 6.6 - 6.11 | | 37 | >8.5 | | 34 | >8.5 | 6 | 11 |
| | | | | | | | 2.60971379 | | 4.209477 | | | | 2.3677121 | | | 3.77991365 | | | |

Appendix N contd.

RAW DATA – PILOT GROUP

| FSM | | | | | | Reception | | July 2003 | | | | | | End Year One | | Jul-04 | | | | I+/- | | G+/- | |
|---------|------|-----|-----|--------|-----|-------------|------------|------------|----------|------------|------------|------------|------------|--------------|-----|------------|----------|------------|----------|------|--|------|--|
| Age ref | Gend | Sum | FSM | Name | Age | Info score | Info age | Gram score | Gram age | Age | Info score | Info age | Gram score | Gram age | Age | Info score | Info age | Gram score | Gram age | | | | |
| 7 | F | N | Y | PF2 | 5 | 5.6 - 5.11 | 4.6 - 4.11 | 19 | 3.6-3.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 4 | 5 | | | | | | | |
| 6 | M | Y | Y | PM3 | 4 | 5.0 - 5.5 | 5.0 - 5.5 | 19 | 3.6-3.11 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 23 | 5.0-5.5 | 4 | 4 | | | | | | | |
| 7 | M | N | Y | PM4 | 5 | 5.6 - 5.11 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 3 | 3 | | | | | | | |
| 6 | F | Y | Y | PF5 | 4 | 5.0 - 5.5 | 7.0 - 7.5 | 30 | 7.6-8.5 | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 32 | >8.5 | 1 | 2 | | | | | | | |
| 7 | M | N | Y | PM6 | 5 | 5.6 - 5.11 | 4.0 - 4.5 | 18 | 3.6-3.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 6 | 8 | | | | | | | |
| 7 | F | N | Y | PF7 | 5 | 5.6 - 5.11 | 3.6 - 3.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 30 | 5.0 - 5.5 | 24 | 5.6-5.11 | 4 | 4 | | | | | | | |
| 7 | M | N | Y | PM10 | 5 | 5.6 - 5.11 | 4.6 - 4.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 26 | 6.0-6.5 | 2 | 5 | | | | | | | |
| 6 | M | N | Y | PM12 | 4 | 5.0 - 5.5 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 28 | 6.6-6.11 | 3 | 7 | | | | | | | |
| 6 | M | N | Y | PM13 | 4 | 5.0 - 5.5 | 5.6 - 5.11 | 21 | 4.6-4.11 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 28 | 6.6-6.11 | 3 | 7 | | | | | | | |
| 6 | F | N | Y | PF14 | 4 | 5.0 - 5.5 | 3.6 - 3.11 | 15 | <3.6 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 5 | 6 | | | | | | | |
| 6 | F | N | Y | PF15 | 4 | 5.0 - 5.5 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.0 - 6.5 | 37 | >8.5 | 34 | >8.5 | 6 | 11 | | | | | | | |
| 6 | F | N | Y | PF16 | 4 | 5.0 - 5.5 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 26 | 6.0-6.5 | 2 | 6 | | | | | | | |
| 6 | F | Y | Y | PF18 | 4 | 5.0 - 5.5 | 4.0 - 4.5 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 6 | 6 | | | | | | | |
| 5 | M | Y | Y | PM21 | 3 | 4.6 - 4.11 | 4.0 - 4.5 | 18 | 3.6-3.11 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 26 | 6.0-6.5 | 4 | 8 | | | | | | | |
| 5 | M | Y | Y | PM24 | 3 | 4.6 - 4.11 | 3.6 - 3.11 | 19 | 3.6-3.11 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 6 | 5 | | | | | | | |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 4.0 - 4.5 | 20 | 4.0-4.5 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 26 | 6.0-6.5 | 3 | 5 | | | | | | | |
| 6 | | | | Median | 4 | 5.0 - 5.5 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 5.5 | | | | | | | |
| 6 | | | | Mode | 4 | 5.0 - 5.5 | 4.6 - 4.11 | 19 | 3.6-3.11 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 26 | 6.0-6.5 | 4 | 5 | | | | | | | |
| | | | | Range | | | | | | | | | | | | | | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 3.6 - 3.11 | 15 | <3.6 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 1 | 2 | | | | | | | |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 7.0 - 7.5 | 30 | 7.6-8.5 | 6.6 - 6.11 | 37 | >8.5 | 34 | >8.5 | 6 | 11 | | | | | | | |
| | | | | | | 2.61497519 | | 3.313752 | | | 2.00713015 | | 3.30511869 | | | | | | | | | | |
| | | | | | | July 2003 | | | | | Jul-04 | | | | | | | | | | | | |
| NFSM | | | | | | | | | | | | | | | | | | | | | | | |
| Age ref | Gend | Sum | FSM | Name | Age | Info score | Info age | Gram score | Gram age | Age | Info score | Info age | Gram score | Gram age | | | I+/- | G+/- | | | | | |
| 7 | F | N | N | PF1 | 5 | 5.6 - 5.11 | 4.6 - 4.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 28 | 6.6-6.11 | 4 | 7 | | | | | | | |
| 7 | F | N | N | PF8 | 5 | 5.6 - 5.11 | 5.6 - 5.11 | 28 | 6.6-6.11 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 30 | 7.6-8.5 | 4 | 2 | | | | | | | |
| 7 | M | N | N | PM9 | 5 | 5.6 - 5.11 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 3 | 5 | | | | | | | |
| 7 | F | N | N | PF11 | 5 | 5.6 - 5.11 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 6 | | | | | | | |
| 7 | M | N | N | PM17 | 5 | 5.6 - 5.11 | 4.6 - 4.11 | 18 | 3.6-3.11 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 5 | 8 | | | | | | | |
| 5 | F | Y | N | PF19 | 3 | 4.6 - 4.11 | 3.6 - 3.11 | 17 | 3.6-3.11 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 23 | 5.0-5.5 | 3 | 6 | | | | | | | |
| 6 | F | N | N | PF20 | 4 | 5.0 - 5.5 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 6 | | | | | | | |
| 5 | M | Y | N | PM22 | 3 | 4.6 - 4.11 | 3.6 - 3.11 | 21 | 4.6-4.11 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 28 | 6.6-6.11 | 8 | 7 | | | | | | | |
| 5 | M | Y | N | PM23 | 3 | 4.6 - 4.11 | 3.6 - 3.11 | 19 | 3.6-3.11 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 24 | 5.6-5.11 | 10 | 5 | | | | | | | |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 4.0 - 4.5 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 5 | 5 | | | | | | | |
| 7 | | | | Median | 5 | 5.6 - 5.11 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 6 | | | | | | | |
| 7 | | | | Mode | 5 | 5.6 - 5.11 | 4.6 - 4.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 6 | | | | | | | |
| | | | | Range | | | | | | | | | | | | | | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 3.6 - 3.11 | 17 | 3.6-3.11 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 23 | 5.0-5.5 | 3 | 2 | | | | | | | |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 5.6 - 5.11 | 28 | 6.6-6.11 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 30 | 7.6-8.5 | 10 | 8 | | | | | | | |
| | | | | | | 2 39791 576 | | 3 1269438 | | | 1 6583124 | | 2 12132034 | | | | | | | | | | |

Appendix N contd.

RAW DATA – PILOT GROUP

| FSM Boys | | Reception | | July 2003 | | End Year One | | Jul-04 | | Info age | | Gram score | | Gram age | | I+/- | | G+/- | |
|-----------|--------|-----------|--------|-----------|------------|--------------|------------|----------|------------|------------|------------|------------|----------|----------|------|------|--|------|--|
| Age ref | Gender | FSM | Name | Age | Info score | Info age | Gram score | Gram age | Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | | | | |
| 6 | M | Y | PM3 | 4 | 30 | 5.0 - 5.5 | 19 | 3.6-3.11 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 23 | 5.0-5.5 | 4 | 4 | | | | |
| 7 | M | Y | PM4 | 5 | 27 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 3 | 3 | | | | |
| 7 | M | Y | PM6 | 5 | 31 | 5.6 - 5.11 | 18 | 3.6-3.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 6 | 8 | | | | |
| 7 | M | Y | PM10 | 5 | 29 | 4.6 - 4.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 26 | 6.0-6.5 | 2 | 5 | | | | |
| 6 | M | Y | PM12 | 4 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 28 | 6.6-6.11 | 3 | 7 | | | | |
| 6 | M | Y | PM13 | 4 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 28 | 6.6-6.11 | 3 | 7 | | | | |
| 5 | M | Y | PM21 | 3 | 27 | 4.0 - 4.5 | 18 | 3.6-3.11 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 26 | 6.0-6.5 | 4 | 8 | | | | |
| 5 | M | Y | PM24 | 3 | 25 | 3.6 - 3.11 | 19 | 3.6-3.11 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 6 | 5 | | | | |
| 6 | | | Mean | 4 | 28 | 4.0 - 4.5 | 20 | 4.0-4.5 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 25 | 6.0 | 3 | 5 | | | | |
| 6 | | | Median | 4 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 3.5 | 5 | | | | |
| 6 | | | Mode | 4 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 3 | 8 | | | | |
| | | | Range | | | | | | | | | | | | | | | | |
| 5 | | | Min | 3 | 25 | 3.6 - 3.11 | 18 | 3.6-3.11 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 2 | 3 | | | | |
| 7 | | | Max | 5 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 28 | 6.6-6.11 | 6 | 8 | | | | |
| | | | | | 2.18762755 | | 1.7728105 | | | 1.40788595 | | 1.7268882 | | | | | | | |
| NFSM BOYS | | Reception | | July 2003 | | End Year One | | Jul-04 | | Info age | | Gram score | | Gram age | | I+/- | | G+/- | |
| Age ref | Gender | FSM | Name | Age | Info score | Info age | Gram score | Gram age | Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | | | | |
| 7 | M | N | PM9 | 5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 3 | 5 | | | | |
| 7 | M | N | PM17 | 5 | 29 | 4.6 - 4.11 | 18 | 3.6-3.11 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 5 | 8 | | | | |
| 5 | M | Y | PM22 | 3 | 25 | 3.6 - 3.11 | 21 | 4.6-4.11 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 28 | 6.6-6.11 | 8 | 7 | | | | |
| 5 | M | Y | PM23 | 3 | 24 | 3.6 - 3.11 | 19 | 3.6-3.11 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 24 | 5.6-5.11 | 10 | 5 | | | | |
| 6 | | | Mean | 4 | 27 | 4.0 - 4.5 | 19 | 3.6-3.11 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 6 | 6 | | | | |
| 6 | | | Median | 4 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0-6.5 | 26 | 6.0-6.5 | 6.5 | 6 | | | | |
| 7 | | | Mode | 5 | #N/A | #N/A | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | #N/A | 5 | | | | |
| | | | Range | | | | | | | | | | | | | | | | |
| 5 | | | Min | 3 | 24 | 3.6 - 3.11 | 18 | 3.6-3.11 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | #N/A | 5 | | | | |
| 7 | | | Max | 5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 28 | 6.6-6.11 | #N/A | 8 | | | | |
| | | | | | 2.94392029 | | 1.5 | | | 0.57735027 | | 1.63299316 | | | | | | | |

Appendix N contd.**RAW DATA – PILOT GROUP**

| FSM GIRLS | | Reception | | July 2003 | | | | | | End Year One | | Jul-04 | | | | I+/- | | G+/- | |
|------------|------|-----------|-----|-----------|-----|------------|------------|------------|-----------|--------------|------------|------------|------------|------------|----------|------|-----|------|--|
| Age ref | Gend | Sum | FSM | Name | Age | Info score | Info age | Gram score | Gram age | | Age | Info score | Info age | Gram score | Gram age | | | | |
| 7 | F | N | Y | PF2 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 4 | 5 | | |
| 6 | F | Y | Y | PF5 | 4 | 5.0 - 5.5 | 35 | 7.0 - 7.5 | 30 | 7.6-8.5 | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 32 | >8.5 | 1 | 2 | | |
| 7 | F | N | Y | PF7 | 5 | 5.6 - 5.11 | 26 | 3.6 - 3.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 30 | 5.0 - 5.5 | 24 | 5.6-5.11 | 4 | 4 | | |
| 6 | F | N | Y | PF14 | 4 | 5.0 - 5.5 | 26 | 3.6 - 3.11 | 15 | <3.6 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 | 5 | 6 | | |
| 6 | F | N | Y | PF15 | 4 | 5.0 - 5.5 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 6.0 - 6.5 | 37 | >8.5 | 34 | >8.5 | 6 | 11 | | |
| 6 | F | N | Y | PF16 | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 26 | 6.0-6.5 | 2 | 6 | | |
| 6 | F | Y | Y | PF18 | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 6 | 6 | | |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 21 | 4.6-4.11 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 5 | | |
| 6 | | | | Median | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 5.5 | | |
| 6 | | | | Mode | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 4 | 6 | | |
| | | | | Range | | | | | | | | | | | | | | | |
| 6 | | | | Min | 4 | 5.0 - 5.5 | 26 | 3.6 - 3.11 | 15 | <3.6 | 6.0 - 6.5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 | 1 | 2 | | |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 35 | 7.0 - 7.5 | 30 | 7.6-8.5 | 6.6 - 6.11 | 37 | >8.5 | 34 | >8.5 | 6 | 11 | | |
| | | | | | | | 3.21455025 | | 4.6188022 | | | 2.64575131 | | 4.6445052 | | | | | |
| | | Reception | | July 2003 | | | | | | End Year One | | Jul-04 | | | | I+/- | | G+/- | |
| NFSM GIRLS | | | | | | | | | | | | | | | | | | | |
| Age ref | Gend | Sum | FSM | Name | Age | Info score | Info age | Gram score | Gram age | | Age | Info score | Info age | Gram score | Gram age | | | | |
| 7 | F | N | N | PF1 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 21 | 4.6-4.11 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 28 | 6.6-6.11 | 4 | 7 | | |
| 7 | F | N | N | PF8 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 28 | 6.6-6.11 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 30 | 7.6-8.5 | 4 | 2 | | |
| 7 | F | N | N | PF11 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 6 | | |
| 5 | F | Y | N | PF19 | 3 | 4.6 - 4.11 | 26 | 3.6 - 3.11 | 17 | 3.6-3.11 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 23 | 5.0-5.5 | 3 | 6 | | |
| 6 | F | N | N | PF20 | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 6 | | |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 28 | 4.0 - 4.5 | 21 | 4.6-4.11 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 26 | 6.0-6.5 | 3 | 5 | | |
| 7 | | | | Median | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 6 | | |
| 7 | | | | Mode | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 6 | | |
| | | | | Range | | | | | | | | | | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 26 | 3.6 - 3.11 | 17 | 3.6-3.11 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 23 | 5.0-5.5 | 3 | 2 | | |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 28 | 6.6-6.11 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 30 | 7.6-8.5 | 4 | 7 | | |
| | | | | | | | 1.78885438 | | 4.0865633 | | | 2.19089023 | | 2.60768096 | | | | | |

Appendix O**RAW DATA – MAIN GROUP**

| Age ref | Gend | Sum | FSM | Name | End Reception | | | Info age | Gram score | Gram age |
|---------|------|-----|-----|---------------|---------------|-------------------|------------|------------------|------------|----------------|
| | | | | | Age ref | Age | Info score | | | |
| 7 | F | N | N | SF1 | 5 | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 |
| 7 | F | N | Y | SF2 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 |
| 7 | F | N | Y | SF3 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 |
| 5 | M | Y | N | SM4 | 3 | 4.6 - 4.11 | 20 | <3.6 | 16 | 3.6-3.11 |
| 7 | M | N | N | SM5 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 22 | 5.0 - 5.5 |
| 7 | F | N | N | SF6 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 |
| 7 | F | N | N | SF7 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 22 | 5.0 - 5.5 |
| 6 | F | N | Y | SF8 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 15 | <3.6 |
| 7 | F | N | N | SF9 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 |
| 5 | F | Y | Y | SF10 | 3 | 4.6 - 4.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 6 | M | N | Y | SM11 | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 |
| 6 | F | Y | N | SF12 | 3 | 4.6 - 4.11 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 |
| 6 | M | N | Y | SM13 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 |
| 6 | M | Y | Y | SM14 | 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 |
| 7 | M | N | N | SM15 | 5 | 5.6 - 5.11 | 16 | <3.6 | 12 | <3.6 |
| 6 | F | N | Y | SF16 | 4 | 5.0 - 5.5 | 20 | <3.6 | 7 | <3.6 |
| 5 | F | Y | Y | SF17 | 3 | 4.6 - 4.11 | 35 | 7.0 - 7.5 | 27 | 6.0 - 6.5 |
| 6 | F | N | N | SF18 | 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 |
| 7 | M | N | N | SM19 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 6 | F | N | N | SF20 | 4 | 5.0 - 5.5 | 33 | 6.0 - 6.5 | 22 | 5.0 - 5.5 |
| 6 | M | Y | Y | SM21 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 16 | 3.6-3.11 |
| 6 | F | N | Y | SF22 | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 |
| 7 | M | N | Y | SM23 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 |
| 7 | M | N | Y | SM24 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 |
| 6 | | | | Median | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 |
| 7 | | | | Mode | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| | | | | Range | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 16 | <3.6 | 7 | <3.6 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 35 | 7.0 - 7.5 | 27 | 6.5 |
| | | | | SD (n-1) | | | 4.78656786 | | 4.41259725 | |
| | | | | | | | | | | |

Appendix O contd.**RAW DATA – MAIN GROUP**

| Age ref | Mid Year 1 Age | Info score | Info age | Gram score | Gram age | I+/-G+/-End Year One Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | Total I+/- | Total G+/- |
|---------|-------------------|------------|------------|-------------|-----------|-----------------------------|------------|------------|------------|------------|------|-------|---------------|---------------|
| 6 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 2 | 2 | 6.6 - 6.11 | 36 | 7.6 - 8.5 | 2 | 4 | 4 | 6 |
| 6 | 6.0 - 6.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 | 0 | 1 | 6.6 - 6.11 | 32 | 6.0 - 6.5 | 5 | 4 | 5 | 5 |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 23 | 5.0-5.5 | 5 | 3 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 2 | 4 | 7 | 7 |
| 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 21 | 4.6-4.11 | 4 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 5 | 1 | 9 | 6 |
| 6 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 2 | 2 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 2 | 4 | 4 | 6 |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 26 | 6.0-6.5 | 2 | 3 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 3 | 3 | 5 | 6 |
| 6 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 3 | 2 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 2 | 5 | 5 | 7 |
| 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 22 | 5.0 - 5.5 | 5 | 7 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 2 | 2 | 7 | 9 |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 1 | 1 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 3 | 4 | 4 | 5 |
| 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 | 1 | 0 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 2 | 2 | 3 | 2 |
| 5 | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 26 | 6.0-6.5 | 5 | 5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 1 | 1 | 6 | 6 |
| 5 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 21 | 4.6-4.11 | 4 | 4 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 5 | 5 | 9 | 9 |
| 5 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 22 | 5.0 - 5.5 | 4 | 5 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 4 | 3 | 8 | 8 |
| 5 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 1 | 4 | 6.0 - 6.5 | 35 | 7.0 - 7.5 | 2 | 4 | 3 | 8 |
| 6 | 6.0 - 6.5 | 26 | 3.6 - 3.11 | 17 | 3.6-3.11 | 10 | 5 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 5 | 6 | 15 | 11 |
| 5 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 23 | 5.0-5.5 | 8 | 16 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 3 | 6 | 11 | 22 |
| 4 | 5.0 - 5.5 | 36 | 7.6 - 8.5 | 28 | 6.6-6.11 | 1 | 1 | 5.6 - 5.11 | 37 | >8.5 | 1 | 2 | 2 | 3 |
| 5 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 27 | 6.0 - 6.5 | 1 | 3 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 1 | 1 | 2 | 4 |
| 6 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 23 | 5.0-5.5 | 2 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 1 | 4 | 3 | 6 |
| 5 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 25 | 6.0 - 6.5 | 1 | 3 | 6.0 - 6.5 | 35 | 7.0 - 7.5 | 1 | 4 | 2 | 7 |
| 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 | 5 | 3 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 3 | 5 | 8 | 8 |
| 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 24 | 5.6-5.11 | -1 | 3 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 5 | 2 | 4 | 5 |
| 6 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 3 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 0 | 3 | 3 | 5 |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 23 | 5.0-5.5 | 1 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 2 | 2 | 3 | 4 |
| 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 | 2 | 3 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 2 | 3 | 5 | 7 |
| 5 | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 2 | 3 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 2 | 4 | 5 | 6.5 |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 26 | 6.0-6.5 | 1 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 2 | 4 | 3 | 8 |
| 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 | -1 | 0 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 0 | 1 | 2 | 2 |
| 6 | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 28 | 6.6-6.11 | 10 | 16 | 6.6 - 6.11 | 37 | >8.5 | 5 | 6 | 15 | 22 |
| | | 2.9996981 | | 2.619602802 | | | | SD (n-1) | 1.86452387 | | 1.53 | 1.498 | 3.23 | 3.80289 |
| | | | | | | | | | | | | | | |

RAW DATA – MAIN GROUP

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RAW DATA – MAIN GROUP

292

Appendix O contd.**RAW DATA – MAIN GROUP**

| Age ref | Gend | Sum | FSM | Name | Age ref | Age | Info score | Info age | Gram score | Gram age |
|----------------|------|-----|-----|----------------------|---------|-------------------|------------|-------------------|-------------|-----------------|
| 7 | F | N | Y | SF2 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 |
| 7 | F | N | Y | SF3 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 |
| 6 | F | N | Y | SF8 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 15 | <3.6 |
| 5 | F | Y | Y | SF10 | 3 | 4.6 - 4.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 6 | M | N | Y | SM11 | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 |
| 6 | M | N | Y | SM13 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 |
| 6 | M | Y | Y | SM14 | 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 |
| 6 | F | N | Y | SF16 | 4 | 5.0 - 5.5 | 20 | <3.6 | 7 | <3.6 |
| 5 | F | Y | Y | SF17 | 3 | 4.6 - 4.11 | 35 | 7.0 - 7.5 | 27 | 6.0 - 6.5 |
| 6 | M | Y | Y | SM21 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 16 | 3.6-3.11 |
| 6 | F | N | Y | SF22 | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 |
| 7 | M | N | Y | SM23 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 |
| 7 | M | N | Y | SM24 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 6 | | | | Mean | 4 | 5.0-5.5 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 |
| 6 | | | | Median | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 |
| 6 | | | | Mode | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 |
| | | | | Range | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 20 | <3.6 | 7 | <3.6 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 35 | 7.0 - 7.5 | 27 | 6.5 |
| | | | | SD (n-1) | | | 4.19248412 | | 4.854287029 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| NOT FSM | | | | End Reception | | | | | | |
| Age ref | Gend | Sum | FSM | Name | Age ref | Age | Info score | Info age | Gram score | Gram age |
| 7 | F | N | N | SF1 | 5 | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 |
| 5 | M | Y | N | SM4 | 3 | 4.6 - 4.11 | 20 | <3.6 | 16 | 3.6-3.11 |
| 7 | M | N | N | SM5 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 22 | 5.0 - 5.5 |
| 7 | F | N | N | SF6 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 |
| 7 | F | N | N | SF7 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 22 | 5.0 - 5.5 |
| 7 | F | N | N | SF9 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 |
| 6 | F | Y | N | SF12 | 3 | 4.6 - 4.11 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 |
| 7 | M | N | N | SM15 | 5 | 5.6 - 5.11 | 16 | <3.6 | 12 | <3.6 |
| 6 | F | N | N | SF18 | 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 |
| 7 | M | N | N | SM19 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 6 | F | N | N | SF20 | 4 | 5.0 - 5.5 | 33 | 6.0 - 6.5 | 22 | 5.0 - 5.5 |
| 6 | | | | Mean | 4.5 | 5.0-5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 |
| 7 | | | | Median | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 22 | 5.0-5.5 |
| 7 | | | | Mode | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 |
| | | | | Range | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 16 | <3.6 | 12 | <3.6 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 |
| | | | | SD (n-1) | | | 5.6181524 | | 3.931226966 | |

Appendix O contd.

RAW DATA – MAIN GROUP

| Age ref | Age | Info score | Info age | Gram score | Gram age | | Age | Info score | Info age | Gram score | Gram age | | I+/- | G+/- | Total | I+/- | G+/- | Total |
|---------|-------------|-----------------------|------------|-------------|-----------|------|------|------------------|------------|------------|-------------|-----------|------|-------|-------|-----------|------|-------|
| 6 | 6.0 - 6.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 | 0 | 1 | 6.6 - 6.11 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 5 | 4 | 5 | 5 | 5 | 5 |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 23 | 5.0-5.5 | 5 | 3 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 27 | 6.0 - 6.5 | 2 | 4 | 7 | 7 | 7 | 7 |
| 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 22 | 5.0 - 5.5 | 5 | 7 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 2 | 2 | 7 | 9 | 9 | 9 |
| 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 | 1 | 0 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 23 | 5.0-5.5 | 2 | 2 | 3 | 2 | 2 | 2 |
| 5 | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 26 | 6.0-6.5 | 5 | 5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 27 | 6.0 - 6.5 | 1 | 1 | 6 | 6 | 6 | 6 |
| 5 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 22 | 5.0 - 5.5 | 4 | 5 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 4 | 3 | 8 | 8 | 8 | 8 |
| 5 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 1 | 4 | 6.0 - 6.5 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 2 | 4 | 3 | 8 | 8 | 8 |
| 5 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 23 | 5.0-5.5 | 8 | 16 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 29 | 7.0-7.5 | 3 | 6 | 11 | 22 | 22 | 22 |
| 4 | 5.0 - 5.5 | 36 | 7.6 - 8.5 | 28 | 6.6-6.11 | 1 | 1 | 5.6 - 5.11 | 37 | >8.5 | 30 | 7.6-8.5 | 1 | 2 | 2 | 3 | 3 | 3 |
| 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 | 5 | 3 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 | 3 | 5 | 8 | 8 | 8 | 8 |
| 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 24 | 5.6-5.11 | -1 | 3 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 5 | 2 | 4 | 5 | 5 | 5 |
| 6 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 3 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 29 | 7.0-7.5 | 0 | 3 | 3 | 5 | 5 | 5 |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 23 | 5.0-5.5 | 1 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 25 | 6.0 - 6.5 | 2 | 2 | 3 | 4 | 4 | 4 |
| 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 | 2 | 4 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 2 | 3 | 5 | 7 | 7 | 7 |
| 5 | 5.6 - 5.11 | 32 | 6.0-6.5 | 25 | 6.0-6.5 | 3 | 3 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 2 | 3 | 5 | 6 | 6 | 6 |
| 5 | 5.6 - 5.11 | 32 | 6.0-6.5 | 23 | 5.0-5.5 | 1 | 3 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 25 | 6.0-6.5 | 2 | 2 | 3 | 8 | 8 | 8 |
| | | | | | | | | | | | | | | | | | | |
| 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 19 | 3.6-3.11 | -1 | 0 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 0 | 1 | 2 | 2 | 2 | 2 |
| 6 | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 28 | 6.6-6.11 | 8 | 16 | 6.6 - 6.11 | 37 | >8.5 | 30 | 7.6-8.5 | 5 | 6 | 11 | 22 | 22 | 22 |
| | | 2,7032744 | | 2,46253986 | | | | | 1,70218562 | | 2,292686253 | | 1.51 | 1.441 | 2,694 | 4,9575118 | | |
| | | | | | | | | | | | | | | | | | | |
| Age ref | NOT FSM Age | Mid Year 1 Info score | Info age | Gram score | Gram age | I+/- | G+/- | End Year One Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | Total | Total | G+/- | G+/- |
| 6 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 2 | 2 | 6.6 - 6.11 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 2 | 4 | 4 | 6 | 6 | 6 |
| 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 21 | 4.6-4.11 | 4 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 22 | 5.0 - 5.5 | 5 | 1 | 9 | 6 | 6 | 6 |
| 6 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 2 | 2 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 28 | 6.6-6.11 | 2 | 4 | 4 | 6 | 6 | 6 |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 26 | 6.0-6.5 | 2 | 3 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 3 | 3 | 5 | 6 | 6 | 6 |
| 6 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 | 3 | 2 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 2 | 5 | 5 | 7 | 7 | 7 |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 1 | 1 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 3 | 4 | 4 | 5 | 5 | 5 |
| 5 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 21 | 4.6-4.11 | 4 | 4 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 5 | 5 | 9 | 9 | 9 | 9 |
| 6 | 6.0 - 6.5 | 26 | 3.6 - 3.11 | 17 | 3.6-3.11 | 10 | 5 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 5 | 6 | 15 | 11 | 11 | 11 |
| 5 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 27 | 6.0 - 6.5 | 1 | 3 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 28 | 6.6-6.11 | 1 | 1 | 2 | 4 | 4 | 4 |
| 6 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 23 | 5.0-5.5 | 2 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 27 | 6.0 - 6.5 | 1 | 4 | 3 | 6 | 6 | 6 |
| 5 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 25 | 6.0 - 6.5 | 1 | 3 | 6.0 - 6.5 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 1 | 4 | 2 | 7 | 7 | 7 |
| 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 2 | 2 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 27 | 6.0-6.5 | 2 | 3 | 5 | 7 | 7 | 7 |
| 6 | 6.0 - 6.5 | 33 | 6 - 6.5 | 25 | 6.0-6.5 | 2 | 2.5 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 28 | 6.6-6.11 | 2 | 4 | 4.5 | 7 | 7 | 7 |
| 6 | 6.0 - 6.5 | 33 | 6 - 6.5 | 26 | 6.0-6.5 | 1 | 2 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 2 | 4 | 4 | #N/A | #N/A | #N/A |
| | | | | | | | | | | | | | | | | | | |
| 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 | 1 | 1 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 22 | 5.0-5.5 | 1 | 1 | 2 | 1 | 1 | 1 |
| 6 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 27 | 6.5 | 10 | 5 | 6.6 - 6.11 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 5 | 6 | 15 | 16 | 16 | 16 |
| | | 3,4483197 | | 2,910794955 | | | | | 2,08993187 | | 2,611164839 | | 1.62 | 1.555 | 3,906 | 1,9116865 | | |

Appendix O contd.**RAW DATA – MAIN GROUP**

| FSM FEMALE | | | | | End Reception | | | | | |
|------------|------|-----|-----|----------|---------------|------------|------------|------------|-------------|-----------|
| Age ref | Gend | Sum | FSM | Name | Age ref | Age | Info score | Info age | Gram score | Gram age |
| 7 | F | N | Y | SF2 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 |
| 7 | F | N | Y | SF3 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 |
| 6 | F | N | Y | SF8 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 15 | <3.6 |
| 5 | F | Y | Y | SF10 | 3 | 4.6 - 4.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 6 | F | N | Y | SF16 | 4 | 5.0 - 5.5 | 20 | <3.6 | 7 | <3.6 |
| 5 | F | Y | Y | SF17 | 3 | 4.6 - 4.11 | 35 | 7.0 - 7.5 | 27 | 6.0 - 6.5 |
| 6 | F | N | Y | SF22 | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 18 | 3.6-3.11 |
| 6 | | | | Median | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 |
| 6 | | | | Mode | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 |
| | | | | Range | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 20 | <3.6 | 7 | <3.6 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 35 | 7.0 - 7.5 | 27 | 6.0-6.5 |
| | | | | SD (n-1) | | | 4.88924963 | | 6.237368187 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| FSM MALE | | | | | End Reception | | | | | |
| Age ref | Gend | Sum | FSM | Name | Age ref | Age | Info score | Info age | Gram score | Gram age |
| 6 | M | N | Y | SM11 | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 |
| 6 | M | N | Y | SM13 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 |
| 6 | M | Y | Y | SM14 | 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 |
| 6 | M | Y | Y | SM21 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 16 | 3.6-3.11 |
| 7 | M | N | Y | SM23 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 |
| 7 | M | N | Y | SM24 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 |
| 6 | | | | Median | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 21 | 4.6-4.11 |
| 6 | | | | Mode | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 21 | 4.6-4.11 |
| | | | | Range | | | | | | |
| 6 | | | | Min | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 16 | 3.6-3.11 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 32 | 6.0-6.5 | 24 | 5.6-5.11 |
| | | | | SD (n-1) | | | 3.65604522 | | 2.966479395 | |
| | | | | | | | | | | |

Appendix O contd.

RAW DATA – MAIN GROUP

| FSM FEMALE | | | | | | | | | | | | | | | | | |
|------------|------------|-------------|------------|---------------|------------|----------|------|------------|------------------|------------|---------------|------------|----------|-------|-------|-------------|------------|
| Age ref | Mid Year 1 | | Info score | Info age | Gram score | Gram age | I+/- | G+/- | End Year One Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | Total I+/- | Total G+/- |
| | Age | Age | | | | | | | | | | | | | | | |
| 6 | 6.0 - 6.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 | 0 | 1 | 6.6 - 6.11 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 5 | 4 | 5 | 5 | |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 23 | 5.0-5.5 | 5 | 3 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 27 | 6.0 - 6.5 | 2 | 4 | 7 | 7 | |
| 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 22 | 5.0 - 5.5 | 5 | 7 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 2 | 2 | 7 | 9 | |
| 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 | 1 | 0 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 23 | 5.0-5.5 | 2 | 2 | 3 | 2 | |
| 5 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 23 | 5.0-5.5 | 8 | 16 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 29 | 7.0-7.5 | 3 | 6 | 11 | 22 | |
| 4 | 5.0 - 5.5 | 36 | 7.6 - 8.5 | 28 | 6.6-6.11 | 1 | 1 | 5.6 - 5.11 | 37 | >8.5 | 30 | 7.6-8.5 | 1 | 2 | 2 | 3 | |
| 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 24 | 5.6-5.11 | -1 | 3 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 5 | 2 | 4 | 5 | |
| 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 | 2 | 4 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 2 | 3 | 5 | 10 | |
| 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 25 | 6.0-6.5 | 1 | 3 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 2 | 2.5 | 5 | 5 | |
| 5 | 5.6 - 5.11 | 32 | 6.0-6.5 | 21 | 4.6-4.11 | 1 | 1 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | #N/A | #N/A | 2 | 2 | 7 | #N/A | |
| 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 | -1 | 0 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 1 | 2 | 2 | 3 | |
| 6 | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 28 | 6.6-6.11 | 8 | 16 | 6.6 - 6.11 | 37 | >8.5 | 30 | 7.6-8.5 | 5 | 6 | 11 | 22 | |
| | | 3,101,459 | | 2,410,295,378 | | | | SD (n-1) | 2,138,089,94 | | 2,563,479,778 | | 1.57 | 1,574 | 3,047 | 6,778,816 | |
| FSM | | MALE | | | | | | | | | | | | | | | |
| Age ref | Mid Year 1 | | Info score | Info age | Gram score | Gram age | I+/- | G+/- | End Year One Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | Total I+/- | Total G+/- |
| | Age | Age | | | | | | | | | | | | | | | |
| 5 | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 26 | 6.0-6.5 | 5 | 5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 27 | 6.0 - 6.5 | 1 | 1 | 6 | 6 | |
| 5 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 22 | 5.0 - 5.5 | 4 | 5 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 4 | 3 | 8 | 8 | |
| 5 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 1 | 4 | 6.0 - 6.5 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 2 | 4 | 3 | 8 | |
| 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 | 5 | 3 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 | 3 | 5 | 8 | 8 | |
| 6 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 3 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 29 | 7.0-7.5 | 0 | 3 | 3 | 5 | |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 23 | 5.0-5.5 | 1 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 25 | 6.0 - 6.5 | 2 | 2 | 3 | 4 | |
| 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 3 | 3 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 2 | 3 | 5 | 6 | |
| 5 | 5.6 - 5.11 | 32 | 6.0-6.5 | 25 | 6.0-6.5 | 3.5 | 3 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 27 | 6.0-6.5 | 2 | 3 | 5 | 7 | |
| 5 | 5.6 - 5.11 | 32 | 6.0-6.5 | 26 | 6.0-6.5 | 1 | 5 | 6.0 - 6.5 | 32 | 6.0-6.5 | 25 | 6.0-6.5 | 2 | 3 | 3 | 8 | |
| | | | | | | | | | | | | | | | | | |
| 5 | 5.6 - 5.11 | 28 | 4.0-4.5 | 19 | 3.6-3.11 | 1 | 2 | 6.0 - 6.5 | 32 | 6.0-6.5 | 24 | 5.6-5.11 | | | | | |
| 6 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 1 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 25 | 6.0 - 6.5 | 2 | 2 | 3 | 4 | |
| | | | | | | | | | | | | | | | | | |
| 5 | 5.6 - 5.11 | 28 | 4.0-4.5 | 19 | 3.6-3.11 | 1 | 2 | 6.0 - 6.5 | 32 | 6.0-6.5 | 24 | 5.6-5.11 | 0 | 1 | 2 | 4 | |
| 6 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 5 | 5 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 4 | 5 | 11 | 8 | |
| | | 2,338,090,4 | | 2,738,612,788 | | | | SD (n-1) | 1,211,060,14 | | 2,167,948,339 | | 1.41 | 1,414 | 2,483 | 1,760,681,7 | |

Appendix O contd.**RAW DATA – MAIN GROUP**

| SUMMER | | | | | End Reception | | | | | |
|-------------------|-------------|------------|------------|---------------|----------------------|-------------------|-------------------|-------------------|-------------------|-----------------|
| Age ref | Gend | Sum | FSM | Name | Age ref | Age | Info score | Info age | Gram score | Gram age |
| 5 | M | Y | N | SM4 | 3 | 4.6 - 4.11 | 20 | <3.6 | 16 | 3.6-3.11 |
| 5 | F | Y | Y | SF10 | 3 | 4.6 - 4.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 6 | F | Y | N | SF12 | 3 | 4.6 - 4.11 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 |
| 6 | M | Y | Y | SM14 | 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 |
| 5 | F | Y | Y | SF17 | 3 | 4.6 - 4.11 | 35 | 7.0 - 7.5 | 27 | 6.0 - 6.5 |
| 6 | M | Y | Y | SM21 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 16 | 3.6-3.11 |
| 5 | | | | Mean | 3 | 4.6 - 4.11 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 |
| 5 | | | | Median | 3 | 4.6 - 4.11 | 27.5 | <3.6 | 19 | 3.6-3.11 |
| 5 | | | | Mode | 3 | 4.6 - 4.11 | 24 | 3.6 - 3.11 | 16 | 3.6-3.11 |
| | | | | Range | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 20 | <3.6 | 16 | 3.6-3.11 |
| 6 | | | | Max | 4 | 5.0 - 5.5 | 35 | 7.0 - 7.5 | 27 | 6.5 |
| | | | | SD (n-1) | | | 5.81950742 | | 4.273952113 | |
| | | | | | | | | | | |
| NOT SUMMER | | | | | End Reception | | | | | |
| Age ref | Gend | Sum | FSM | Name | Age ref | Age | Info score | Info age | Gram score | Gram age |
| 7 | F | N | N | SF1 | 5 | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 |
| 7 | F | N | Y | SF2 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 |
| 7 | F | N | Y | SF3 | 5 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 |
| 7 | M | N | N | SM5 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 22 | 5.0 - 5.5 |
| 7 | F | N | N | SF6 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 |
| 7 | F | N | N | SF7 | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 22 | 5.0 - 5.5 |
| 6 | F | N | Y | SF8 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 15 | <3.6 |
| 7 | F | N | N | SF9 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 |
| 6 | M | N | Y | SM11 | 4 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 |
| 6 | M | N | Y | SM13 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 |
| 7 | M | N | N | SM15 | 5 | 5.6 - 5.11 | 16 | <3.6 | 12 | <3.6 |
| 6 | F | N | Y | SF16 | 4 | 5.0 - 5.5 | 20 | <3.6 | 7 | <3.6 |
| 6 | F | N | N | SF18 | 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 |
| 7 | M | N | N | SM19 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 6 | F | N | N | SF20 | 4 | 5.0 - 5.5 | 33 | 6.0 - 6.5 | 22 | 5.0 - 5.5 |
| 6 | F | N | Y | SF22 | 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 |
| 7 | M | N | Y | SM23 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 |
| 7 | M | N | Y | SM24 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 |
| 7 | | | | Median | 5 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 |
| 7 | | | | Mode | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 |
| | | | | Range | | | | | | |
| 6 | | | | Min | 4 | 5.0 - 5.5 | 16 | <3.6 | 7 | <3.6 |
| 7 | | | | Max | 5 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 24 | 5.6-5.11 |
| | | | | SD (n-1) | | | 4.57936548 | | 4.576153021 | |

Appendix O contd.

RAW DATA – MAIN GROUP

| Age ref | SUMMER | | Info score | Info age | Gram score | Gram age | I+/- | G+/- | End Year One Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | Total I+/- | Total G+/- |
|------------|----------------|-----------|------------|-----------|-------------|-----------|------|------|------------------|------------|------------|-------------|-----------|------|-------|------------|------------|
| | Mid Year 1 Age | Age | | | | | | | | | | | | | | | |
| 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 4.6-4.11 | 21 | 4.6-4.11 | 4 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 22 | 5.0 - 5.5 | 5 | 1 | 9 | 6 |
| 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 4.6-4.11 | 21 | 4.6-4.11 | 1 | 0 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 23 | 5.0-5.5 | 2 | 2 | 3 | 2 |
| 5 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 4.6-4.11 | 21 | 4.6-4.11 | 4 | 4 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 5 | 5 | 9 | 9 |
| 5 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 1 | 4 | 6.0 - 6.5 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 2 | 4 | 3 | 8 |
| 4 | 5.0 - 5.5 | 36 | 7.6 - 8.5 | 6.6-6.11 | 28 | 6.6-6.11 | 1 | 1 | 5.6 - 5.11 | 37 | >8.5 | 30 | 7.6-8.5 | 1 | 2 | 2 | 3 |
| 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 3.6-3.11 | 19 | 3.6-3.11 | 5 | 3 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 | 3 | 5 | 8 | 8 |
| 4 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 5.0-5.5 | 22 | 5.0-5.5 | 2 | 2 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 25 | 6.0-6.5 | 3 | 3 | 5 | 7 |
| 4.5 | check age | 30.5 | <3.6 | 6.0-6.5 | 25 | 6.0-6.5 | 2.5 | 3 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 28 | 6.6-6.11 | 3 | 3 | 5 | 8 |
| 4 | 5.0 - 5.5 | #N/A | #N/A | 4.6-4.11 | 21 | 4.6-4.11 | 1 | 4 | 5.6 - 5.11 | #N/A | #N/A | #N/A | #N/A | 5 | 2 | 9 | 8 |
| 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 3.6-3.11 | 19 | 3.6-3.11 | 1 | 0 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 22 | 5.0-5.5 | 1 | 1 | 0 | 3 |
| 5 | 5.6 - 5.11 | 36 | 7.6 - 8.5 | 6.6-6.11 | 28 | 6.6-6.11 | 5 | 5 | 6.0 - 6.5 | 37 | >8.5 | 30 | 7.6-8.5 | 5 | 5 | 11 | 14 |
| | | 4.226898 | | | 3.33166625 | | | | SD (n-1) | 2.7325202 | | 3.265986324 | | 1.67 | 1.722 | 3.327 | 2.8982753 |
| NOT SUMMER | | | | | | | | | | | | | | | | | |
| Age ref | NOT SUMMER | | Info score | Info age | Gram score | Gram age | I+/- | G+/- | End Year One Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | Total I+/- | Total G+/- |
| | Mid Year 1 Age | Age | | | | | | | | | | | | | | | |
| 6 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 6.0-6.5 | 26 | 6.0-6.5 | 2 | 2 | 6.6 - 6.11 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 2 | 4 | 4 | 6 |
| 6 | 6.0 - 6.5 | 27 | 4.0 - 4.5 | 4.6-4.11 | 21 | 4.6-4.11 | 0 | 1 | 6.6 - 6.11 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 5 | 4 | 5 | 5 |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 5.0-5.5 | 23 | 5.0-5.5 | 5 | 3 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 27 | 6.0 - 6.5 | 2 | 4 | 7 | 7 |
| 6 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 5.6-5.11 | 24 | 5.6-5.11 | 2 | 2 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 28 | 6.6-6.11 | 2 | 4 | 4 | 6 |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 6.0-6.5 | 26 | 6.0-6.5 | 2 | 3 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 3 | 3 | 5 | 6 |
| 6 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 5.6-5.11 | 24 | 5.6-5.11 | 3 | 2 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 2 | 5 | 5 | 7 |
| 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 5.0 - 5.5 | 22 | 5.0 - 5.5 | 5 | 7 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 2 | 2 | 7 | 9 |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 1 | 1 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 3 | 4 | 4 | 5 |
| 5 | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 6.0-6.5 | 26 | 6.0-6.5 | 5 | 5 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 27 | 6.0 - 6.5 | 1 | 1 | 6 | 6 |
| 5 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 5.0 - 5.5 | 22 | 5.0 - 5.5 | 4 | 5 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 4 | 3 | 8 | 8 |
| 6 | 6.0 - 6.5 | 26 | 3.6 - 3.11 | 3.6-3.11 | 17 | 3.6-3.11 | 10 | 5 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 5 | 6 | 15 | 11 |
| 5 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 5.0-5.5 | 23 | 5.0-5.5 | 8 | 16 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 29 | 7.0-7.5 | 3 | 6 | 11 | 22 |
| 5 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 6.0 - 6.5 | 27 | 6.0 - 6.5 | 1 | 3 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 28 | 6.6-6.11 | 1 | 1 | 2 | 4 |
| 6 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 5.0-5.5 | 23 | 5.0-5.5 | 2 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 27 | 6.0 - 6.5 | 1 | 4 | 3 | 6 |
| 5 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 1 | 3 | 6.0 - 6.5 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 1 | 4 | 2 | 7 |
| 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 5.6-5.11 | 24 | 5.6-5.11 | -1 | 3 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 5 | 2 | 4 | 5 |
| 6 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 6.0-6.5 | 26 | 6.0-6.5 | 3 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 29 | 7.0-7.5 | 0 | 3 | 3 | 5 |
| 6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 5.0-5.5 | 23 | 5.0-5.5 | 1 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 25 | 6.0 - 6.5 | 2 | 2 | 3 | 4 |
| 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 5.0-5.5 | 23 | 5.0-5.5 | 3 | 3 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 27 | 6.0-6.5 | 2 | 3 | 5 | 7 |
| 6 | 6.0 - 6.5 | 32 | 6.0-6.5 | 6.0-6.5 | 25 | 6.0-6.5 | 2 | 3 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 27 | 6.0-6.5 | 2 | 4 | 5 | 6 |
| 6 | 6.0 - 6.5 | 32 | 6.0-6.5 | 6.0-6.5 | 26 | 6.0-6.5 | 1 | 2 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 29 | 7.0-7.5 | 2 | 4 | 4 | 6 |
| 5 | 5.6 - 5.11 | 26 | 3.6 - 3.11 | 3.6-3.11 | 17 | 3.6-3.11 | -1 | 1 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 0 | 1 | 2 | 4 |
| 6 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 6.6-6.11 | 27 | 6.6-6.11 | 10 | 16 | 6.6 - 6.11 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 5 | 6 | 15 | 22 |
| | | 2.5952445 | | | 2.371536002 | | | | SD (n-1) | 1.57699972 | | 2.065116433 | | 1.5 | 1.464 | 3.294 | 4.0908794 |

Appendix O contd.**RAW DATA – MAIN GROUP**

| SUMMER FSM | | | | | End Reception | | | | | |
|-------------------|------|-----|-----|---------------|---------------|------------|------------|------------|-------------|----------|
| Age ref | Gend | Sum | FSM | Name | Age ref | Age | Info score | Info age | Gram score | Gram age |
| 5 | M | Y | N | SM4 | 3 | 4.6 - 4.11 | 20 | <3.6 | 16 | 3.6-3.11 |
| 5 | F | Y | Y | SF10 | 3 | 4.6 - 4.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 6 | F | Y | N | SF12 | 3 | 4.6 - 4.11 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 |
| 6 | M | Y | Y | SM14 | 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 |
| 6 | M | Y | Y | SM21 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 16 | 3.6-3.11 |
| 5 | | | | Mean | 3 | 4.6 - 4.11 | 29 | 4.6 - 4.11 | 18 | 3.6-3.11 |
| 6 | | | | Median | 3 | 4.6 - 4.11 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 |
| 6 | | | | Mode | 3 | 4.6 - 4.11 | 24 | 3.6 - 3.11 | 16 | 3.6-3.11 |
| | | | | Range | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 20 | <3.6 | 16 | 3.6-3.11 |
| 6 | | | | Max | 4 | 5.0 - 5.5 | 32 | 6.0-6.5 | 21 | 4.6-4.11 |
| | | | | SD (n-1) | | | 5.11859356 | | 2.588435821 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| SUMMER FSM MALE | | | | | End Reception | | | | | |
| Age ref | Gend | Sum | FSM | Name | Age ref | Age | Info score | Info age | Gram score | Gram age |
| 6 | M | Y | Y | SM14 | 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 |
| 6 | M | Y | Y | SM21 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 16 | 3.6-3.11 |
| 6 | | | | Mean | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 18 | 3.6-3.11 |
| 6 | | | | Median | 4 | 5.0 - 5.5 | 28 | 4.5 | 18 | 3.6-3.11 |
| 6 | | | | Mode | 4 | 5.0 - 5.5 | #N/A | #N/A | #N/A | #N/A |
| | | | | Range | | | | | | |
| 6 | | | | Min | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 16 | 3.6-3.11 |
| 6 | | | | Max | 4 | 5.0 - 5.5 | 32 | 6.0-6.5 | 21 | 4.6-4.11 |
| | | | | SD (n-1) | | | 5.65685425 | | 3.535533906 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| SUMMER FSM FEMALE | | | | | End Reception | | | | | |
| Age ref | Gend | Sum | FSM | Name | Age ref | Age | Info score | Info age | Gram score | Gram age |
| 5 | F | Y | Y | SF10 | 3 | 4.6 - 4.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 5 | | | | Mean | 3 | 4.6 - 4.11 | 29 | 4.6 - 4.11 | 21 | 4.6-4.11 |
| 5 | | | | Median | 3 | 4.6 - 4.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| #N/A | | | | Mode | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| | | | | Range | | | | | | |
| 5 | | | | Min | 3 | 4.6 - 4.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| 5 | | | | Max | 3 | 4.6 - 4.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |

Appendix O contd.

RAW DATA – MAIN GROUP

| SUMMER FSM | | | | | | | | | | | | | | | | | |
|------------|------|------------|------------|------------|-------------|-----------|------|------|--------------|------------|------------|-------------|------------|----------|-------|-------|----------|
| Mid Year 1 | | Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | End Year One | Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | Total |
| 4 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 21 | 4.6-4.11 | 4 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 22 | 5.0 - 5.5 | 5 | 1 | 9 | 6 |
| 4 | 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 | 1 | 0 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 23 | 5.0-5.5 | 2 | 2 | 3 | 2 |
| 5 | 5 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 21 | 4.6-4.11 | 4 | 4 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 5 | 5 | 9 | 9 |
| 5 | 5 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 1 | 4 | 6.0 - 6.5 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 2 | 4 | 3 | 8 |
| 5 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 | 5 | 3 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 | 3 | 5 | 8 | 8 |
| 4 | 4 | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 21 | 4.6-4.11 | 3 | 3 | 5.6 - 5.11 | 32 | 6.0-6.5 | 24 | 5.6-5.11 | 3 | 3 | 6 | 8 |
| 5 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 25 | 6.0-6.5 | 4 | 3.5 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 24 | 5.6-5.11 | 3 | 3.5 | 7 | 8 |
| 5 | 5 | 5.6 - 5.11 | #N/A | #N/A | 21 | 4.6-4.11 | 1 | 4 | 6.0 - 6.5 | #N/A | #N/A | #N/A | #N/A | 5 | 5 | 9 | 8 |
| 4 | 4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 19 | 3.6-3.11 | 1 | 0 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 22 | 5.0-5.5 | 2 | 2 | 4 | 4 |
| 5 | 5 | 5.6 - 5.11 | 33 | 6 - 6.5 | 25 | 6.0-6.5 | 5 | 5 | 6.0 - 6.5 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 5 | 11 | 11 | 14 |
| | | | 3.5637059 | | 2.19089023 | | | | SD (n-1) | 2.30217289 | | 2.774887385 | | 1.52 | 1.817 | 3.13 | 2.792848 |
| SUMMER FSM | | | | | | | | | | | | | | | | | |
| Mid Year 1 | | Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | End Year One | Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | Total |
| 5 | 5 | 5.6 - 5.11 | 33 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 1 | 4 | 6.0 - 6.5 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 2 | 4 | 3 | 8 |
| 5 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 | 5 | 3 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 | 3 | 5 | 8 | 8 |
| 5 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 22 | 5.0 | 3 | 3 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 2 | 4 | 5 | 8 |
| 5 | 5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 25 | 6.0 | 3 | 3 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 27 | 6.0-6.5 | 2 | 4 | 5 | 8 |
| 5 | 5 | 5.6 - 5.11 | #N/A | #N/A | #N/A | #N/A | 1 | ### | 6.0 - 6.5 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | 8 |
| 5 | 5 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 | 1 | ### | 6.0 - 6.5 | 32 | 6.0-6.5 | 24 | 5.6-5.11 | 3 | 2 | 5 | 8 |
| 5 | 5 | 5.6 - 5.11 | 33 | 6 - 6.5 | 25 | 6.0-6.5 | 5 | ### | 6.0 - 6.5 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 6 | 11 | 11 | 14 |
| | | | 2.8284271 | | 4.242640687 | | | | SD (n-1) | 2.12132034 | | 3.535533906 | | 0.71 | 0.707 | 3.536 | 0 |
| SUMMER | | | | | | | | | | | | | | | | | |
| Mid Year 1 | | Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | End Year One | Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | Total |
| 4 | 4 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 | 1 | 0 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 23 | 5.0-5.5 | 2 | 2 | 3 | 2 |
| 4 | 4 | 5.0 - 5.5 | 32 | 6.0-6.5 | 21 | 4.6-4.11 | 1 | 0 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 23 | 5.0-5.5 | 2 | 2 | 3 | #REF! |
| 4 | 4 | 5.0 - 5.5 | 32 | 6.0-6.5 | 25 | 6.0 | 1 | 0 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 27 | 6.0-6.5 | 2 | 2 | 3 | #REF! |
| #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | 1 | ### | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A | #REF! |
| 4 | 4 | 5.0 - 5.5 | 32 | 6.0 | 21 | 4.6-4.11 | 1 | 0 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 23 | 5.0-5.5 | #N/A | 2 | 4 | 4 |
| 4 | 4 | 5.0 - 5.5 | 32 | 6.0 | 21 | 4.6-4.11 | 1 | 8 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 23 | 5.0-5.5 | #N/A | 11 | 11 | 14 |

Appendix P

Conclusions from previous study

Montessori states that it is work which involves the whole personality of the child, while Froebel asserted that only play could enlist the whole being. Whether they were both clear about the characteristics of what they each described as 'play' and as 'work' remains an issue of contention but the children in this study had very clear concepts of each of these terms. Work involves the children in concentration – it involves the 'head'; play involves the children in pleasure – it involves the 'heart'. Piaget and Vygotsky have shown that children learn through play; the children in this study have shown that they recognise cognitive effort can be part of play and that they use their imaginations in play – thus, play must also involve the 'head'. Play also involves the body when the play is active and physical. Then perhaps it is play, after all, that enlists the whole being? Above all, the fundamental principle underlying the findings of this study is that for something to be called 'play', it has to originate in the child's own field of desire – they have to choose to do it! Once they have chosen it, it has to be fun or they will simply stop doing it. This brings the study full-circle to Froebel's theory that children should have absolute freedom in their play; freedom to explore and freedom to learn. One of the questions raised earlier was whether Froebel's activities could be described as 'freely chosen' if the materials or tools available to children are so tightly restricted or made available to such a structured framework. A counter argument to this is that we inherently restrict children's choice (whether or not we intend to) by the limits of what is available at home or at school. If the child believes the choice to have been freely made, does it matter that there is a limited range of materials or tools? Perhaps what Froebel understood was that children need the satisfaction of achieving or learning combined with the pleasure of play? Freedom has been eroded even within the 'learning through play' maxim especially in Year 1 classes. Which is more important? Freedom to make the choice from a limited range of play opportunities or a wider range of play opportunities without the freedom to enjoy them? Can we take Froebel's principles and modernise them to incorporate a wider range of 'gifts and occupations' as well as opportunities for genuine creativity through unstructured, 'free' play? This wider range must include the opportunities for imaginative play which allow children to explore their sense of 'self' and to assimilate their play to their own constructs.

The school publishes its intention that children in the foundation stage will learn through play. The phase manager is determined that this should happen and has gutted and redesigned the Reception classroom to facilitate this. It was expected that the children's responses would reflect this. They did not. Our work-driven society was apparent in the children's responses. Culture is the prime determinant of individual development (Vygotsky, 1978), which was recognised by Montessori. The Reception child had already picked up this message and it must follow that to some extent it must be evident in the culture of the classroom. This research cannot confirm this but the findings can now be instrumental in addressing the matter. Further research would need to be undertaken to identify the 'lived' values of the school staff regarding play. The message may only be subtle. Perhaps the place of play in the classroom is reinforced by offering the 'choice' of play as a reward for completing work? Or perhaps, as suggested by Wing (1995), it is the teacher's involvement in and assessment of work activities rather than play activities that conveys this message? Whatever the cause of the problem, the solution lies in the teachers outwardly demonstrating the value they give to play in their rhetoric. Perhaps here there is a case for exploring the Reggio Emilia model where the teacher is a co-worker, a co-investigator.

It is important that the children's own constructs of play should be recognised in the school. Provision for play should reflect the pupils' values and beliefs as well as those of the adults. The school now needs to look critically at the work/play balance in the foundation stage and in Year 1 where the children currently struggle to manage the demands of the key stage 1 curriculum. Speech and language is a serious concern in the school as was outlined in the context section of this study. If children have not yet

Appendix P contd.

recognised symbolic signifiers of meaning (Vygotsky, 1978), how will they cope with the demands of the literacy hour? The school must now re-evaluate provision and have the confidence to assert that

play is a valuable learning medium. Perhaps children need to learn to play as much as they need to play to learn? Would more 'real play' lead to happier learners who feel in control of their learning? The respondents said they feel happy when they play. We know they learn when they play. Can we not trust this?

This study is broader than the others cited in that it investigates children's 'whole' concepts of play, not just within the context of school. However, the other studies looked in more depth at the children's experiences in their school and were able to link these directly to the values and practice in the school. The purpose of this research was to 'contribute to the interrogation of a policy opportunity' in the school, not necessarily to resolve it at this stage. Thus the research has met its aim. However, it would be a wasted opportunity if it was not taken further – it will be. For other professionals, the value of the work is in adding to the general body of knowledge around children's concepts of play. It has also drawn out an important finding within the context of the research setting: play is about choice, first and foremost.

Finally, it has been shown in this study that the key theorists think that early education should not simply be a preparation for adult life. Childhood is a time to be treasured and enjoyed. There is time enough to be an adult. A true 'foundation stage' should lay the foundations for learning as widely as possible so that the tallest structure can be built - in time. Early education should be a preparation for the next phase of learning. We should value the foundation stage for what it is and what it can do. Learning is not a race. Even Patrick, who is very keen to win, has heard the story of the tortoise and the hare!

Appendix Q***Talk and Tell Planning Pro-forma*****Rationale**

| | |
|--|--|
| Type of talk to be taught <i>E.g. describing an object so it can be drawn, as giving directions, sequencing a story, recount of an event etc.</i> | |
| Key features of this talk /Learning objective Make it cognitive not just social | |
| Context/Subject background Should be familiar and accessible to all learners | |

Outcomes of session

| | |
|--------------------------------------|--|
| All children will know/ be able to: | |
| Many children will know/ be able to: | |
| Some children will know/ be able to: | |

Introduction - 5 mins

Provide an example/model of an oral language type and use in a class/group investigation/discussion

- *Teacher/learner to demonstrate less effective talk, followed by 'good talk' - ask children to explain why the 'good talk' is more effective - make generalisations.*
- *Develop the generalisations and give or ask for further examples.*

Appendix Q contd.**Main activity – 10 mins**

An activity or task that enables pupils to rehearse and to explore language conventions. Identify purposes, outcomes, ground rules. Define speaking and listening conventions.

- *Remember to have several stopping points to highlight good quality talk.*
- *Teacher / LSA to support the talk for specific partners as needed.*
- *Remember to have a half-way swap if relevant to the lesson format.*

Plenary

Reflection and review, re-focusing on objectives

- *Ask children to give examples of 'good talk' they have heard from their partner.*
- *Ask for explanation of why it is 'good talk' – draw on earlier generalisations.*
- *Draw on 1 or 2 examples and build them into very effective chunks of talk with the help of the class/selected learners; write this on interactive whiteboard*
- *Establish whether the children have understood the key features/achieved the objective and have managed the outcomes (and to what extent). The plenary assessment schedule could be useful here.*

Appendix R***Different types of talk – adapted from Tough, 1976***TALK & TELL FOCUS POINTS**1. Making comparisons, similarities and differences**

- e.g.* 'You're too big for that bike.'
 Comparing the taste of an apple to that of an orange
 Comparing a piece of paper to another
 Comparing two very different items
 Comparing two similar items
 'I'm taller than Fred'
 She sings better than me

2. Recalling events

- e.g.* 'Last week we went to the Church, didn't we?'
 Giving news from the weekend
 Explaining things that happened in a story
 Recount of a school trip

3. Making future plans

- e.g.* 'We'll go swimming tomorrow.'
 Explaining what will happen at playtime
 Planning an investigation
 Planning a trip

4. Linking at least two events in time, by the use of such words as 'while', 'when', 'until' and 'then'

- e.g.* 'We can't go to lunch until everyone has washed their hands'
 Expanding on specific sentences using these words
 While we are doing our literacy, we'll be learning how to....
 When the lesson finishes, we will have a story

5. Describing purposes of objects

- e.g.*, 'The elastic is for making a mask.'
 Looking at items from history and surmising on their use
 Looking at a very familiar object and asking the children to describe to each other in detail how to use it/what it is used for

6. Giving reasons, explanations, purposes or results of actions

- e.g.* 'The cat's run away because you pulled her tail.'
 The box is empty because someone took everything out of it
 Cause and effect

Appendix R contd.7. Using conditionals concerned with hypothetical event

- e.g.* 'If it stops raining, we could go to the playground.'
 If you get all your work finished, you could go and help in Reception
 If you run out of ideas, you could ask for help
 When it's Christmas, you might get a lovely present

8. Making generalisations and definitions

- e.g.*, 'Pigs don't fly, birds do.'
 Everyone likes chocolate
 All those sentences start with a capital letter
 Bullying is when someone makes you feel useless

9. Reasoning and inferring

- e.g.* 'If you eat your sweets, you can't save them.'
 Because you did that, we can't finish the story
 When everyone plays nicely, we all have a lovely time
 By practising our talking, we will learn to say what we want to say

10. Projecting into self or other's thoughts or feelings

- e.g.* 'I expect Kate is feeling very sad now.'
 I think you would like to go out to play
 How do you think you would feel if...
 Why do you think Jack is smiling?
 What does it taste like?

11. Problem-solving, i.e., creative insight into the situation

- e.g.* CHILD: We haven't enough lolly sticks to make it.
 ADULT: Well we'll break them in two, then.
 How can we...?
 What would happen if we...?
 I wonder why...?
 My drink's all gone... go and pour yourself another one from the jug then

Appendix S

SPLASH! Poster

Come and SPLASH! with us

Speaking 

Playing 

Listening 

And

Sharing! 

You are welcome to come
into class and join us at
these times:

Tues. 9.00-9.50am
Thurs. 2.15-3.10pm



If you have pre-school
age children, bring them
along too!

Appendix T**Main group summary data and KS1 results**

End of Reception 2004

| Name | Age | Info score | Info age | Gram score | Gram age |
|---------------|-------------------|------------|-------------------|------------|------------------|
| SF1 | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 |
| SF2 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 |
| SF3 | 5.6 - 5.11 | 27 | 4.0 - 4.5 | 20 | 4.0-4.5 |
| SM4 | 4.6 - 4.11 | 20 | <3.6 | 16 | 3.6-3.11 |
| SM5 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 22 | 5.0 - 5.5 |
| SF6 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 |
| SF7 | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 22 | 5.0 - 5.5 |
| SF8 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 15 | <3.6 |
| SF9 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 |
| SF10 | 4.6 - 4.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| SM11 | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 |
| SF12 | 4.6 - 4.11 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 |
| SM13 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 |
| SM14 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 |
| SM15 | 5.6 - 5.11 | 16 | <3.6 | 12 | <3.6 |
| SF16 | 5.0 - 5.5 | 20 | <3.6 | 7 | <3.6 |
| SF17 | 4.6 - 4.11 | 35 | 7.0 - 7.5 | 27 | 6.0 - 6.5 |
| SF18 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 |
| SM19 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| SF20 | 5.0 - 5.5 | 33 | 6.0 - 6.5 | 22 | 5.0 - 5.5 |
| SM21 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 16 | 3.6-3.11 |
| SF22 | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 |
| SM23 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 |
| SM24 | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| | | | | | |
| Mean | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 |
| Median | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 |
| Mode | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| Range | | | | | |
| Min | 4.6 - 4.11 | 16 | <3.6 | 7 | <3.6 |
| Max | 5.6 - 5.11 | 35 | 7.0 - 7.5 | 27 | 6.0 - 6.5 |
| SD (n-1) | | 4.79 | | 4.41 | |
| % BELOW AE | | 50% | | 54% | |
| % WNL | | 37.5% | | 42% | |
| % ABOVE AE | | 12.5% | | 4% | |
| % ON TRACK | | 50% | | 46% | |

Appendix T contd.

End of Reception 2004 by gender

Girls

| | Age | Info score | Info age | Gram score | Gram age |
|------------|------------|------------|------------|------------|-----------|
| Mean | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 20 | 4.0-4.5 |
| Median | 5.0 - 5.5 | 30 | 5.0 - 5.5 | 21 | 4.6-4.11 |
| Mode | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 24 | 5.6-5.11 |
| Range | | | | | |
| Min | 4.6 - 4.11 | 20 | <3.6 | 7 | <3.6 |
| Max | 5.6 - 5.11 | 35 | 7.0 - 7.5 | 27 | 6.0 - 6.5 |
| SD (n-1) | | 4.11 | | 4.93 | |
| % BELOW AE | | 50% | | 50% | |
| % WNL | | 36% | | 43% | |
| % ABOVE AE | | 14% | | 7% | |
| % ON TRACK | | 50% | | 50% | |

Boys

| | Age | Info score | Info age | Gram score | Gram age |
|------------|------------|------------|------------|------------|-----------|
| Mean | 5.0 - 5.5 | 26 | 3.6 - 3.11 | 19 | 3.6-3.11 |
| Median | 5.0 - 5.5 | 29 | 4.6 - 4.11 | 21 | 4.0 - 4.5 |
| Mode | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 21 | 4.6-4.11 |
| Range | | | | | |
| Min | 4.6 - 4.11 | 16 | <3.6 | 12 | <3.6 |
| Max | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 |
| SD (n-1) | | 5.54 | | 3.66 | |
| % BELOW AE | | 50% | | 60% | |
| % WNL | | 40% | | 40% | |
| % ABOVE AE | | 10% | | 0 | |
| % ON TRACK | | 50% | | 40% | |

Appendix T contd.

Mid Y1 2005

| | Mid Year 1 | | | | | I+/- | G+/- |
|------------|------------|------------|------------|------------|-----------|------|------|
| Name | Age | Info score | Info age | Gram score | Gram age | | |
| SF1 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 2 | 2 |
| SF2 | 6.0 - 6.5 | 27 | 4.0 - 4.5 | 21 | 4.6-4.11 | 0 | 1 |
| SF3 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 23 | 5.0-5.5 | 5 | 3 |
| SM4 | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 21 | 4.6-4.11 | 4 | 5 |
| SM5 | 6.0 - 6.5 | 33 | 6 - 6.5 | 24 | 5.6-5.11 | 2 | 2 |
| SF6 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 26 | 6.0-6.5 | 2 | 3 |
| SF7 | 6.0 - 6.5 | 33 | 6 - 6.5 | 24 | 5.6-5.11 | 3 | 2 |
| SF8 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 22 | 5.0 - 5.5 | 5 | 7 |
| SF9 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 1 | 1 |
| SF10 | 5.0 - 5.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 | 1 | 0 |
| SM11 | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 26 | 6.0-6.5 | 5 | 5 |
| SF12 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 21 | 4.6-4.11 | 4 | 4 |
| SM13 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 22 | 5.0 - 5.5 | 4 | 5 |
| SM14 | 5.6 - 5.11 | 33 | 6 - 6.5 | 25 | 6.0 - 6.5 | 1 | 4 |
| SM15 | 6.0 - 6.5 | 26 | 3.6 - 3.11 | 17 | 3.6-3.11 | 10 | 5 |
| SF16 | 5.6 - 5.11 | 28 | 4.0 - 4.5 | 23 | 5.0-5.5 | 8 | 16 |
| SF17 | 5.0 - 5.5 | 36 | 7.6 - 8.5 | 28 | 6.6-6.11 | 1 | 1 |
| SF18 | 5.6 - 5.11 | 33 | 6 - 6.5 | 27 | 6.0 - 6.5 | 1 | 3 |
| SM19 | 6.0 - 6.5 | 33 | 6 - 6.5 | 23 | 5.0-5.5 | 2 | 2 |
| SF20 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 25 | 6.0 - 6.5 | 1 | 3 |
| SM21 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 19 | 3.6-3.11 | 5 | 3 |
| SF22 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 24 | 5.6-5.11 | -1 | 3 |
| SM23 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 3 | 2 |
| SM24 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 23 | 5.0-5.5 | 1 | 2 |
| | | | | | | | |
| Mean | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 23 | 5.0-5.5 | 2 | 3 |
| Median | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 2 | 3 |
| Mode | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 26 | 6.0-6.5 | 1 | 2 |
| Range | | | | | | | |
| Min | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 | -1 | 0 |
| Max | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 28 | 6.6-6.11 | 10 | 16 |
| SD (n-1) | | 2.30 | | 2.62 | | | |
| % BELOW AE | | 37.5% | | 29% | | | |
| % WNL | | 50% | | 67% | | | |
| % ABOVE AE | | 12.5% | | 4% | | | |
| % ON TRACK | | 62.5% | | 71% | | | |

Appendix T contd.

Mid Y1 2005 by gender

Girls

| | Age | Info score | Info age | Gram score | Gram age | | |
|-------------------|------------|-------------------|-----------------|-------------------|-----------------|---|----|
| Mean | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 2 | 3 |
| Median | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 2 | 3 |
| Mode | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 21 | 4.6-4.11 | 1 | 3 |
| Range | | | | | | | |
| Min | 5.0 - 5.5 | 27 | 4.0 - 4.5 | 21 | 3.6-3.11 | 0 | 0 |
| Max | 6.0 - 6.5 | 36 | 7.6 - 8.5 | 28 | 6.6-6.11 | 8 | 16 |
| SD (n-1) | | 2.70 | | 2.29 | | | |
| % BELOW AE | | 36% | | 14% | | | |
| % WNL | | 43% | | 79% | | | |
| % ABOVE AE | | 21% | | 7% | | | |
| % ON TRACK | | 64% | | 86% | | | |

Boys

| | Age | Info score | Info age | Gram score | Gram age | | |
|-------------------|------------|-------------------|-----------------|-------------------|-----------------|----|---|
| Mean | 5.6 - 5.11 | 30 | 5.0 - 5.5 | 22 | 5.0 - 5.5 | 3 | 3 |
| Median | 5.6 - 5.11 | 32 | 6.0 - 6.5 | 23 | 5.0-5.5 | 3 | 4 |
| Mode | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 4 | 5 |
| Range | | | | | | | |
| Min | 5.0 - 5.5 | 24 | 3.6 - 3.11 | 17 | 3.6-3.11 | 1 | 2 |
| Max | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 10 | 5 |
| SD (n-1) | | 3.44 | | 2.95 | | | |
| % BELOW AE | | 40% | | 40% | | | |
| % WNL | | 60% | | 60% | | | |
| % ABOVE AE | | 0% | | 0% | | | |
| % ON TRACK | | 60% | | 60% | | | |

Appendix T contd.

End of Y1 2005

| | | Info | | Gram | | I+/- | G+/- | Total | Total |
|------------|------------|-------|------------|-------|-----------|------|-------|-------|-------|
| Name | Age | score | Info age | score | Gram age | | | I+/- | G+/- |
| SF1 | 6.6 - 6.11 | 36 | 7.6 - 8.5 | 30 | 7.6-8.5 | 2 | 4 | 4 | 6 |
| SF2 | 6.6 - 6.11 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 5 | 4 | 5 | 5 |
| SF3 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 27 | 6.0 - 6.5 | 2 | 4 | 7 | 7 |
| SM4 | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 22 | 5.0 - 5.5 | 5 | 1 | 9 | 6 |
| SM5 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 28 | 6.6-6.11 | 2 | 4 | 4 | 6 |
| SF6 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 3 | 3 | 5 | 6 |
| SF7 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 2 | 5 | 5 | 7 |
| SF8 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 24 | 5.6-5.11 | 2 | 2 | 7 | 9 |
| SF9 | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 3 | 4 | 4 | 5 |
| SF10 | 5.6 - 5.11 | 34 | 6.6 - 6.11 | 23 | 5.0-5.5 | 2 | 2 | 3 | 2 |
| SM11 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 27 | 6.0 - 6.5 | 1 | 1 | 6 | 6 |
| SF12 | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 5 | 5 | 9 | 9 |
| SM13 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 4 | 3 | 8 | 8 |
| SM14 | 6.0 - 6.5 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 2 | 4 | 3 | 8 |
| SM15 | 6.6 - 6.11 | 31 | 5.6 - 5.11 | 23 | 5.0-5.5 | 5 | 6 | 15 | 11 |
| SF16 | 6.0 - 6.5 | 31 | 5.6 - 5.11 | 29 | 7.0-7.5 | 3 | 6 | 11 | 22 |
| SF17 | 5.6 - 5.11 | 37 | >8.5 | 30 | 7.6-8.5 | 1 | 2 | 2 | 3 |
| SF18 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 28 | 6.6-6.11 | 1 | 1 | 2 | 4 |
| SM19 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 27 | 6.0 - 6.5 | 1 | 4 | 3 | 6 |
| SF20 | 6.0 - 6.5 | 35 | 7.0 - 7.5 | 29 | 7.0-7.5 | 1 | 4 | 2 | 7 |
| SM21 | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 24 | 5.6-5.11 | 3 | 5 | 8 | 8 |
| SF22 | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 26 | 6.0-6.5 | 5 | 2 | 4 | 5 |
| SM23 | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 29 | 7.0-7.5 | 0 | 3 | 3 | 5 |
| SM24 | 6.6 - 6.11 | 33 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 1 | 2 | 2 | 4 |
| | | | | | | | | | |
| Mean | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.0-6.5 | 2 | 3 | 5 | 7 |
| Median | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 27 | 6.0 - 6.5 | 2 | 4 | 5 | 6.5 |
| Mode | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 29 | 7.0-7.5 | 2 | 4 | 4 | 8 |
| Range | | | | | | | | | |
| Min | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 22 | 5.0 - 5.5 | 0 | 1 | 2 | 2 |
| Max | 6.6 - 6.11 | 37 | >8.5 | 30 | 7.6-8.5 | 5 | 6 | 15 | 22 |
| SD (n-1) | SD (n-1) | 1.86 | | 2.43 | | 1.6 | 1.498 | 3.27 | 3.803 |
| % BELOW AE | | 8% | | 4% | | | | | |
| % WNL | | 75% | | 79% | | | | | |
| % ABOVE AE | | 17% | | 17% | | | | | |
| % ON TRACK | | 92% | | 96% | | | | | |

Appendix T contd.

End of Y1 2005 by gender

Girls

| | Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | Total | Total |
|------------|------------|------------|------------|------------|------------|------|------|-------|-------|
| Mean | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 27 | 6.0 - 6.5 | 2 | 3 | 5 | 7 |
| Median | 6.0 - 6.5 | 34 | 6.6 - 6.11 | 28 | 6.6 - 6.11 | 2 | 4 | 5 | 6 |
| Mode | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 29 | 7.0 - 7.5 | 2 | 4 | 5 | 6 |
| Range | | | | | | | | | |
| Min | 5.6 - 5.11 | 31 | 5.6 - 5.11 | 23 | 5.0 - 5.5 | 1 | 1 | 2 | 2 |
| Max | 6.6 - 6.11 | 37 | >8.5 | 30 | 7.6 - 8.5 | 5 | 6 | 11 | 22 |
| SD (n-1) | | 1.75 | | 2.28 | | | | | |
| % BELOW AE | | 0 | | 0 | | | | | |
| % WNL | | 79 | | 79 | | | | | |
| % ABOVE AE | | 21 | | 21 | | | | | |
| % ON TRACK | | 100 | | 100 | | | | | |

Boys

| | Age | Info score | Info age | Gram score | Gram age | I+/- | G+/- | Total | Total |
|------------|------------|------------|------------|------------|------------|------|------|-------|-------|
| Mean | 6.0 - 6.5 | 32 | 6.0 - 6.5 | 25 | 6.0 - 6.5 | 2 | 3 | 6 | 6 |
| Median | 6.0 - 6.5 | 33 | 6.0 - 6.5 | 26 | 6.6 - 6.11 | 2 | 3.5 | 5 | 6 |
| Mode | 6.6 - 6.11 | 34 | 6.6 - 6.11 | 27 | 6.0 - 6.5 | 1 | 4 | 3 | 6 |
| Range | | | | | | | | | |
| Min | 5.6 - 5.11 | 29 | 4.6 - 4.11 | 22 | 5.0 - 5.5 | 0 | 1 | 2 | 4 |
| Max | 6.6 - 6.11 | 35 | 7.0 - 7.5 | 29 | 7.0 - 7.5 | 5 | 6 | 15 | 11 |
| SD (n-1) | | 1.91 | | 2.47 | | | | | |
| % BELOW AE | | 20% | | 10% | | | | | |
| % WNL | | 70% | | 80% | | | | | |
| % ABOVE AE | | 10% | | 10% | | | | | |
| % ON TRACK | | 80% | | 90% | | | | | |

Appendix T contd.

End of Y2 2006 SATs results

| Forename | | Reading TA | Writing TA | SL TA | Maths TA | |
|--------------------|------------------|-----------------|-----------------|-------------|-----------------|-------------|
| SF1 | | 3 | 2A | 2 | 2A | |
| SF2 | | 3 | 2A | 2 | 2A | |
| SF3 | | 2C | 1a | 2 | 2C | |
| SM4 | | 2B | 2C | 2 | 3 | |
| SM5 | | 2A | 2C | 2 | 2A | |
| SF6 | | Left | Left | Left | Left | |
| SF7 | | Left | Left | Left | Left | |
| SF8 | | 2B | 2C | 2 | 2A | |
| SF9 | | 2C | 1b | 2 | 2B | |
| SF10 | | 2C | 2C | 2 | 2C | |
| SM11 | | Left | Left | Left | Left | |
| SF12 | | Left | Left | Left | Left | |
| SM13 | | 2C | 1a | 2 | 2A | |
| SM14 | | 2A | 2C | 2 | 2A | |
| SM15 | | 1b | W | 2 | 1a | |
| SF16 | | 2A | 2B | 2 | 2C | |
| SF17 | | 2B | 2C | 2 | 1a | |
| SF18 | | Left | Left | Left | Left | |
| SM19 | | 2B | 2C | 2 | 2A | |
| SF20 | | 3 | 2A | 2 | 2B | |
| SM21 | | 2C | 1b | 2 | 2C | |
| SF22 | | 3 | 2A | 2 | 2A | |
| SM23 | | 2A | 2A | 2 | 2A | |
| SM24 | | 2A | 2B | 2 | 2A | |
| | | | | | | |
| TOTAL YR - KS1 | 19 | | | | | |
| | | | | | | |
| | JULY 2004 | Info age | Gram age | | | |
| % ON TRACK | | 50% | 46% | | | |
| | JULY 2005 | | | | | |
| % ON TRACK | | 92% | 96% | | | |
| | | | | | | |
| KS1 RESULTS | JUNE 2006 | | | | | |
| L2+ | | 95% (83) | 74% (81) | 100% | 90% (91) | L2+ |
| L3 | | 21% (30) | (13) | | 5% (27) | L3 |
| L2B+ | | 68% (70) | 37% (60) | | 68% 76) | L2B+ |
| 2A | | 26% | 26% | | 53% | 2A |
| 2B | | 21% | 11% | | 11% | 2B |
| 2C | | 26% | 37% | | 21% | 2C |
| 1 | | 5% | 21% | | 11% | 1 |
| L/W | | | 5% | | | L/W |

Figures in brackets represent LA averages

Stable Cohort (19)

Appendix T contd.

End of Y2 2006 SATs results by gender - Girls

| Forename | | Reading TA | Writing TA | SL TA | Maths TA | |
|---|------------------|------------------------|--------------------|-------------|-----------------|-------------|
| SF1 | | 3 | 2A | 2 | 2A | |
| SF2 | | 3 | 2A | 2 | 2A | |
| SF3 | | 2C | 1a | 2 | 2C | |
| SF6 | | Left | Left | Left | Left | |
| SF7 | | Left | Left | Left | Left | |
| SF8 | | 2B | 2C | 2 | 2A | |
| SF9 | | 2C | 2C | 2 | 2C | |
| SF10 | | 2C | 1b | 2 | 2B | |
| SF12 | | Left | Left | Left | Left | |
| SF16 | | 2A | 2B | 2 | 2C | |
| SF17 | | 2B | 2C | 2 | 1a | |
| SF18 | | Left | Left | Left | Left | |
| SF20 | | 3 | 2A | 2 | 2B | |
| SF22 | | 3 | 2A | 2 | 2A | |
| | | | | | | |
| TOTAL REC - KS1 | 10 | | | | | |
| | | | | | | |
| Asst in reception class x 10 | JULY 2004 | Information age | Grammar age | | | |
| % ON TRACK | | 50% | 50% | | | |
| | JULY 2005 | | | | | |
| % ON TRACK | | 100% | 100% | | | |
| | | | | | | |
| | | Reading TA | Writing TA | SL TA | Maths TA | |
| KS1 RESULTS | JUNE 2006 | | | | | |
| L2+ | | 100% (88) | 80% (88) | 100% | 90% (90) | L2+ |
| L3 | | 40% (36) | (17) | | (25) | L3 |
| L2B+ | | 70% (76) | 50% (69) | | 60% (78) | L2B+ |
| 2A | | 10% | 40% | | 40% | 2A |
| 2B | | 20% | 10% | | 20% | 2B |
| 2C | | 30% | 30% | | 30% | 2C |
| 1 | | | 20% | | 10% | 1 |
| L/W | | | | | | L/W |

Figures in brackets represent LA averages

Appendix T contd.

End of Y2 2006 SATs results by gender - Boys

| Forename | | Reading TA | Writing TA | SL TA | Maths TA | |
|-----------------------------------|------------------|-----------------|-------------|----------|-------------|------|
| SM4 | | 2B | 2C | 2 | 3 | |
| SM5 | | 2A | 2C | 2 | 2A | |
| SM11 | | Left | Left | Left | Left | |
| SM13 | | 2C | 1a | 2 | 2A | |
| SM14 | | 2A | 2C | 2 | 2A | |
| SM15 | | 1b | W | 2 | 1a | |
| SM19 | | 2B | 2C | 2 | 2A | |
| SM21 | | 2C | 1b | 2 | 2C | |
| SM23 | | 2A | 2A | 2 | 2A | |
| SM24 | | 2A | 2B | 2 | 2A | |
| | | | | | | |
| TOTAL BOYS REC - KS1 | 9 | | | | | |
| | | | | | | |
| Asst in reception class x 9 | | Information age | Grammar age | | | |
| | JULY 2004 | | | | | |
| % ON TRACK | | 50% | 40% | | | |
| | JULY 2005 | | | | | |
| % ON TRACK | | 80% | 90% | | | |
| | Read Comp T/T | Reading TA | Writing TA | SL TA | Maths TA | |
| KS1 RESULTS | JUNE 2006 | | | | | |
| L2+ | | 89% (80) | 67% (76) | 100% | 89% (90) | L2+ |
| L3 | | (25) | (10) | | 11% (29) | L3 |
| L2B+ | | 67% (64) | (50) | | 78% (74) | L2B+ |
| 2A | | 45% | 11% | | 78% | 2A |
| 2B | | 22% | 11% | | | 2B |
| 2C | | 11% | 45% | | 11% | 2C |
| 1 | | 22% | 22% | | 11% | 1 |
| L/W | | | 11% | | | L/W |

Figures in brackets represent LA averages

Matrix for extracting the factors & discussion points from Case Study 3

[illegible]

Appendix V**Samples of unsupported writing from Main and Control Groups****SF22**

I went to throw it at the
satyr and it went into gold in
my hand. I took a tree,
the wall, plates, cups, gorks and my
bed. It started brilliantly and
then it went out to like a night
mare. Then it got worse because
I went my daughter into a golden
stacker. The satyr came back and told
me to wash in the river I took bucket.

Appendix V contd.**Samples of unsupported writing from Main and Control Groups****SF16**

crack my tooth. When I was furstey
my drip it tereed solid. My son gave
me a hug and he tereed into gold. I
felt sad. I went to bed and it tereed
to ^{gold} so I could not sleep etc or drink.
The slyth was at my window! He
told me to wash in the river! I ran
into the river with my son. I pulled my
self out of the river. I was choked! I
got bucits of water and wash the palate.

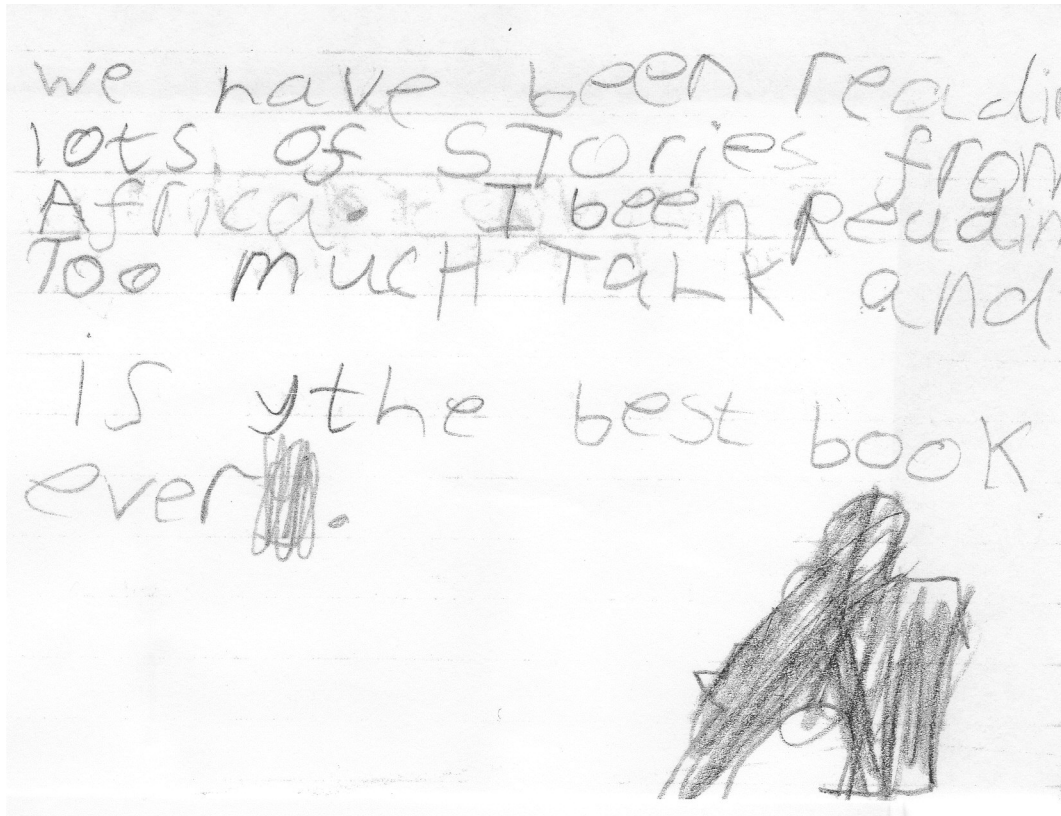
Appendix V contd.**Samples of unsupported writing from Main and Control Groups****SM14**

Along a long time ago
I judged an a music competition
between Pan and Apolo. I let Pan win.
Apolo went mad and turned my ears into
donkey ears! I was embarrassed and went
home to look in the mirror and I
put on a big hat. I didn't take it off
even in the bath. A couple of days
later Ika S^{met}sky he granted me one
wish. I wished every thing I touched turned
to gold

Appendix V contd.

Samples of unsupported writing from Main and Control Groups

CM15



Appendix V contd.**Samples of unsupported writing from Main and Control Groups****CF20**

~~At~~ the wizard she cot
sit of ~~the~~ us but lucky us
we got away ~~I~~ just in
time ~~bt~~ but the wich got
her broore stick and cort us
up and ties us up in wate
strig but remember we got the
~~spell~~ spell book and take
a spell out of it and got
out of the string and put
a spell on the ~~witch~~ witch and
she tund ~~in to a~~ her ~~into~~
a beautiful film star.

Appendix V contd.**Samples of unsupported writing from Main and Control Groups****CF23**

First you have to play an instrument to put Fluffy to sleep. (3 headed dog)
And then you have to drop through the trap door.
Then you'll fall into devils share just relax or use the fire charm to
get out of it. Next you have to walk along the passage away and enter
a brilliantly lit chamber. After use the flaking broomstick and ~~some~~
~~come out with a key~~ which key fits the door so you can go through the
door. Then you have to enter the chess room and play the chess.
Finally you have to look at the mirror of erised. See your self
put the philosopher stone in your pocket. And that's how you get
the philosophers stone.

Appendix W**Local authority magazine article**

xxxx Primary School in xxxx is pioneering a language skills programme developed by its headteacher, Sharie Coombes.

The *Talk and Tell* programme is the result of doctoral research carried out by Sharie over six years.

"Many children arrive at school with language skills which are just not up to the job of helping them to learn. Nevertheless, it is not true to say that modern infants have no language - words often heard from heads and teachers" says Sharie.

"The reality is that they don't have the language of learning as part of their repertoire and further, they often don't have the confidence nor the pragmatic and discourse skills they now need, simply because they have never needed them before coming into a learning environment.

"Some professionals believe the solution is to widen children's vocabulary; others believe specific grammar teaching is the best approach. However, without specifically catering for the missing language skills, many children will continue to have difficulties accessing language development and, ultimately, the entire school curriculum.

"There is no cost involved in running *Talk and Tell* but we have found that its impact has been significant when used alongside a Foundation Stage approach to delivering the Year 1 curriculum. Some children improved their speech and language levels by more than 12 months in only ten weeks.

"In 2006, the Year 2 learners who had been on this programme continuously since entering reception class (when more than 55% had language delay and only 30% were showing *normal* language development) achieved outstanding results which were equal to or above the national average in reading, writing and maths. Very good value for money!"