

***Let's Talk!* An intervention supporting children's vocabulary and narrative development through sustained planned pretend play and group shared storybook reading in the early years**

Gillian Lake

A thesis submitted for the degree of Doctor of Philosophy at the University of Oxford



St Anne's College

Trinity Term, 2015

Dedicated to my father Declan Purcell

ABSTRACT

***Let's Talk!* An intervention supporting children's vocabulary and narrative development through sustained planned pretend play and group shared storybook reading in the early years.**

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An intervention, which targeted three- and four-year-old children's oral language, was developed for this study. The intervention was run over twice-weekly sessions, for ten weeks. Incorporating good Early Years practice, the first session in the week was a group shared storybook reading session with a puppet, where dialogic discussion took place and the children practised sequencing the story using visual prompts. The second weekly session consisted of planning, acting out and reviewing a planned pretend play episode based on the storybook which was read in that week's first session.

Ninety-four children were randomly assigned to a control or treatment group and were tested at pre- and post-test on a battery of vocabulary and narrative assessments. The results of a Randomised Control Trial were positive in favour of the intervention. The most important of these results was a statistically significant effect on the receptive vocabulary of the children in the treatment group, with a large effect size, as measured by the standardised *British Picture Vocabulary Scales* (Dunn *et al.*, 1997). There was also a significant effect on productive vocabulary, as measured by a *Researcher-Designed Vocabulary Test* (RDVT). This test was devised for the purpose of this study, testing one-word vocabulary, taken directly from the storybooks in the intervention. As this is not a norm-referenced, standardised test, caution is advisable in the interpretation of this result.

A further positive effect concerned the narrative skills of the children in the treatment group, when compared to the children in a control group – the *Mean Length of Utterance* (MLU) score was higher in the treatment group, with a medium effect size.

By examining the intervention by Randomised Control Trial, this study responds to the call from Lillard *et al* (2013) for more experimental research on pretend play and narrative. The acknowledgement of the role of the adult in the intervention coupled with the positive effect on the children's MLU and receptive vocabulary mean that the intervention, with further development, has the potential to be used as a Professional Development tool for supporting language development in the Early Years in the UK, in the future.

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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
ANCOVA	Analysis of Covariance
ASD	Autistic Spectrum Disorder
BAS	British Ability Scales
BERA	British Educational Research Association
BPI	Berkley Puppet Interview
BPS	British Psychological Society
BPVS	British Picture Vocabulary Scales
CELF	Clinical Evaluation of Language Fundamentals
CG	Control Group
CUREC	Central University Research Ethics Committee
DCCS	Dimensional Change Card Sort Task
DCSF	Department for Children, Schools and Families
df	Degrees of Freedom
ECEC	Early Childhood Education & Care
ELDP	Early Language Development Programme
ELL	English Language-Learner
ELLP	Early Language Lead Practitioner
EPPE	Effective Pre-school and Primary Education
ERIC	Education Resources Information Centre
EYFS	Early Years Foundation Stage
F	Statistic (Ratio of Average Variability in the Data that Given Model can Explain)
GCA	General Conceptual Ability
GCSE	General Certificate of Secondary Education
HLE	Home Learning Environment
IQ	Intelligence Quotient
IS	Information Score on <i>Bus Story Test</i>
IYCDP	Incredible Years Child Dinosaur Programme
LA	Local Authority
LAD	Language Acquisition Device
LASS	Language Acquisition Support System
M	Mean value
Mdn	Median Value
MLU	Mean Length of Utterance
N	Number
η^2	Eta Squared (Effect Size)
NELP	National Early Literacy Panel
NICHD	National Institute of Child Health and Human Development
ns	Non-significant
NV	Naming Vocabulary
NVQ	National Vocational Qualification
OECD	Organisation for Economic Co-operation and Development
OfSTED	Office for Standards in Education
OLPT	Oral Language Proficiency Test
p	Significance Value
PPVT	Peabody Picture Vocabulary Test
r	Correlation Coefficient
R	The Multiple Correlation Coefficient
R²	The Coefficient of Determination (i.e. the proportion of data explained by the model)
RCT	Randomised Controlled Trial
RDVT	Researcher-Designed Vocabulary Test
REDI	Research-based Developmentally Informed intervention
SD	Standard Deviation
SES	Socio-economic Status

SIG	Statistical Significance
t	Statistical value t statistic
TG	Treatment Group
TNR	Test of Narrative Retell
ToM	Tools of the Mind Curriculum
U	Mann-Whitney Test Value
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations Children's Emergency Fund
WHO	World Health Organisation
χ^2	Chi-Square
ZPD	Zone of Proximal Development

CHAPTER ONE – INTRODUCTION

Being literate empowers children to become adults who can function in society in a meaningful way (Dickinson *et al.*, 2010; Justice, Mashburn, Pence, & Wiggins, 2008). Early intervention in literacy development is crucial and has proved successful in having a long-term impact on children's life-chances or outcomes (Nutbrown, Hannon, & Morgan, 2005; Shanahan & Lonigan, 2011). In particular, younger children benefit from oral language interventions containing talk and narrative, which can improve their reading later in life (Aram, 2006; Bowyer-Crane *et al.*, 2008; Landry & Smith, 2006 (Bergen, 2013). Dialogic discussion which takes place during storybook reading can develop de-contextualised language (Coyne, Simmons, Kame'enui, & Stoolmiller, 2004; Sénéchal, 1997; Whitehurst & Zevenbergen, 1999). Vocabulary and inference training can also improve oral comprehension, vocabulary and sentence repetition in young children with English as an additional language (Dockrell, Stuart, & King, 2010). If these literacy competencies are not supported, young children can experience far-reaching difficulties later in life.

This chapter presents a rationale for a study which aims to support children's early literacy development, specifically their oral language. An examination of policy on children's oral language development in the UK along with the study's conceptual underpinning and its aims are discussed. It very briefly describes the intervention which was developed for the study – *Let's Talk* and lists the aims for both the study and the intervention.

This thesis comprises **six** chapters:

- **Chapter One** presents the background and rationale for the study with a description of the policy context for oral language development in the early years in the UK.
- **Chapter Two** offers a literature review for the study, discussing the theoretical models which underpin oral language development; specifically vocabulary and narrative. It also examines the empirical research which has been carried out on oral language development in the Early Years to date.

- **Chapter Three** describes the development of the intervention *Let's Talk*. It outlines its theoretical foundation, a timetable of development, its principles, aims, components, materials and outcomes.
- **Chapter Four** identifies the methodological approach, explicates the research design and lists the research questions (Section 4.4). It also discusses the validity and reliability of the study, its ethical considerations and delineates any methodological limitations.
- **Chapter Five** presents the data analysis and findings of the study, answering Research Questions one to six.
- **Chapter Six** presents the discussion of the findings, in light of the Literature Review contained in Chapter Two, and offers concluding remarks about the study.

1.1 Background/Personal Interest

As a former Primary Teacher and having previously studied an MSc in Child Development and Education focusing on emergent literacy, I had a keen interest in children's literacy development. The focus on language development in particular, arose out of a young family member having language difficulties due to *grand mal* seizures when aged two and a half years. This child's working memory and her narrative development were particularly affected, so I was curious to explore the background of language development, in order to understand her needs and to help in whatever way I could. When I began reading on the subject of oral language development, it appeared that there was a paucity of experimental intervention research on narrative development particularly. This led me to the study described in this thesis.

1.2 Rationale

Early Childhood Education and Childcare in the UK constitutes education which is aimed at children from birth to eight years old (Department for Education, 2012). For the purposes of this thesis, unless otherwise specified, the early years will refer to children who live in England, who are aged between birth and five years who attend Early Education settings, including childminders, preschools and nurseries and who are taught using a framework

entitled the *Early Years Foundation Stage* (EYFS). The children who were recruited for the current study were a subsample of this group, i.e. children aged three and four years.

Even though there has been some concentration of effort on oral language development policy in recent years, especially with respect to children in the Early Years (Department for Children Schools and Families, 2009; Department for Education, 2012) evidence suggests that, in the UK, young children increasingly move to primary school from preschool with less than sufficient oral language skills. Approximately 7% of five year olds entering primary school in England (40,000 children) in 2007 had significant difficulties with speech and/or language (Bercow, 2008; Lindsay, Dockrell, Desforges, Law, & Peacey, 2010; Lindsay, Dockrell, & Strand, 2007). The current requisite age for children to enter formal schooling/primary school in England is no later than the term immediately after their fifth birthday. This can put pressure on children to fulfil high expectations in terms of literacy and numeracy that go along with this transition. One of these expectations might be related to the child's language ability. In many European Union countries, there are pre-requisite language levels for children's entry to primary school (albeit which often occurs later than in England, e.g. Germany and Austria – six years, Bulgaria – seven years). If children are not achieving at this level, as denoted by an assessment carried out in preschool, then they are often transferred to a pre-preparatory class, which can support their language development and enable them to transition more smoothly to formal schooling the following year. This pre-preparatory class is often integrated within the primary school. This decision to defer the child for another year is usually consultative in nature and taken by a multi-disciplinary team including, for example, ECEC settings, primary schools, psychologists and after conferral with the child's parents.

This assessment of linguistic school readiness is not necessarily a straightforward solution for the UK, as it presupposes that the staff/practitioners have the necessary skills to diagnose a difficulty in the first place and indeed the skills and resources to support that deficiency when it is identified. However, perhaps interventions, such as that which is described in the current study, could support practitioners and, in turn, pre-school children to become more linguistically ready for what is currently the legal entry for transition to

primary school in England (European Commission/EACEA/Eurydice/Eurostat, 2014; European Union, 2014).

Narrative and vocabulary development can increase exponentially between the ages of three and five years (Bowyer-Crane et al., 2008; Fricke, Bowyer-Crane, Haley, Hulme, & Snowling, 2013). With a significant proportion of children entering primary school with lower language skills, it is reasonable to assume that there is a gap between the potential of children's language development in the early years, and the reality of what they are achieving by the time they attend primary school.

A somewhat limited focus on oral language development in Early Childhood Education is mirrored by the lack of *experimental* research on interventions conducted on narrative development in children in the Foundation Stage in the UK (Allen, 2011; Bercow, 2008). This crucial stage of development is being neglected. If this lack of focus persists, it could lead to children experiencing difficulties in their literacy levels later in life. Therefore, research is needed, to investigate the support of narrative and vocabulary development in the early years.

1.2.1 Policy on Oral Language in the UK

Oral language development has been observable in educational policies to some extent in the UK. For example, in response to the Special Educational Needs Green Paper (2011), the Department for Education commissioned the *Early Language Development Programme* (ELDP) in 2012. The charity *I Can*¹ is spearheading the challenge to develop hubs of early language expertise in 485 early years settings across the UK. This programme could be beneficial to young children's oral language development. However, this cannot be the case for all children, as, unfortunately, the target population for this programme contains only children *less than* three years old in *disadvantaged* areas. This limited target population overlooks a sizeable proportion of children in the early years who are aged three, four and

¹ This charity promotes communication and language and highlights the problems children face in communicating. It works with children who are experiencing speech and language difficulties

five years. The ELDP is omitting children at the very age at which narrative and vocabulary development experiences a substantial and rapid increase (Aram, 2006; McPherson, 2002).

The extension of free preschool places to children under two years old was a step in the right direction for children's development. However, as it stands (2015), provision is still limited to children from disadvantaged backgrounds. There is currently a shortage of ECEC² places for children in the UK. As the number of children living in the UK under six years old is expected to grow by 4% by the year 2030 and the majority of young children (0-3 years) are currently cared for out of the home, an increase in practitioners in ECEC in all socio-economic groups is needed, with practitioners being equipped with all the necessary skills to develop and support children's language (European Commission/EACEA/Eurydice/Eurostat, 2014).

We know that a high quality early years setting has a positive impact on children's outcomes (Sammons *et al.*, 2002; Sylva *et al.*, 2004; Sylva *et al.*, 2014; Mathers *et al.*, 2011; Mathers *et al.*, 2007). Part of that 'high-quality' is the workforce that is delivering early years education to children. More specifically, higher trained workforces can have a positive effect on children's cognitive outcomes and social and emotional development (Bauchmüller *et al.*, 2014; Sylva *et al.*, 2004). Bauchmüller and colleagues (2014) found in their correlational study of quality in early education provision in Denmark that, along with other indicators of quality, such as the staff-child ratio, an increase in trained staff implied an increase in children's standardised scores in a written Danish examination at the end of Primary school (Bauchmüller *et al.*, 2014). Even though Bauchmüller *et al.* concede that the correlations were modest, there was a link between the presence of trained staff and children's outcomes.

Furthermore, the EPPE study found that not only was the staff being trained important, but the *level* of those qualifications had an effect on children's academic outcomes. For example, the higher the academic qualification the staff members had, the better the

² ECEC – Early Childhood Education & Care

outcomes were for children in pre-reading and social development at age five, particularly when the manager of that setting was highly qualified (Sylva *et al.*, 2004). Even the practitioners who were lower qualified were better at supporting children's learning when working with someone who was higher qualified (Sammons *et al.*, 2002). Nutbrown (2012) suggests that just ensuring the practitioners have the qualification itself does not suffice. In her review of quality in the early years, she found that the quality of the teaching and learning among the providers of the training was of a very varied standard. However, she recommended that all staff in early years education should indeed have a minimum qualification (Level 3 NVQ) by 2022, and, moreover, that this training be universally provided and validated frequently.

There are very few countries which have a minimum academic qualification for workers in early education and childcare. The UK does not currently have a minimum academic qualification for entry to the occupation. When compared with Iceland, for example, where the minimum qualification for working in early education is a Masters Degree, the UK falls short. Childminders who look after children outside of early education settings are only required only to have training in first aid, health and safety, and home-based childcare business training, of a non-specified duration. Neither is there a minimum academic qualification for the management of ECEC settings. Leaders in ECEC in the UK are only required to have two years' experience and no headship training. If children do not have access to the most qualified staffs, their language development can suffer. The amount of teacher language, its semantic content, diversity, complexity and overall interaction with children, can be affected by the setting in which they are working (Dickinson, Hofer, Barnes, & Grifenhagen, 2014).

A recent study conducted in the USA highlights this very point. Pelatti *et al* (2014) found that experience in language and literacy in ECEC results in greater gains in decoding, spelling and comprehension in later years. Bronfenbrenner and Morris' (2006) ecobiological model suggests that there are four crucial areas which need to be interacting in order to have an impact on a child's development: process, context, person and time. The *process* incorporates all the interactions the child has with his/her peers, materials and concepts.

The *context* includes the content, the *person* focuses on the individual child and his/her potential and, lastly, the *time* is represented by the hours spent in language learning. After examining 81 educators' practice, Pelatti *et al* found that only 20% of the teaching day was dedicated to language activities in preschool classrooms. It is possible – as the observations were only taken on one day – that more language teaching was taking place overall in the setting. However, the opposite could have been happening too, as perhaps the setting increased the level of language teaching on that particular occasion, to give the impression that their level of language teaching was higher (Pelatti, Piasta, Justice, & O'Connell, 2014). If this study can be generalised in the USA, then it can be suggested that similar levels of language teaching might be occurring in early years settings in the UK.

The range of different staff qualifications in ECEC in the UK, the varied quality of those qualifications and the lack of leadership experience, is sure to have an impact on children's development (Sylva, Melhuish, Sammons, Siraj, & Taggart, 2014). Perhaps with the varying qualifications which early education staff currently possess, there is also a case for more rigorous professional development and support for staff with interventions such as the one described in the current study, which could, in turn, have a positive effect on the quality of provision of childcare and indeed children's academic outcomes (Nutbrown, 2012; Sammons *et al.*, 2002, 2011).

At Local Authority level too in the UK, there are limiting factors to children's language development. For example, there are problems with the definition of what constitutes a speech, language and/or communication deficiency (Law, Boyle, Harris, Harkness, & Nye, 1998; Lindsay *et al.*, 2010). Lindsay *et al* (2010) highlighted this in their examination of six Local Authorities and their corresponding Primary Care Trusts' treatment of children with Speech, Language and Communication Needs. A lack of agreement emerged in their study between: a) education providers, whose main focus was on the impending needs of any of the children in their care, and b) Speech and Language Therapists and their corresponding leaders in the Local Authorities and Primary Care Trusts, whose primary focus was on the diagnosis and treatment only of the children with whom they came into contact. A lack of consistency in the definition of need could mean that children with communication needs

are not being targeted, as they are outside the remit of the Local Authority or Primary Care Trust area in which they reside (Burden, Stott, Forge, & Goodyer, 1996; Lindsay et al., 2010).

Lastly, according to the revised *Early Years Foundation Stage* (EYFS) guidelines, there is now a statutory requirement for formative assessment to take place when the child is aged between 24 and 36 months (Department for Education, 2012). Settings thus have an opportunity to identify and work with children who may be experiencing difficulties in oral language development. They then have an opportunity to re-assess the children's progress before primary school, once their *Early Learning Profile* has been completed at the age of five years (Department for Education, 2012). However, as the extra support offered under the ELDP will only target children *under* three years of age, the formative and summative assessments will have been completed in vain and some children will inevitably lose out in settings which may not have the personnel with the requisite skills to offer them learning support (Nutbrown, 2012).

1.2.2 Current Provision of Oral Language Support in the Early Years

"Language programmes are the most common support measures for children with additional needs" in the UK (European Commission/EACEA/Eurydice/Eurostat, 2014: 144). However, the emphasis in language programmes tends to be on migrants and children who have English as an Additional Language, rather than the official language of instruction. Northern Ireland has a developmental programme for children who are two years old, which aims to support and enhance their language skills. However, the other three countries of the UK do not have the same preventative practices. In addition, there is no requirement for training for those looking after children with additional needs in ECEC. These children – who could have language difficulties – could be losing out on chances for language support (European Commission/EACEA/Eurydice/Eurostat, 2014).

There has been some support in relation to the implementation of the revised *Early Years Foundation Stage*, with the production of documents such as *Development Matters* being produced (Moylett & Stewart, 2012). In relation to supporting children's language development, an exploratory document was published by the 2005-2010 Government:

Every Child a Talker (Department for Children Schools and Families, 2009). This document described a three-year rolling programme, established and funded by the DCSF to increase practitioners' skills and to raise parental awareness and understanding of, and involvement in, their children's language development. Each setting's programme was initiated by an Early Language Lead Practitioner (ELLP). These practitioners had responsibility for focusing on programmes which advanced the skills and development of language in the children in their early education setting. *Every Child a Talker* contained anecdotal evidence of the projects that were working to improve children's language during 2008/9. Even though the anecdotal evidence regarding these programmes was favourable, specifically in relation to the involvement of fathers, their focus was narrow (on vocabulary mostly) and once again the crucial element of narrative was neglected. Also, as the programmes were time-constrained, longer-term evidence of their effectiveness was lacking. Neither was it clear whether or not they were continued, following the publication of the document. Certainly, it was evident, when Allen conducted his review of early intervention, that none of the programmes in *Every Child a Talker* were included, as they had not been evaluated by RCT³ or at least two quasi-experimental studies (Allen, 2011).

The appointment of Early Years Consultants at Local Authority level has helped to support staff in relation to implementation of the revised EYFS. However, these consultants need input from current research, to enable them to offer practitioners up-to-date guidance, on-going support and mentoring of the EYFS and, in particular, its language component (Department for Children, Schools and Families 2010; Justice *et al.* 2008; Nutbrown 2012; Lindsay & Dockrell 2008).

Obviously, budgetary constraints within the current economic climate dictate that all children under five could not be targeted in ELDP, but there is a need to address the oral language needs of children in Foundation Stage. If children do not receive help at this critical developmental stage in oral language, their literacy can suffer in later life (Elfer, Goldschmied, & Selleck, 2003).

³ Randomised Controlled Trial

1.2.3 Increasing the Life-chances of Young Children

Supporting children's literacy development at a young age can improve their life-chances and have a long-term impact on their lives, enabling them to become adults who can function in society in a meaningful way (Nutbrown *et al.* 2005; Shanahan & Lonigan 2010; Bercow 2008). There is currently a shortage of ECEC places for children Europe-wide (including the UK). Only eight countries (not including the UK) guarantee a place for each child after birth until they go to school, for example, Finland, Sweden and Norway (European Commission/EACEA/Eurydice/Eurostat, 2014). In these countries, even though parents contribute to childcare costs until the child goes to school, the government still guarantees them a place at an early years setting. These children are spending longer in ECEC and this favourably affects their reading scores on the OECD's⁴ PISA⁵. The most recent PISA data available for the UK is in Mathematics, where the children who had attended ECEC outperformed their colleagues by 35.5 points, which is the equivalent of a child having attended school for a year (European Commission/EACEA/Eurydice/Eurostat, 2014). We can only surmise that perhaps there would be similar findings for literacy for children in the UK. For example, if these children attended ECEC at a younger age as a matter of course, when their vocabulary was developing, they could potentially access new and novel words or analytical talk with which they might perhaps not come into contact otherwise in their home lives (Dickinson *et al.*, 2014). Ninety-seven percent of children between the age of four years and starting school attended ECEC in 2011 in the UK. This is a large number of children at this age whose language development should be supported in ECEC.

For younger children, the bedrock of literacy is oral language. It lays the foundations for later literacy, along with other life-skills such as numeracy and social and emotional well-being (Kamhi, 2007). Previous research indicates that younger children benefit from oral language interventions containing talk and narrative which can improve their reading later in life (Landry & Smith 2006; Bowyer-Crane *et al.* 2008; Al Otaiba & Fuchs 2006). Vocabulary and inference training can also improve oral comprehension, vocabulary and sentence repetition in young children with English as an additional language (Dockrell, Stuart, & King,

⁴ Organisation for Economic Cooperation and Development

⁵ The Programme for International Student Assessment

2010). More generally, oral language skills at three years of age are directly related to comprehensive language ability at 54 months (NICHD Early Child Care Research Network, 2005).

There is, therefore, a need for the trial of an intervention which incorporates oral language methodologies that are appropriate for young children (play and activity-based learning), that can support children's oral language development and, thirdly, inform practice into the future (Howes *et al.* 2008; Bond & Wasik 2009; Nutbrown 2012).

1.2.4 The Current Study

In this study, an intervention that supports narrative and vocabulary development in children aged three and four years was developed and its effectiveness was tested by a Randomised Controlled Trial.

The study targets children early in their language development – at aged three to four years – in the areas of narrative (story-retelling) and vocabulary development in the critical years just before they enter primary school. Bercow (2008) stated that, for children, communication was crucial. Early identification and intervention are essential, as there is an inequity in the current system, as far as children with speech, language and communication needs are concerned (Bercow, 2008). Bercow maintained that, if a child received help early, he/she would have a better chance of tackling problems with his/her language development and making progress. Studies show that targeted literacy interventions have had large effects on pre-school children (Aram, 2006; Chambers, Chamberlain, Hurley, & Slavin, 2001; Justice & Ezell, 2004; Justice, McGinty, Cabell, & Kilday, 2010; Justice & Pence, 2004). For example, an integrated curriculum, *Curiosity Corner*, was trialled with children in 27 pre-school settings in a low income area in New Jersey, USA, to improve their oral language skills (Chambers *et al.*, 2001). The expressive abilities of children aged three years in the sample were significantly higher than the children in the matched control group. Research has also shown that introducing oral language interventions to children at a young age can influence their reading abilities later in life (Muter *et al.* 2004; Burns *et al.* 1999; Snowling *et al.* 2011). Bowyer-Crane *et al.*, in their study on the improvement of language and literacy skills via

phonology versus oral language, concluded that an oral language intervention before school was useful in reducing the number of children with reading difficulties later on (Bowyer-Crane *et al.*, 2008).

Those who are not helped at an early stage in oral language development are at risk of lower educational attainment, as they experience the knock-on effect of having difficulty accessing the curriculum (Carlo *et al.*, 2004; Kieffer, 2008). For example, only 25% of children with speech, language and communication deficiencies reach the accepted level of English (Rose, 2006). Children whose communication needs are not met at an early age risk lower life outcomes due to not being able to contribute fully socially or economically (ICAN, 2012; Rose, 2006). Language deficiencies can lead to mental health challenges and behavioural problems, along with the risk of being bullied and socially excluded (Knox & Conti-Ramsden, 2003; Lindsay *et al.*, 2007). Lindsay and Dockrell (2007) recommended, in this context, that speech, language and communication should be prioritised by all children's centres/early years settings, as it a primary focus for measuring every child's progress. Furthermore, WHO⁶, UNICEF⁷ and UNESCO⁸ also list communication as one of the ten core life skills any person should acquire. It is a fundamental human right to be able to communicate and it is this strong rationale that underpins the current study.

1.3 Aims of the Research

The first aim of this study was to deliver a specially developed intervention, *Let's Talk* which supported young children's oral language development in a ten-week school term in Early Years settings. The second aim was to examine the intervention's effectiveness by conducting a Randomised Controlled Trial (RCT). The intervention collated good practice combining the two approaches of 1) group shared storybook reading with a puppet, and 2) planned pretend play episodes based on the storybooks that were read, to support both children's vocabulary and narrative (story-retelling) development.

⁶ World Health Organisation

⁷ United Nations Children's Emergency Fund

⁸ United Nations Educational, Scientific and Cultural Organization

The **aims** of the *Let's Talk* intervention were:

1. To support the development of vocabulary in children in the Early Years
2. To support the development of story retelling in children in the Early Years
3. To support children's use of new vocabulary in play and conversation
4. To promote children's retelling of narratives which draw on language patterns of stories
5. To facilitate children's enjoyment of listening to, and use of, spoken language, and turn to it in their play and learning
6. To encourage children to listen and respond orally to story
7. To enable children to plan and review their play
8. To enable children to explore children's play preferences through their talk in planned play
9. To deliver, in 10 weeks, an intervention which supports children's oral language.

The study aims to contribute to the experimental research literature which addresses young children's oral language needs.

1.4 Research Questions

This study's overarching research question was:

- **Will an intervention involving planned pretend play and group shared storybook reading have an effect on the oral language outcomes of three to five year old children in early years settings?**

This can be further divided into the following sub-questions:

1. Will an intervention involving planned pretend play and group shared storybook reading have an effect on the narrative (story-retelling) of the children in the treatment group, when compared to the children in a control group who complete numeracy activities?
2. Will an intervention involving planned pretend play and group shared storybook reading have an effect on the vocabulary (receptive and productive) of the children in the treatment group, when compared to the children in a control group who complete numeracy activities?
3. Will an intervention involving planned pretend play and group shared storybook reading have an effect on the verbal ability of the children in the treatment group,

when compared to the children in a control group who complete numeracy activities?

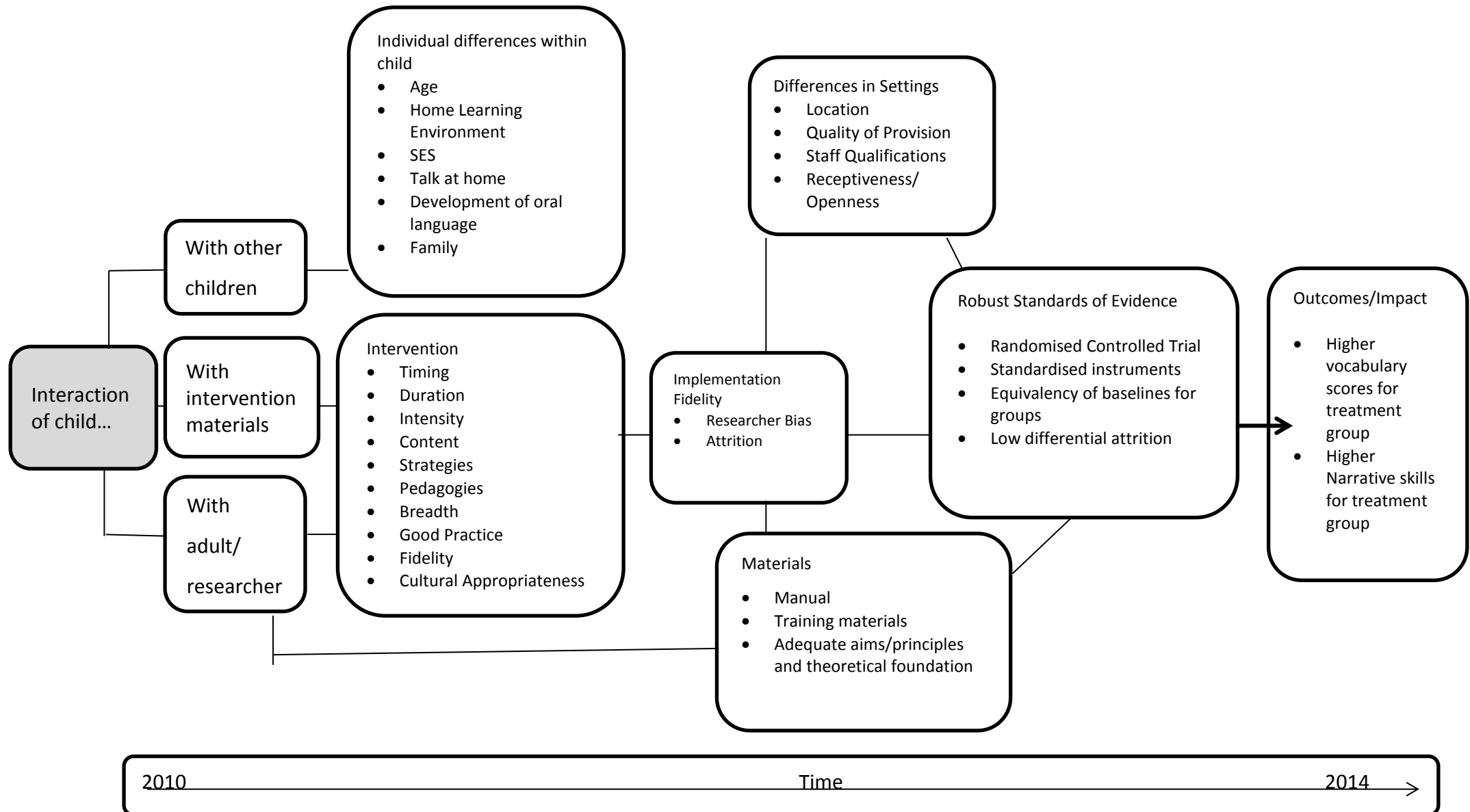
4. Will an intervention involving planned pretend play and group shared storybook reading have an effect on the verbal comprehension of the children in the treatment group, when compared to the children in a control group who complete numeracy activities?
5. Will an intervention involving planned pretend play and group shared storybook reading have an effect on the non-verbal outcomes of three to five year old children in the treatment group, when compared to the children in a control group who complete numeracy activities?
6. Will the intervention effect vary according to the demographic characteristics and first language use at home for each outcome?

1.5 Conceptual Framework

Figure 1.1 (p32) illustrates the factors which were considered when developing this intervention. The intervention has *interaction* as its starting point. This interaction took place between the researcher/adult and the child, between the child and the intervention material, but also between the child and other children in the group. Differences in settings and abilities within the child could affect the outcomes of the intervention. It was important to ensure that the intervention was developed with materials which were supported by research and that the aims were addressed adequately throughout the intervention's components. Lastly, the intervention needed to be implemented and evaluated in a consistent manner so that high standards of evidence could be produced.

1.6 Chapter Summary

This chapter highlighted the rationale for the study and the background which supported the development of an oral language intervention. It illustrated the conceptual framework underpinning the study. The theory and research which is implicit in the conceptual framework will be addressed next in Chapter Two.

Figure 1.1 Conceptual Framework: The development of an evidence-based intervention to develop young children's oral language skills

CHAPTER TWO – LITERATURE REVIEW ON ORAL LANGUAGE DEVELOPMENT IN YOUNG CHILDREN

2.1 Introduction

This chapter firstly discusses the theoretical foundations on which the study was based. It introduces and discusses the major theorists in the area of children's language development which are relevant to the study. These include Piaget, Vygotsky, Bruner and Tomasello (Bannard, Klinger, & Tomasello, 2013; Bannard, Lieven, & Tomasello, 2009; Bruner, 1983; Chomsky, 1988; Kessler, 2010; Piaget, 1959; Vygotsky, 1986).

The discussion of the theoretical literature will show that the current study and in turn, the intervention that was developed for it, have interaction as an underlying principle. This interaction can occur between children, but also between the adult and any individual child, and also between the child and the intervention materials. It is argued here that the adult has a vital role to play when children's language is developing.

The adult's role is viewed here as one of an enabler, who provides an environment where language development can take place. When children are so young, i.e. in the early years, the adult can, not only provide the context where language development can occur, but also the physical space required. The adult provides the time within which this can occur, especially in Early Childhood Education settings; this includes the actual duration of any intervention, their own time that can be given to supporting the child and the time in the child's day/life that can be allocated to language development. Enabling environments are very much promoted and encouraged under the current Early Years Foundation Stage framework which practitioners should follow in the early years (Department for Education, 2012; Evangelou, Sylva, Wild, Glenny, & Kyriacou, 2010; Moylett & Stewart, 2012).

As mentioned above, this interaction can also take place between the child and the materials or resources which are presented to him/her. These resources might include anything which can aid or support the child's language development, such as props and storybooks. In the current study, storybooks, props and a puppet were used and the merits of these are discussed in the context of empirical research.

The specific aspects of language development which were the focus of this study were narrative (story retelling) and vocabulary development. These aspects are explained in this chapter and their development is discussed in the context of the research which has been carried out with young children to date.

2.1.1 Literature Search Strategy

Firstly, theoretical literature was consulted, to understand the nature of children's oral language development and to inform the intervention (Chapter Three – *Developing an Intervention*). Then, using the British Education Index and ERIC, the literature search was limited to the time-scale of 2000-2013, using key words which included early education, storybook reading, pretend play, vocabulary, narrative, evidence, RCT, experimental, oral language. A more detailed list of these words is contained in Appendix 1. The search was then widened to include any empirical research which was conducted on narrative development in young children.

2.2 Language Development – An Interactive Process

Theoretical perspectives regarding oral language development in young children have tended to shift their focus from a concentration of activity within the child, to an acknowledgement of the role which the environment and his/her interaction with it plays in his/her development. Historically, the early child/learner-centred approaches included the biological approach of Chomsky (Chomsky, 1975) and the stage-theory of Piaget (Piaget, 1959).

Chomsky's early theory on language development maintained that, in order to learn language, young children have to master its grammar and structure (Chomsky,

1975). His theory of linguistic nativism suggested that children have an innate ability to learn these technicalities. Chomsky argued that this innate ability, or *universal grammar* as he termed it, is present in all children and is not bound by culture or nationality. He termed this particular language predisposition within the child, the Learning Acquisition Device (LAD) (Chomsky, 1975).

Chomsky's LAD was a predominantly biological approach, which suggested that the child acted as an individual. He did not imply that language is acquired by a genetic formula, rather that the brain is pre-specified, or wired, to allow learning of language to take place (Chomsky, 1988; Jackendoff, 1997; Mameli & Bateson, 2006).

Bruner challenged Chomsky's Language Acquisition Device. He maintained that children's language development was culturally bound (Bruner, 1981). He accepted that there were predispositions within the child to learn language, but that the biological predisposition to speak, and the culture within which the child operates, could not actually be separated. He argued that the linguistic community organises speech around the developing child, helping him/her to achieve what he/she needs or desires. Language development, Bruner argued, moves on a continuum from communication to talking (Bruner, 1983). The child learns to transform his "*communicative intent*", using linguistic procedures which make his/her own intentions clear and those of others comprehensible (Bruner, 1983:10). For example, quite soon after a child is born, non-nutritive sucking transforms into something which the child can control for an end, i.e. to get food. Bruner argued that a child's first year is a social one, which has a self-propelled readiness aspect relying on transactionality with his/her environment and systemacity to aid his/her language acquisition. For example, Bruner argued that, to begin with, a child is uninformed. This can lead to the child's need to know something. This need, along with the readiness to learn language lays the foundation for a speech act (Bruner, 1981). The negotiation with another, which holds the information that the child needs, is also part of the speech act. For example, an adult can help the child to make his/her

intentions clear and indicate to the child how what they say fits into the culture they inhabit. Bruner states that:

"mastering a language, then, involves not only knowing how to string together propositions, but also how to meet the conditions on the appropriate making of utterances" (Bruner, 1983: 158).

Bruner proposed that Chomsky's Language Acquisition Device (LAD), in fact, operates within a Language Acquisition Support System (LASS) and that this is necessary for the LAD to work properly. This LASS is a:

"system of fine-tuned responding that brings the child's efforts into appropriate contextualisation to make a suitable input into LAD" (Bruner, 1983: 168)

The child's language development is operating within small context leaps and is very much dependent on the hearer/adult who monitors the development. This input from adults, who are the child's parents in most cases, is remarkable, as a parent/caregiver can give the child useful cues, but ones that are based on the *"updateable knowledge of the child's capabilities"* (Bruner, 1983: 168). This is where the LAD, i.e. innate tendencies to acquire language, operates in tandem with the LASS. The innate system within the child, Bruner claims, needs to be primed, just the same as with any other bodily desire. This *scaffolding* of the child, as Bruner termed it, helps with the pragmatics of language and is a crucial aspect of a child's language development. In his approach, Bruner claimed that the adult plays an interactive and crucial role in the child's language development (Bruner, 1983).

Bruner's focus on the transactionality of the child with his/her environment, to aid his/her language acquisition, was also referred to by Sameroff (2003). It is this, Sameroff claimed, that is visible as the child is developing. He argues that interaction is not, then, simply *interaction* but a *transaction* where one party (usually the child) is changed by the actions of the other. He criticised the interactionist

perspective and theorists such as Vygotsky for making the assumption that interactions can occur between the adult and child during which both parties remain constant over time. He does not maintain that the relationship is unidirectional with the child acting on his environment, or the environment influencing the child. Rather, it is a bidirectional relationship, where both the environment and the child have influence on each other.

For example, he discussed the likelihood that babies who were born prematurely could go on to lead healthy and successful lives. He asks the question: where did the problems that being a preterm baby brought with it go? He argued that the problems did not abate but that the child's response to the situation was dynamic, so they themselves had some part in shaping how their lives turned out. Similarly, in discussing how children acquire language, Sameroff argued that children learn and adapt, and adopt language as they grow, and they cease to learn language when the people who surround them in their environment have ceased producing novel situations which stretch their capabilities. His theory suggests that the child, whom he terms the 'phenotype', has a transaction with the 'environotype', who are the peers, family and anyone in the cultural environment who can, potentially, socialise the child. He likens the environotype to Bronfenbrenner's mesosystem (Bronfenbrenner, 1977, 1979). This environotype influences the child through interaction over his/her lifetime and not just as a snapshot in time. The environotype also has the responsibility for regulation of the child, so that the child can become an adult. It is an "*organisational framework*" (Sameroff, 2009: 15). Sameroff also acknowledges the genotype, which is the biological aspect of influence within the child – and indeed the overall human race. This transaction with the environment also occurs when the child is persisting in a particular behaviour (a language behaviour for the purpose of this thesis) to the detriment of any others. He apportions some of the blame for this to the adults around the child, as they have not intervened to show them alternate behaviours (Sameroff, 2009).

Morrison and McDonald Connor (2009), in keeping with Sameroff's *Transactional Model*, use the example of teaching children to read. They suggest an individualised approach to teaching children to read (Morrison & McDonald Connor, 2009). For example, when a child moves from grade level to grade level each year, they argue that the teachers at each level should be communicating with each other as to what stage that individual child has reached, so that the child can be supported to advance beyond that stage at the next grade level. This ensures that the child's learning does not stagnate and that they continue to progress. Their learning has an effect on what they are taught and the teaching, in turn, has an effect on their learning – a bi-directional relationship. In the current study, the intervention was aimed at a small number of children in the group each week. The pretend play aspect of it sought to work to the children's ability, with just enough input from week to week to encourage and develop the children's play skills and in turn their language. The storybooks were accessible for each child and had a mixture of novel words for children who were learning vocabulary, and vivid illustrations for the children who were struggling with basic vocabulary in the story. In effect, the intervention was aiming to facilitate a transaction between the children and the components of the intervention, and indeed between the intervention and their narrative and vocabulary development.

Gershoffm, Aber and Clements (2009) conducted their research with the type of reciprocity suggested by Sameroff as the main focus. They found that, when a child wants to read, a parent invests time reading more to the child – which then increases the child's ability and, in turn, his/her level of reading, i.e. a transactional relationship (Gershoffm, Aber, & Clements, 2009). This transactional relationship could occur in the reverse too. The child might not wish to read, or indeed have the ability to do so, so the parent might read more to him/her to try to encourage the child. This bi-directional effect could have a positive influence on the child's reading. Furthermore, the bi-directional relationship could extend to the child's language development. The bi-directional relationship shows the importance of the environment in the child's language development

Tomasello also argued that language is based on more common aspects of human cognition such as social interaction or information processing (Kessler, 2010; Tomasello, 1999). Tomasello contends that human infants can recognise grammatical patterns and then adopt these patterns, turning them into language. He claims that these patterns pre-existed language and, specifically, modern languages. So, having the ability to read the intentions of others, follow and share attention with others and imitatively learn things from each other enables language to develop. This requires a child to interact with those around him/her in order to learn language, carving out a role for social interaction and a child's environment in the development of language. Interaction was the basis for the intervention developed for this study. The children interacted with each other and the researcher through the pretend play episode, and through dialogic discussion during the storybook reading session.

2.2.1 Interaction

Interactionist language development perspectives, such as those offered by Vygotsky and Bruner, have valued the role of context within which the child operates (Bruner, 1981; Vygotsky, 1986).

2.2.2 Contextual Interaction

Negotiation and Mutual Engagement

Vygotsky (1986) argued that language development was subject to influences from the child's environment. He suggested that learning of language was much more a social and cultural concept rather than just the child acting as an individual *on* his environment. This was in contrast to what was argued by constructivist theorists such as Piaget (1959).

Piaget argued that young children go through various stages of language development based on their own construction of meaning, by acting on their environment rather than interacting with those in it. Piaget argued that the child operated mostly within a collective monologue, or a commentary on what he/she

was doing, until the age of seven or eight years. He claimed that the child acted on his environment and imitated the adult in an egocentric way. Language, for Piaget, was seen as, not necessarily emerging in children as a result of an inbuilt predisposition, or a desire to interact, but rather in a staged process based on the child's own actions on his environment. Piaget's theory of language development, while somewhat acknowledging the presence of interaction between the child and his/her environment, still focused on the child as an individual and that individual's quest for language, rather than on the interaction with others.

Tizard and Hughes (2002) challenged Piaget's contention that the child was more likely to explore their environment in a solitary physical manner, rather than through interaction with another. In their study of four-year-olds' first language development in the UK in the 1980s, Tizard and Hughes observe that interaction with another adult, a mother in the home in their study, is a crucial part of that development (Tizard & Hughes, 2002). They audio-recorded girls' conversations with their mothers and following this, the girls' conversations with a nursery practitioner. They concluded that the range of experiences, which the mother engaged in with the child, provided opportunities for using and rehearsing new language. The shared experiences of the mother and child provided a common understanding of what each of them was trying to communicate. Tizard and Hughes also argued that the child asked many more questions and frequently hypothesised about his/her environment at home. This was quite different, Tizard and Hughes contended, from the opportunities for communication in a nursery environment. They observed that there were fewer opportunities for the children to ask questions at nursery, as this was the role the nursery practitioner took, i.e. the questioner.

However, it is not unlikely, that, as this study was conducted many years ago, and only focused on a relatively small number of girls of a specific age, that the nursery is playing a more prominent role in children's language development today, as many more children are attending nursery and for longer periods of time. What is clear, is that the adult's role in the young child's learning was of paramount importance in

their study and interaction was having a clear positive impact on the girls' language development (Tizard & Hughes, 2002).

In contrast to Piaget, Vygotsky (1986) argued that everything in the child's environment both affected and facilitated his/her learning, e.g. culture, history, biology. In addition to the cultural influences, and somewhat similar in nature to Bruner's theory of LASS, Vygotsky's Social Constructivist model argued that the child's learning occurs in conjunction with a more experienced peer/adult. The adult navigates the child through what Vygotsky called his *Zone of Proximal Development* (Vygotsky, 1978). The adult assesses the stage reached by the child and what support they require to advance. Vygotsky claimed that this action is mediated by language and that the adult tunes this language to the level of the child. There is a joint construction of meaning, a so-called *co-construction*, as the child interacts with another to learn about the world, and, in turn, develop language (Sheil, Cregan, McGough, & Archer, 2012; Wood & Attfield, 2005).

2.2.3 Adult-Child Interaction

The Growth of Reference

Bruner claimed that one of the more important aspects of the interaction between the child and adult which facilitates language development, is the growth of reference or the management of joint attention (Bruner, 1983). Bruner argued that this was a vital forerunner of the development of language. There are several steps involved in this process and Bruner, in his research, used the example of reading a book repeatedly to a child to illustrate this. It is worth noting, of course, that the trajectory of development described by Bruner may not be typical of all children, but it is nonetheless what he found in his particular research.

Firstly, the typically-developing child maintains eye-to-eye contact with the parent or adult. Next, certain vocalisations are introduced by the mother (in the case of Bruner's research), in which the child pays attention to the rising and falling

inflections, which indicate that the mother is attempting to show him/her something (Bruner, 1983).

Next, the child begins to point him/herself and vocalise as he/she does this. The mother might then take the child's vocalisations to mean something and may encourage better pronunciation from the child. Eventually the child may point and label the object in the book correctly. Here, interaction between the mother and the child is crucial for the development of language.

For Tomasello too, language becomes language when a child realises that the mother/caregiver is directing them towards something relevant, a trait which, among others, is uniquely human, he argues (Schulze, Grassmann, & Tomasello, 2013).

Human Specific Traits of Language Development, i.e. Intentionality, Relevance and Collaboration

Tomasello argues that language is a species-specific phenomenon. He has compared humans with apes and found that language is a social cognitive skill and, as a result, can only be developed in a human context (Grosse, Moll, & Tomasello, 2010; Kessler, 2010; Tomasello, 1999, 2010).

Tomasello and colleagues (2013) suggest that there are cognitive structures in place, which allow for language development to occur in humans. One of these is intentionality. When they tested for this in non-humans or apes, Schulze, Tomasello and colleagues found that, in order for a learner to learn language, both he/she and the teacher need to understand the intentionality in a statement uttered (Schulze *et al.*, 2013). Tomasello uses the example of a father helping his child to tidy up some toys. He asks the child "*what about that truck?*" There is intention bound up in the question. The child would have to understand that the father was referring to the truck, in terms of putting it away (Tomasello, 1999). Tomasello argues that children are motivated to help; they assume helpfulness in others and thus share intentions.

The notion of shared intentions can be applied to the current study too. The children in the intervention worked on a shared intention to plan, execute and review a play episode.

The second unique human cognitive structure that exists with regard to language, according to Tomasello, is relevance. Tomasello argues that children as young as 24 months can use social pragmatics to reason out what a particular item is (Akhtar & Tomasello, 1996). In Tomasello's 1996 experiment, a child was playing with three objects with the experimenter before her mother left the room. On the mother's exit, the experimenter produced a fourth toy. On her return, the mother exclaimed with delight "*oh look, there's a modi⁹*" and the child's gaze switched to the new item. The child then knew that this was a modi – the mother would not have been surprised at the other objects as she had seen them previously (Akhtar & Tomasello, 1996).

In order to demonstrate these interactive traits as uniquely human, Tomasello conducted further experiments with apes. He found that chimps could not infer; could look at something but would not be aware of its relevance (Schulze *et al.*, 2013). In addition, his testing of chimps found that they were unable to have language-based communication systems, as they often did not share expectations or joint goals. They could not perform to joint expectations as humans or children can. Children are sensitive to the norms of the society in which they live and this is evident in the language they acquire. Culture and environment are inextricably linked to language development. For example, during their play, children will say things like: "*you can't do that*", or "*you are not supposed to play it like that*", showing that they are acutely aware of norms and expectations through language. Kessler summarises Tomasello's position:

⁹ A novel word introduced for the purposes of the experiment

“Tomasello's explanation for the inability of nonhumans to acquire words in a human-like fashion is founded on his conviction that they do not act helpfully or assume helpfulness in others and that they lack the capacity to form joint goals and conform to group expectations.” (Kessler, 2010: 41)

This ability to conform to group expectations also means that children can engage in play fairly, which, in turn, can promote interaction and language development. Like Tomasello, Bruner also highlighted the fact that play is one of those golden opportunities for the child to learn language in a culture-specific way. He claimed that games could be the first opportunity that a child has to seek what they need/want through language and within the confines of the norms of his/her own culture. For example, a game of peek-a-boo can give a child insight into turn-taking. Bruner observed a mother who changed her vocalisations as her child developed the ability to interact and react to the different parts of the game. The child began to say *oo* for boo and then *gone* when the object disappeared. The mother then reduced her vocalisations as the child learned the words. She negotiated the way she interacted with the child, based on how the child was developing (Bruner, 1983). The child was collaborating with his/her mother in that game to learn language.

Tomasello (2012) asserts that children can, by the age of approximately three-four years, act collaboratively. He suggests that, as children approach their third birthday, their joint attention confers obligations on each other. This means that they can then conceptualise their own role and perspective as well as another's. The child has developed a normative appreciation for the activity within which he/she is engaged. This is in sharp contrast to apes, that can potentially share in activities such as defence, fighting and even hunting. However, when it comes to the end result of the activity, the apes will serve their own needs first. For example, they will try to be the first to eat food that they have hunted for and killed together. Humans, on the other hand, will hunt together, but will help each other to achieve the best result, by carrying weapons and sharing the best techniques. They will then usually share whatever they have hunted (Tomasello & Hamann, 2012).

Young children, too, can share goals and play together; this ability to take a role each enables children to play collaboratively and, through this, to develop language. Siraj-Blatchford (2009) maintains that peer play, in particular is important for children around the age of four years. This, she contends, is when children can develop reciprocal and collaborative play. This, in turn, facilitates interaction – language development can follow. In the current study, this age group of three to four years was targeted, as children are beginning to act collaboratively at this age. Children acting collaboratively can be facilitated through group learning, specifically pretend play, and this was what the current intervention aimed to do.

2.2.4 Peer-Peer Interaction

Small Group Interaction

Research has shown that interaction with a child's peers can increase his/her learning potential. Children's academic outcomes have benefited from a teacher teaching/instructing the children in small groups (Azmitia & Montgomery, 1993; Durden & Dangel, 2008; Howe et al., 2007; Pol, Volman, & Beishuizen, 2010).

For example, Ramani, Siegler and Hitti (2012) conducted two experiments in *Head Start*¹⁰ classrooms in the USA. The two experiments compared two groups of children; those that played a number board game and those that played a colour-based board game. It was hypothesised that the children in the small groups who played the number board game would have improved numerical skills after taking part – specifically, numerical counting and number line estimation. The 62 children in the sample were randomly assigned to small groups of three children in either condition. The counting skills and number line estimation of the children who played the number board game improved. The second experiment took place with a practitioner who was minimally trained (for one hour), to see if the favourable effects of the first study were dependent on an expert practitioner. The children's

¹⁰ The Head Start Program is a programme of the United States Department of Health and Human Services which provides comprehensive early childhood education, health, nutrition, and parent involvement services to low-income children and their families

number line estimation in the experimental group who played the number board game improved, but their counting did not. The authors concluded that the children were learning through observation of each other in the small groups. They also concluded that playing the game with others can be simply more fun for the children, as the constant engagement of the children in their study may have shown (Ramani, Siegler, & Hitti, 2012).

More specifically, researchers in early education have advocated small group instruction in early childhood classrooms. Wasik (2008) argues that small group instruction can provide opportunities for children to interact directly with the instructor and answer and ask very specific questions related to what is being covered in the lesson. There are opportunities for conversations to occur and for each child to be able to voice something that contributes to the discussion at their level.

Phillips and Twardosz (2003) found that the chances to talk increase when very young children are instructed in small groups. They compared monolingual English-speaking two-year-old children in the USA who had storybook reading, firstly in large groups of eight or more children, and then in smaller groups of between three and five children. The researchers found that the children in the smaller groups doubled their amounts of comments and questions (Phillips & Twardosz, 2003). The sample was small and not diverse, so the possibility for generalisability is low. However, their level of analysis was comprehensive and, through the qualitative nature of their data collection, i.e. videotaping, they collected robust accounts of what occurred during the intervention. They collected quite nuanced data on the children's engagement, as well as their non-verbal engagement with the books.

There are opportunities to learn language from other children in a small group instructional setting too. As another child is talking in the small group, he/she is essentially sharing his/her vocabulary – which may include novel words – with the rest of the small group, who may then have the opportunity to use it themselves

(Wasik, 2008). Specific aspects of language, such as phonemic awareness, can also be taught more effectively in small groups. A meta-analysis conducted by Ehri and colleagues with monolingual children who had English and other first languages (Danish, Dutch, Finnish, German, Hebrew, Norwegian, Spanish, Swedish) (2001) found large effect sizes $d^{11}=1.38$ for teaching phonemic awareness in small groups, when compared to teaching the individual child $d=.67$, or in large classrooms $d=.60$. It also had the effect of indirectly increasing spelling in the small groups, again with a large effect size $d=.81$. However, these results are correlational, so are open to other interpretation. However, it is reasonable to suggest, from the 52 studies which were included, that small groups are beneficial to the teaching of phonemic awareness (Ehri *et al.*, 2001).

Storybook reading in small groups, in particular, has been recognised as an effective way to instruct young children and improve their vocabulary – just as in the current study (Biemiller & Boote, 2006; Biemiller, 2003; Sénéchal, 1997). The process of operating in a small group, with a context-based instruction for new vocabulary, provides the children with chances to use new words in an age-appropriate environment.

Assessment can take place much more easily in a small group. Observations of individual children are much more manageable when the group is smaller. It can be challenging for practitioners to find the time in large groups – when the needs of so many children are so diverse – to assess and observe children to the correct standard. Constraints on practitioners' time can limit the duration of observations and they may miss the child achieving crucial milestones. The small group affords the practitioner the time to observe and interact with the child for longer periods and obtain a more reliable assessment of the child's ability.

¹¹ Cohen's d Effect Size (1988)

Crucially, in a small group setting, a teacher can adapt what is being taught at a much more individualised level. Just as Vygotsky envisaged with his *Zone of Proximal Development*, as the numbers are smaller, greater differentiation can occur and the child's individual learning needs are facilitated (Wasik, 2008). As has been shown above, much collaboration and differentiated learning can take place in an interactive small-group setting. Play is one of the ways this can occur. It was a central part of the intervention in the current study and this will be discussed next.

2.3 Creating an Enabling Environment for Language – Play

2.3.1 Play and Children's Development

Vygotsky advocated a preschool system which was interactive and playful, with make-believe play being seen as enhancing, not replacing, academic achievement (Bodrova, 2008; Vygotsky, 1978). He contended that play is a "*leading factor in development*" (Vygotsky, 1933: 28). He suggested that children should be enabled to create imaginary situations, take on and act out roles and follow rules determined by these roles (Bodrova, 2008; Myck-Wayne, 2010; Vygotsky, 1978).

Play is not entirely illusory, according to Vygotsky (Vygotsky, 1933). In other words, most children usually play at what they see others do in day-to-day life, rather than entirely new or made-up worlds. This context of play is where a child's Zone of Proximal Development can really be explored (Vygotsky, 1978). For example, in pretend play, a child will often play a role which is above his age or social group, e.g. a mummy/daddy, a prince. Vygotsky argued that the child is learning and stretching him/herself, by accessing the actions and language that such a role might entail (Vygotsky, 1933).

The caregiver has an important role here too. Siraj-Blatchford maintains that, if children of three to four years old are playing without the intervention of an adult, their play can become repetitive. An experienced adult or older peer can extend their play through sustained shared thinking (Siraj-Blatchford, 2009). For example, in

the current study, the researcher often asked a question during the play episode such as “*Why do we need to do that?*” in order to enhance the children’s experience and language. The role of the adult will be discussed in further detail (Section 2.2.4).

Myck-Wayne (2010) contends that play can help to construct a more individualised learning plan for young children and that it is vital to their social and emotional development, as well as their cognitive development. It has also been found to support the acquisition of generic knowledge (Sutherland & Friedman, 2013). Sutherland and Friedman, in a US study (2013) found that pretend scenarios helped the children in their study to learn about various real animals, through playing and acting out the animals’ various characteristics. As play has been one of the central themes of the *Early Years Foundation Stage* (Department for Education, 2012), using play as a medium for supporting children’s language development in the current study was a prerequisite and aimed to bring any material to the level of the child, where optimum learning could take place (Sharma, 1997).

Policy-makers and lobbyists, too, have recognised play as a way of supporting and encouraging children’s development. For example, *The International Play Association* produced a working paper on play *Children’s Right to Play* (2010). It highlighted play as a right that children have, as ratified in Article 31 of the *United Nations Convention of the Rights of the Child* (Lester & Russell, 2010). Also, *The international Toy Library Association*, which provides free access to toys to children all over the world, recently recommended to the European Union that there should be a greater emphasis on understanding the important effects of play on children’s development (Whitebread, 2012).

Results from the European-wide research, which informed Whitebread’s 2012 report on the value of play, indicated that play affords the child the opportunities to develop language skills, amongst others such as social skills, gross and fine motor skills, and that:

"high quality play has repeatedly been shown to be very closely associated with the development of cognitive, social and academic abilities"
(Whitebread, 2012: 22).

Whitebread's report aimed to inform policy regarding children's play in the European Union, as the Council of the European Union had officially recognised the crucial role of play in 2011 and is focusing on early education and care as part of its strategic plan for education: *Education and Training 2020*. Play can be supported as a valuable means to enhance children's development (European Union, 2014; Whitebread, 2012).

Furthermore, research supports the importance of play in children's language development. Through interactions and play with caregivers, young children become skilful communicators (T. David, Goouch, Powell, & Abbott, 2003; Hart & Risely, 2003).

2.3.2 Play and Language Development

Play can promote literacy learning, as it provides rich language experiences and amplifies the learning potential of any exercise (Bruner, 1983; Chambers *et al.*, 2001; Gmitrova, Podhajecká, & Gmitrov, 2009; Howard, 2010). This practice of play, and in particular, pretend play, provides the child with opportunities for the practice of decontextualised language, i.e. language that is not related to the immediate real context of the child at that time, which children require for the development of abstract thinking (McKeown & Beck, 2009). This decontextualised language enables the child to access vocabulary which is beyond his/her day-to-day experiences, but which is within his/her Zone of Proximal Development. Lillard and colleagues (2013), in their meta-analysis of pretend play, found that the results of many correlational studies on the effects of pretend play on language were favourable. This meta-analysis will be discussed further in *Research on Pretend Play*, but pretend play will be defined and discussed next.

2.3.3 Pretend Play

Pretend play is one of the four types of play: physical play, play with objects, symbolic play and pretence/socio-dramatic play (Whitebread, 2012). Harris (2000) contends that *pretend* play can support the development of language, while, at the same time, allowing children to explore interaction with others, with little or no pressure to conform to certain classroom expectations, such as sitting for longer periods or being quiet.

According to Deunk, children need to "*share a pretend frame*" (Deunk *et al*, 2008: 619). Children construct the layer of pretence together, often through language, so that they know that it is the pretence layer, i.e. play, and not real interaction (Deunk, Berenst, & De Glopper, 2008).

Children, Harris suggests, also use character-appropriate speech in different grammatical tenses when communicating in pretend play. For example, a child might use the imaginary performative-past to explain and communicate what is currently happening in the play based on what has gone before, the imaginary future-past to give stage directions, or the imaginary past-past when one character tells another what happened in the past in his/her life or the life of the play (Deunk *et al.*, 2008; Harris, 2000).

Children can also tap into the pragmatics of language use during their pretend play. For example, they can change their voices and address different characters in their play in different ways. If they are playing the role of a father, children may use a deeper tone, and use a softer tone when playing a mother. Particularly at preschool going age, children can use language that is appropriate to the role they are playing. Being able to recognise different tones and use them is another skill that can be developed during pretend play (McLloyd, Aisha Ray, & Etter-Lewis, 1985).

Whitebread argues that the development of language coincides with the development/emergence of pretence in play (Whitebread, 2012). Pretend play, it seems, has the potential to support language development.

Research on Pretend Play

The research which has been conducted on pretend play over the last two decades has varied in terms of its methodological strength. This was particularly highlighted by Lillard and colleagues in their meta-analysis (Lillard *et al.*, 2013). However, before discussing that particular study, it is worth discussing some of the studies which they did not include, in order to examine the wider evidence on any effects of pretend play on children's language development.

One of these studies is that conducted by Tykkyläinen and Laasko in 2010 in Finland. These researchers examined monolingual five-year-old girls' use of directives in play, specifically the use of the Finnish word *jooko*. They hypothesised that children use many proposals and much negotiation during their pretend play, thus language is integral to the play.

They argued that pretend play can be difficult for children as it is not like other games where there are strict rules, which must be obeyed (Tykkyläinen & Laasko, 2010). The rules are much more subtle and require negotiation through language. The proposal (*jooko*) requires the listener to say yes or no in response. So it is a proposal for action during the play. The researchers used conversation analysis to study the children's language and interaction during the play episodes.

Results showed that the young girls used the proposal extensively during their pretend play. For example, the girls used it to negotiate the finer details of the play, such as who should do what or say what next. This future-oriented use of the proposal enabled them to change and diversify the play. The girls also used it to negotiate the pretend frame and to get and maintain the attention of the person with whom they were playing. According to the results of the study, the young girls exhibited cooperative practices in their play through the use of *jooko*. However, even though the results seemed favourable, the sample was small, only focusing on four dyads. This limited the generalisability of the study. A relative strength of the study though, was that it took place in Finland and was examining patterns of interaction that had been visible in English-speaking children in the US also

(Goodwin & Kyratzis, 2007; Kyratzis, 2007). There is a cross-cultural element to the study (Tykkyläinen & Laakso, 2010).

Another international study was that of Gmitrova (2013). She conducted a study in the Slovak Republic on young children's play. There were 368 Kindergarten children in the sample, who were aged between three and six years. The children were within 92 classrooms, with 46 classrooms being in the control group and the other 46 occupying an experimental group. The teachers demonstrated to the children in the experimental group how to play, by playing a character or *going into role* themselves at the beginning of the play episode. The researchers regarded this as direct intervention by the teachers. The children's play in the control group was facilitated by having a role-play area in the corner of the room with dressing-up clothes and props with which the children could interact. The teachers in the control group engaged in indirect intervention in the children's play, by providing the play areas and joining in when the children requested help. The effects of the teachers' direct and indirect intervention on the children's play were then compared.

Results of the observations showed that the teachers' intervention in the experimental group seemed to make the play more sustained and enabled the children to engage in conversation more. There were effects on the actual play itself too. In the experimental group, the children engaged in more cognitively-challenging play. In the control group, the children more frequently rejected the role which they were playing in the play or, quite frequently, they changed their role, which resulted in the play finishing. It appeared that the participation and intervention of the adult in the children's play, on the first and second day of the intervention, seemed to have an effect on the children's play.

However, it is worth noting that there was no statistically significant difference between the two groups' playing activities on the third day of the intervention. The researchers reached their conclusions, based on surmising what had happened. As the control group's teacher was intervening more on the third day, and the experimental group's teacher's input remained stable, the control group needed

more intervention to help progress their play. All of the above renders the results somewhat unreliable.

Another weakness that was evident in this study was that the teachers were trained in the intervention, but the observers were their teaching colleagues. This could have resulted in some positive or negative bias by the teaching observers towards what they viewed their colleagues as achieving with the children. The authors stated that the observers did not know what the outcomes of the study were, but they may have wished to promote their colleagues' abilities anyway. However, it is valid that the children seemed to engage in more sustained play and that, even though the results could be questioned, some effects on their conversations were visible. It seems, then, that early pretend play, when it includes adult facilitation and props, can increase language abilities in young children (Gmitrova, 2013; A. K. Levy, Wolfgang, & Mark, 1992; Roskos & Burstein, 2011).

Pretend play has had an impact on children with additional needs, such as Autistic Spectrum Disorder (ASD) (Porter, 2012) and Specific Language Impairments (SLI). Murdock and Hobbs (2011) examined the play of children with ASD in the USA through a picture- and script-based intervention. Their aim was to increase the children's language, more specifically their play dialogue. Their sample was small, with many variations in their linguistic ability, from one word to multiple phrases, but while working with children with ASD, it is realistic to assume that the sample will be small due their different individual needs.

In the intervention group, a story was read to the children and role-played by the teacher. The story was read a second time in a subsequent session, where two children and a typically developing peer engaged in the role-play. The play dialogue of the children with ASD increased. The children in the intervention group exhibited 3.6 times more play dialogue utterances than the baseline. A generalisation session was introduced later. This generalisation session comprised a new scenario which was introduced to the children and they were encouraged to play and speak to each other.

In these unscripted play opportunities with toys, the results were positive in favour of the intervention. However, even though the results appeared favourable, the data was not normal and non-parametric tests were used. This was possibly due to the small sample and the fact that the children had language difficulties to begin with.

A second possible limitation of the study might be that the participants were given a generalisation condition which did not mimic the baseline. If they had been given one that did, then perhaps any differences between the two conditions might have produced more reliable evidence. Instead, the authors relied on the comparison between the post-test and the generalisation (Murdock & Hobbs, 2011).

ASD children's verbal interaction can also be increased through pretend play. One such study that describes this process was carried out by Porter in the USA (2012). Her case study focused on a mother's use of her language impaired monolingual child with Autism's circumscribed interest, to increase his verbal interaction. A circumscribed interest for a child with Autism is a topic on which he/she likes to focus most of his/her attention. For the child in Porter's study, the topic was trains. The mother used verbal utterances based on the theme of trains, while acting out train-related scenarios with her son. Before the intervention, the three-year-old child had a very limited vocabulary of approximately 14 words. This increased after the repeated play episodes. There is no concrete data and standardised measurement for the study, only the mother's observations. These may, of course, be biased and perhaps more rigorous assessment might produce more accurate results (Porter, 2012). It cannot be assumed that, because pretend play can have an impact on the language of children with ASD, it can be useful for all children, but the results in the research are promising.

The results are also promising for pretend play for children with Specific Language Impairment. For example, Sualy *et al* (2011) conducted a study in the USA with ten monolingual children who had Speech and Language Impairments, which focused on the actual play levels of children with a language delay, rather than their language

abilities as an outcome. The children were read a story, then invited to play based on the theme of the story. Even though there was a small sample once again (six children), the children's levels of play increased when compared to a comparison group. Indirectly, this had an impact on their language.

It must be acknowledged that the design of this study was highly questionable (Sualy, Yount, Kelly-vance, & Ryalls, 2011). The duration of the intervention in the intervention groups differed. One group received the intervention for six weeks; the other received it for eight weeks. The results cannot be generalised overall for the study; they must be taken in isolation and, with only having had three children in each of those groups, the results could be unreliable. The intervention sessions seemed to be quite long, i.e. 30 minutes.

When the intervention in the current study was piloted, it was deemed that 30 minutes was too long, even for the typically-developing children in the sample. It does seem improbable that children with limited language capabilities could manage to concentrate and interact for 30 minutes.

The above studies, which were not included in Lillard *et al*'s meta-analysis highlight one of the main arguments which Lillard *et al* made, i.e. that methodologies which have been used in studies on pretend play are questionable. Lillard *et al*'s study will be discussed next.

Lillard and colleagues (2013) conducted a meta-analysis on pretend play. They examined worldwide studies which dealt with the potential effects of pretend play on language, (including narrative), emotional regulation, executive function, reasoning, creativity and social and emotional development. They concluded that, due to various methodological problems associated with the studies which have been conducted thus far, such as those already discussed above, pretend play is more of an epiphenomenon which works very well alongside adult involvement, rather than having any causal effect on development in its own right (Lillard *et al.*, 2013).

They do maintain, however, that the evidence shows that pretend play can aid memory and thus support story retelling, even if these effects can be limited. Language and story retelling, they claim, have a relationship, due to the similar symbolic functions which they both have. Lillard and colleague's study called for more methodologically-sound empirical research on pretend play and its potential causal relationship with language development. A number of authors responded to the meta-analysis and they are discussed next.

Weisberg *et al* (2013) responded to the Lillard study and criticised it for disregarding almost completely a body of studies on pretend play due to flaws in their methodologies. Weisberg *et al* advocate, instead, the use of the studies that have been completed so far, to find new directions in the research of pretend play and to further the literature in the area. They also criticised the authors for taking too narrow a definition of pretend play as only a child-initiated activity (Weisberg, Hirsh-Pasek, & Golinkoff, 2013). They suggest that perhaps pretend play should not only be child-directed or adult-directed, rather it should be a blending of the two. This would echo what Vygotsky had originally alluded to in his writing on the *Zone of Proximal Development* and children's play. The child is initiating the play but the adult is directing it towards an objective or goal that has already been decided.

This was very close to what happened in the intervention in the current study. The adult chose the materials and stories to be read, along with introducing the pretend play and the children interacted with her and the other children to act out the play episodes.

There has been much criticism in the research about pretend play and indeed within the responses to Lillard *et al*'s meta-analysis on pretend play, that the cross-cultural aspect of pretend play is not always accounted for. Yates and Marcelo (2014) attempted to address this in their cross-cultural study in the USA. They examined pretend play across different racial groups. They looked at play episodes in laboratory and naturalistic conditions. They observed 171 children who could understand English and who did not have specific language delays, when they were

playing on their own. They examined any links between laboratory pretend play and how the children's teachers viewed their ability to adjust to school. They then observed whether any differences which occurred in the adjustment to school and the practice of pretend play were racially bound. White children were very much in the minority, with only approximately 10% of the sample being white. The majority were Black and Hispanic.

Results showed that all groups had similar amounts of imagination in their play. As hypothesised, boys had higher levels of aggression in their play than girls, but they both played as imaginatively as each other. It is worth noting that the numbers in each group were very different, which resulted in non-equivalent power, so this could have affected their results. Also, even though it was a cross-cultural study, the sample was restricted to English-speaking racial groups. Also, when the teachers rated the Black children's adjustment levels, they were judged to be less suitable to the classroom environment in terms of pretend play (Yates & Marcelo, 2014). However, these ratings, in themselves, could have been affected by the teachers' familiarity with the children. It appears that there is a gap in the research for interventions which examine the effects of pretend play using sound methodologies and that samples should be recruited from across racial groups.

Research shows that a particular strain of pretend play, that of *socio-dramatic play* (pretend play with assigned roles and characters (Smilansky, 1968)) – can have an impact on children's development and, in turn, their language (Deunk et al., 2008; A. K. Levy, Schaefer, & Phelps, 1986; A. K. Levy et al., 1992; Smilansky, 1968; Thorp, Stahmer, & Schreibman, 1995).

Socio-dramatic Play

Smilansky defined socio-dramatic play as the child taking on a role in voluntary play, while interacting with another child and elaborating on what they are doing (Smilansky, 1968). Smilansky maintained that socio-dramatic play contains six elements: imitative role play, make-believe with regard to objects, make-believe

with regard to actions and situations, persistence of at least a ten-minute duration, interaction and verbal communication (Levy *et al*, 1992: 246).

Socio-dramatic play can be enhanced by the children having a common background of experiences, having the space and time to carry it out, having access to useful and realistic props and having the intervention of a play tutor, e.g. a teacher or practitioner (Levy *et al*, 1992: 246). Smilansky claimed that persistence was a key element of socio-dramatic play and she identified the age of three when this play could emerge in young children. Early pretend play, as opposed to socio-dramatic play, tends to be shorter. As children grow, they can concentrate for longer periods on a given theme and interact with other children who are also playing a role in make-believe play (Deunk *et al.*, 2008).

Verbal communication is central to socio-dramatic play, as talk is used to generate the make-believe and plan the play sessions. Socio-dramatic play allows children to experiment with different genres of vocabulary with which they would not experiment in their daily lives (Deunk, 2008: 620).

Smilansky examined young Israeli children's language outcomes after engaging in socio-dramatic play. She compared three groups of children, each with a different socio-economic status. One group received guided visits to a setting which would be the stimulus for play, e.g. a clinic. The second group received training on how to play, including converting objects into play-objects. The third group received a combination of the other two conditions. Smilansky's hypothesis was that, if children receive guidance and are permitted to plan play, they are more likely to initiate play themselves later. After nine weeks, she found that the involvement of the adult in play furthered the play, rather than hampering it. The children spoke for longer periods of time, used more nouns and adverbs and had a richer vocabulary. These conclusions were encouraging and they support the use of socio-dramatic play in a child's oral language development (Smilansky, 1968).

The landmark work of Smilansky (1968) and Vygotsky (1978) paved the way for programmes such as the American *High Scope Programme* of the 1970's. This plan-do-review approach to education was investigated by Schweinhart and Weikart in 1997 and was found to increase the IQ of young children. It was also found to have a delayed but beneficial effect on young adults' lives later, and they concluded that learning intentionally – even in the context of play – requires effort and planning on the part of the child (Schweinhart & Weikart, 1997).

Levy *et al* (1986) investigated the impact of socio-dramatic play on language competence. In their US based research, results of the PPVT¹² were favourable, indicating that the vocabulary of the children in their sample improved. However, their sampling strategy was questionable, as the sample was small and there was no control group in their research design. Furthermore, as the study took place in a child-care centre in a university, the potential for bias in the results – perhaps due to the Hawthorne effect – was high (A. K. Levy *et al.*, 1986).

Levy revisited the topic in 1992 with a repeated-measures, single-case design, and with only three participants (A. K. Levy *et al.*, 1992). Results were favourable once again for children's language. However, limited information was presented about the adult's involvement in the study and this, coupled with the low number in the sample, and the lack of a comparable control group, could render the results questionable. However, these studies on socio-dramatic play and plan-do-review influenced curricular development and, subsequently, the *Tools of the Mind Curriculum* was developed by Bodrova and Leong (Barnett *et al.*, 2008; Bodrova & Leong, 1996).

Tools of the Mind

The *Tools of the Mind Curriculum* (ToM) was introduced into kindergartens and preschools in the USA in 1996. Basic principles of the curriculum include: (1) children construct their own knowledge; (2) development cannot be separated from its social context; (3) learning can lead to development; and (4) language plays a

¹² Peabody Picture Vocabulary Test (Dunn 1981)

central role in mental development (Bodrova & Leong 2007). This suggests that learning is an interactive process, as children construct their own knowledge in a social context, and that this learning is mediated by language. It is a complete approach to children's learning, including socio-dramatic play as one of its main instructional methodologies (Bodrova, Leong, & Akhutina, 2011). The socio-dramatic play in ToM involves the use of toys and props to represent objects in real life, the development of extended pretend play episodes which are based on stories, and the child adhering to the social norms associated with a role he/she plays, all of which were features of Vygotsky's thinking on play (Bodrova *et al.*, 2011).

The intervention in the current study used the above elements of the ToM. The evidence to suggest that it is beneficial to children's language development will be discussed next.

Barnett *et al.*'s study in 2008 in the USA used a randomised controlled trial, to investigate the effects of socio-dramatic play in *Tools of the Mind* on the educational outcomes of young children. The statistically significant effect sizes were small for vocabulary, .22 for PPVT and .35 for OLPT¹³ for regression analyses. However, Barnett *et al.*'s study illustrated that sustained planned play, i.e. socio-dramatic play, can have an impact on children's vocabulary when compared to direct instruction (Barnett *et al.*, 2008).

In contrast to this, a more recent experimental evaluation of the *Tools of the Mind* (ToM) curriculum was conducted by Farran and Wilson in the USA (2014). In contrast to the Barnett *et al.* study described above, in which the sample made improvements in vocabulary, no significant differences were established between the *Tools* curriculum and the control classroom in vocabulary (Farran & Wilson, 2014). It is difficult to establish why the results were so different from the Barnett *et al.* study described above.

¹³ Oral Language Proficiency Test – For English Language Learners, (Ballard & Tighe, 1999)

One possible reason for the differing outcomes might be the nature of the measures employed. Both studies assessed the children using the *Peabody Picture Vocabulary Test* (Dunn 1981), but Barnett *et al* (2008) used many more vocabulary measures, including the OLPT⁴ (Ballard & Tighe, 1999) and *Expressive One Word Picture Vocabulary Test* (Brownell, 2000). Perhaps the use of more vocabulary measures gives a more detailed breakdown of how the children's vocabulary was affected.

Furthermore, Barnett *et al*'s study (2008) was conducted over two floors in the same educational settings; one would therefore expect there to have been programme leakage. Yet the differences between the groups are larger than in Farran *et al*'s district-split study. Farran *et al* (2014) conclude that the number and scale of the activities in the *Tools* curriculum may have hindered the time spent on the exploratory side of the pretend play, which can improve the use of decontextualised language.

In the current study, an intervention was developed, rather than a curriculum, so only the socio-dramatic play elements of ToM were used in the intervention. In addition, the researcher focused only on setting up the play. Once the play was established, the children could explore and carry out the play themselves, thus creating opportunities for developing vocabulary through the exploratory play.

Lastly, even though the ToM curriculum is a programme that targets all aspects of a child's learning, its positive effects on vocabulary development via socio-dramatic play was found in a study conducted by Blair and Raver in 2014 in the USA. This neuro-scientific study, which examined the effects of the Kindergarten version of the ToM curriculum on academic outcomes and executive function, found an initial and sustained effect of the Kindergarten ToM curriculum on children's vocabulary, with effect sizes of $d = .43$ and $.10$ respectively.

The pretend play in the Kindergarten version of ToM differs from that of the pre-Kindergarten version, which was examined in the Barnett *et al* and Farran *et al* studies described above. In the Kindergarten version, the play is based more on stories and literature in the child's learning environment and becomes a

dramatisation of a story, rather than being entirely grounded in everyday experiences, although the children may draw on these too. The pretend play in the intervention in the current study resembled this facet of the Kindergarten version of ToM. Therefore, the results of the Blair and Raver study are more applicable to the current study (Blair & Raver, 2014). Thus, it is valid to include socio-dramatic play in the intervention in the current study.

As so much of socio-dramatic play is reliant on language and make-believe, Wyse and Bradford (2008) suggest that the transfer of some drama-in-education strategies can be useful when using pretend play with young children (Wyse & Bradford, 2008). Hendy reminds us that the Greek translation of the word drama is actually *living through*, so it seems that drama has much to offer the instructional methodology of socio-dramatic play – and indeed the pretend play sessions in the intervention which was designed for the current study (Hendy, 2008).

Dramatic Devices in Planned Pretend Play

As it is a narrative art form, Educational Drama is an important means of constructing and experiencing the social contexts within which the different functions and uses of language can be identified and developed (Anderson, 2012; Johnson & O'Neill, 1984; Neelands, 1992). Drama is not just about the consideration of dramatic texts and the skills associated with acting (Neelands & Goode, 2001). There is a genuine need to talk and listen in the early years in drama and the improvisation method of drama can help children to make sense of a world which is outside their reach (Baldwin & Fleming, 2003; Heathcote, 1980; Johnson & O'Neill, 1984; Wagner, 1999). The adult is a key facilitator in this process and this will be discussed next.

2.3.4 The Role of the Adult in Play

Howard highlights the crucial role of the adult in children's play (Howard, 2010). She maintains that adults should be striving to be accepted as play partners by children. This might mean, she suggests, understanding the theoretical underpinnings of play, so that practitioners can approach tasks playfully. Perhaps a practitioner having an

appreciation of Smilansky's teacher continuum could aid his/her play with the children in her/his setting (A. K. Levy et al., 1992).

For example, the adult's role might include visually looking on, where he/she encourages the children to use language and to play out a variety of roles and situations using language, and stands by to assist if needed. The adult might offer non-directive statements such as: *I see you have the pots and pans*. The adult could pose questions to encourage the child to use the appropriate language, such as: *now you have the pots and pans, what will you do with them and what will you say?* The adult could use directive statements, by deciding what roles the children will play, or by directing where the play goes next. The adult could model the appropriate language or actions themselves, by using a prop (Baldwin & Fleming, 2003).

These various interactive strategies can prove useful in interacting with young children during play (A. K. Levy et al., 1992). All of the types of interaction with children which are described above were used at some stage in the intervention in the current study.

Research has also shown that the adult is an important aspect of children's play. In her apperception study in the UK with young children, Howard found that young children actually defined play as having a practitioner or teacher present (Howard, 2010). Whitebread (2012) asserts that there is a need for more research on the ways in which adults can most productively engage with children in play. Increasing practitioners' understanding of play through research may encourage their interaction with, and indeed their instruction through, play with children.

The role of the adult in the current study was as an enabler. Ross (2000) contends that adults should not be preoccupied with simply transmitting knowledge, but with creating the environment and providing the stimuli within it where a child's learning can take place (Ross, 2000). In the current study, play provided a context for this type of learning to take place.

There can be tension, however, between the pedagogical frameworks surrounding play, on the one hand, and policies to which practitioners must adhere, on the other. This results in recommendations for practitioners which are ambiguous (Wood, 2010). As a result, work-play dichotomies exist, which can result in children being left to play in non-interactive ways with adults and play being viewed as something that children do when they are not learning.

Furthermore, when adults approach children's play, they can receive an unwelcoming reaction from young children, as they are not always used to playing alongside adults. This can result in apprehension on the part of the adults, and, in turn, a reluctance to interfere in children's play. However, in Howard's study (2010), young children were found to have a broad perception of play, which included the presence of a teacher (Howard, 2010). When it comes to younger children, then, adults have a responsibility to approach play, join in and set up precursors through story, in order to be accepted as play partners. Increasing the understanding of play can simultaneously empower practitioners and allow children to be creative (Wood, 2010).

Pushing the boundaries in intervention development can be beneficial with regard to the role of the adult (Brundrett, Duncan, & Rhodes, 2010). This study uses modes of instruction which have been relatively unexplored with respect to language development, such as planned pretend-play. One of the drama-in-education pedagogies which was used in the current intervention during pretend play was Heathcote's *Teacher-in-Role* (Heathcote, 1980).

Teacher-in-Role

The scaffolding of the younger child through their Zone of Proximal Development in drama can be aided by the adult entering the drama or play as a character, or as Heathcote (1980) termed it: *in role* (Anderson, 2012; Baldwin & Fleming, 2003; Dickinson & Neelands, 2006; Heathcote, 1980). Within this role, adults can be flexible. Their position is one of evoking, not directing, the drama – a function which is closely linked to socio-dramatic play. Heathcote (1980) argued for the recognition

of what children already know, and building on this through the creativity of the children and teacher-in-role in the classroom. The teacher/practitioner needs to be a narrator, a positive withdrawer when the children are interacting, a suggester of ideas and a reflector. The *researcher-in-role* in this intervention was someone to whom the children could respond, someone to encourage their interest, and someone to act as a focus within their Zones of Proximal Development.

Just as in socio-dramatic play, Heathcote (1980) contends that children and adults should have an active involvement in the planning of the play episode. The furniture, the nature of the episode and the space, should be collectively defined in this regard. There does not have to be a pre-destined finishing point and persistence is key, just as in socio-dramatic play (Wagner, 1999).

Reflection through discussion after the drama is also useful, with a practitioner using carefully honed questions, along with other dramatic devices such as narrative action, collective character, tension and belief (Baldwin, 2004). Within drama, and in turn, socio-dramatic play, Hendy suggests that adults and children can function as equals in helping to build a shared environment (Hendy, 2008).

In the current study, the children collaborated with the researcher to plan the make-believe episode. The researcher aimed to facilitate the creation of tension, by initiating a problem for the children to solve through the play.

Teacher-in-Role as a Tool to Aid Language Development

Dickinson and Neelands (2006) suggest that the teacher can extend children's language by engaging with them in role, by introducing new vocabulary to them and by modelling the pragmatics of language (Baldwin & Fleming, 2003). The teacher, while in role, can also help the children to reflect on what is happening in the drama verbally, by asking questions and extending their responses (Baldwin, 2004). When the teacher is in role, they will often help to set the context for the play episode and give the children the new information they require to carry out the episode.

Practitioners have a difficult task in seeking to strike a balance between trying to control the play and helping the children achieve the objectives for the lesson, while still protecting and valuing each child's contribution (Dickinson & Neelands, 2006).

As with pretend play, some educators steer away from this type of interaction with children, as they do not regard themselves as having the ability to carry out drama successfully (Carleton, 2012). Baldwin (2004) and Heathcote (1980) refute this and suggest that all practitioners who interact with young children can be taught the skills associated with drama, as they engage in it every day when they retell stories to children, or even their own peers. The only reservation which some drama-in-education experts offer, is how in touch various instructors are with their thresholds for noise and restructuring of the layout of the classroom for drama. Once these have been established, it is thought that any practitioner can successfully engage in dramatic instructional devices (Baldwin, 2004; Neelands, 1992; Wagner, 1999).

Historically, the pattern of research on pretend play and its potential effects on language and literacy has followed two main trajectories. The first is an environmental facilitation of resources for play, such as costumes and props for role-play. This allows children to experiment themselves and to initiate and carry out play on their own terms – a free play. On the other hand, research has also examined instructional techniques which involve an adult reading a story to children and then re-enacting that story with the children. Neither have had very large effects sizes, with most resulting in modest effect sizes. However, these enabling environments have given children meaningful ways to interact and, in turn, learn (Roskos, Christie, Widman, & Holding, 2010). The current study has focused on the second of the techniques described above, i.e. group shared storybook reading with re-enactment of the story afterwards. This will be discussed next.

2.4 Creating an Enabling Environment for Language – Group Shared Storybook Reading

Dialogic discussion with an adult or more experienced peer during storybook reading, and the use of books with repeated rhymes and phrases, can develop children's vocabulary (Mol, Bus, & de Jong, 2009; Silverman & Hines, 2009; Whitehead, 2002). The joint attention which is required during a shared storybook session helps the child to focus (Bruner, 1983). Puppets can help to engage children, which helps with this focus too (Baron-cohen, Leslie, & Frith, 1985).

There are different types of activity surrounding the shared reading session, which can have differing effects on children's development and, in turn, their language. For example, Dickinson (2001) explains that shared reading can be didactic interactional. This is where the teacher reads the story without discussing it beforehand; there would be no discussion after the book is read either. The teacher is simply reading the children a story. The focus in such an activity would be on simply memorising the story and having the ability to recall certain elements from it.

Dickinson suggests that, when the teacher is expressive while reading, this style of reading could be described as performance-oriented. The teacher does not encourage discussion during the *performance*, but he/she does discuss the book with the children before reading it. Dickinson argues that this type of shared reading results in a high level of interest in the story and the children engage with the story much more.

Lastly, Dickinson argues that a co-constructive style takes place during the story, where the focus is on large amounts of discussion. Children engage in prediction and analysis of the characters and events. Dickinson found that, when children were involved in this type of shared reading, their literacy skills were more advanced when tested at the end of Kindergarten (Dickinson & Tabors, 2001; Sheil *et al.*, 2012). Research has also shown that storybook reading interventions have been successful in improving children's literacy outcomes and this will be discussed next.

2.4.1 Storybook Reading Interventions

The National Early Literacy Panel in the USA completed a meta-analysis in 2008 on the effects of shared reading on the language outcomes of young children (National Early Literacy Panel, 2008). In the analysis, they examined 19 studies which utilised randomised controlled trials or had a quasi-experimental design. The effect sizes were mostly moderate on oral language measures. They found that there were mostly similar outcomes for monolingual younger and older children: shared reading was no less effective for children who were at risk of literacy difficulties than for children who were not. Also, all children, regardless of their SES, showed similar positive outcomes after the shared reading interventions.

Schickedanz and McGee (2010) re-examined the 19 studies which were discussed in the NELP report in the USA (Schickedanz & McGee, 2010). They established that the effects of shared reading were indeed more evident for younger children than for older ones, i.e. children in kindergarten. However, they acknowledged that perhaps the person who was reading the story could affect the children's engagement with the story – which may, in turn, affect their language outcomes after shared reading. In addition, Schickedanz and McGee found that shared reading, in the studies included in the NELP report, had a greater effect on productive language than on receptive language, but they acknowledged that, once again, the context for testing and for the shared reading session itself may have had an impact on the outcomes for the children. Specifically, they suggested that the type and expertise of the teacher/parent relative to the children contained in the interaction could affect whether the shared reading session was successful or not, or indeed whether the children even participated in the lesson. A summary of the interventions mentioned in the next section and those that examined pretend play, is contained in Table 2.1.

Table 2.1: Summary of all Interventions for Storybook and/or Pretend Play on Language

Papers	Implementer	Skills ¹⁴	N	Age	Risk Factor	Setting ¹⁵	Study Design ¹⁶	Cohen's d ¹⁷	Receptive Language	Expressive Language	Notes
Aram (2006) Israel	T	OL/CBL	T1=37; T2=38; T3=40; and C=41	3-5	Low SES	12 pscs	QE	E	PPVT=0.33 & RC=0.15; PPVT=0.37 & RC=0.29; PPVT=0.60 & RC=0.61;		Shared reading
Barnett et al (2008) USA	T	OL	T=106 C=168	3-4		Scs	E	R	PPVT=.22	OLPT=.35	Pretend play/ToM
Beck & McKeown (2007) USA	T	OL	T=52 C=46	K 1 st Grade	Low SES	Scs	QE	R	RC=1.17 (K) RC=0.74 (First Grade)		
Bierman et al (2008) USA	T	OL/CBL/SEB	T+C=365	4	Low SES	44 class in HS cnt	E	R		EOWPVT=0.15 TOLD1 ¹⁸ = -0.07; TOLD2 ¹⁹ = -0.04	
Colmar (2013) Australia	P	OL	T=11 C1=12 C2=13	5	One control group had language			R	PPVT=.80 TELD ²⁰ =1.67	SLQ ²¹ =1.73	

¹⁴ OL=Oral Language skills; CBL= Code Based Literacy skills¹⁵ SCS=Schools; CNT=centre(s); HS=Head Start; PSCS=Preschools; HM=Home¹⁶ E=Experimental; QE= Quasi Experimental¹⁷ R=Cohen's d reported by study authors; E=Cohen's d estimated¹⁸ TOLD1= subtest for grammatical understanding¹⁹ TOLD2= subtest for sentence imitation²⁰ TELD – Test of Early Language Development²¹ SLQ=Spoken Language Quotient

					difficulties						
Conner <i>et al</i> (2014) USA	T	OL Play	T=5 C=5	2		CNT			PLS ²² =ES not reported but Increase for intervention group		Pretend Play
Coyne <i>et al</i> (2004) USA	T	OL	T1=34 C=30	5-6	Low scores	7 scs	E	R	RC=0.69	RC ²³ =0.93 (taught); RC=0.33 (untaught)	
Dockrell <i>et al</i> (2010) UK	T	OL	T=53 C=41 C=48	3-5	ELL	Scs	QE		Verbal Comprehension (BASII ²⁴) PES ²⁵ =0.68	Naming vocabulary (BASII)=PES=0.10	Shared Reading English Language Learners
Farran & Wilson (2014) USA	T	CBL	T=498 C=379	4		Scs	E	R	Picture vocabulary=0.07 Oral comprehension=0.10 Letter-word=-0.12		Pretend play/ToM
Fricke <i>et al</i> (2013) UK	T	OL	T=90 C=90	4	Low scores	PScs	E	R	CELF Preschool II=0.83-1.18	Narrative=0.39 (immediate post-test)	Shared reading and recreating story

²² PLS=Preschool Language Scale²³ RC=Researcher- Created²⁴ BAS=British Ability Scales²⁵ PES=Partial Eta Squared Effect Size

Coyne *et al* (2004) investigated the use of storybooks in the USA as a means of introducing new vocabulary. An intervention group received explicit vocabulary teaching, along with storybook reading. Teachers modelled the words in context and gave direct presentations of the meaning. The books were of good quality, as indicated by their being award-winners or classics. Students in the experimental group had lower receptive vocabulary to begin with, but had higher gains than students who had higher receptive vocabulary originally. In a researcher-designed taught vocabulary test, while controlling for PPVT²⁶ scores, the intervention group scored better, Cohen's $d=.69$. This researcher-designed vocabulary test, they claimed, was a better indicator of vocabulary development (M.D. Coyne, Simmons, Kame'enui, & Stoolmiller, 2004; Langenberg et al., 2000). However, the researcher-designed task involved the children being asked to say anything they knew about the word, rather than what the word actually meant. This could have lowered the validity of the instrument. But Coyne *et al* (2004) enlisted four different scorers whose scores were comparable, which actually increased the validity of the measure.

Lastly, as the post-test was administered seven months after the vocabulary was taught initially, the results should be considered as more of an indicator of delayed maintenance, rather than a test of immediate effects. These maintained results support the use of storybook interventions for children's vocabulary development, so storybook reading was used in this intervention (M.D. Coyne et al., 2004).

Bierman *et al* (2008), in a large-scale study in the USA, also investigated the merits of storybook reading on the outcomes of language and social and emotional well-being of children in *Head Start*²⁷ classrooms. The *Research-based Developmentally Informed* (REDI) intervention, which provided brief lessons in language development, showed favourable results for vocabulary (effect size=.15) and emergent literacy

²⁶ Peabody Picture Vocabulary Test (Dunn 1981)

²⁷ Head Start is a federally-funded programme in the USA targeting children aged 3-5 years and provides a variety of services, including education in the form of preschool, and nutrition and medical services

(blending of sounds - effect size=.39), among other positives (Bierman *et al.*, 2008). It concluded that interactive reading was seen to promote richer conversational exchanges, thus improving children's vocabulary (Bierman *et al.*, 2008). Post-testing was carried out at week 25 out of a possible 35 weeks of the programme. The results might have been even more favourable, had the children been tested when the intervention was fully completed.

Furthermore, Mol, Bus and de Jong conducted a meta-analysis to determine whether there were any effects of interactive storybook reading on oral language (Mol *et al.*, 2009). They examined 31 studies which had a quasi-experimental design. They focused mostly on studies which had preschool and kindergarten children in their samples. The authors found that interactive reading with the children provided a moderate effect size for both receptive (Cohen's $d=0.45$) and expressive language (Cohen's $d=0.62$). They also found that the children's outcomes in a composite vocabulary score (expressive and receptive one word) were not affected by the duration of the intervention. What did have an effect on their outcomes was who was implementing the intervention. When researchers/experimenters were delivering the intervention, the effect sizes were in the moderate range $d=.58$, but not effective at all for teachers ($d=-0.08$).

Sixty-four percent of children in the sample improved in oral language in general after the interactive reading interventions, so it could be suggested that it can be a successful way to improve oral language in young children. The duration of the intervention did not have an impact on the outcomes of the children, as those who were under 16 weeks were just as effective as those who were over 16 weeks (Mol *et al.*, 2009).

In addition, Beck and McKeown (2007) in the USA conducted a study using reading aloud to children as one of the techniques to teach children new, sophisticated one-word vocabulary (Beck & McKeown, 2007). Beck and McKeown's study compared an intervention group from Kindergarten and another from First Grade, with children who did not receive the intervention in the two grade groups. The intervention

groups received what the authors termed “*rich instruction*” (Beck & McKeown, 2007: 257), alongside a series of shared reading lessons with their teachers over approximately a ten-week period. *Rich instruction* involved presenting the context of a new word to the children, asking the children to repeat the word, and then presenting the children with a definition and requesting their re-statement of the word. The teacher was also asked to reinforce the word on subsequent days. *Rich instruction* accompanied a shared reading programme called *Text Talk*. The books which featured in *Text Talk* were books which the children would not have been able to read themselves. The books had a high linguistic content and did not rely too much on illustrations or pictures to explain new words. The children were observed once per week by the researchers and they were tested at pre-test and post-test on a researcher-designed vocabulary test. The children in the control group did not hear the same stories as the children in the intervention group. They did have shared reading opportunities with their teachers, hearing other stories in their own classrooms.

As hypothesised by the authors, the children in both intervention groups (Kindergarten: 5.58 words & 1.04 Cohen’s $d=1.17$; First Grade: 3.64 & 1.71, Cohen’s $d=.74$) gained more vocabulary than the children in the comparison groups (Kindergarten: 1.04; First Grade: 1.71). However, as the children in the comparison group did not hear the same stories as the intervention groups, it is unlikely that they were exposed to the same words as the other children at all over the course of the study. Therefore, it is unlikely that they would know these words when tested at post-test. If one were only to consider the study as a within-subjects study, then the results would be strong. However, as the authors were attempting to compare two groups, the results are rendered weaker. What the study does support, though, is that shared reading with children can improve children’s vocabulary from pre-test to post-test.

Even though learning vocabulary is extremely difficult, even with rich instruction it is extremely difficult to learn adjectives and adverbs, which are more abstract than

nouns (Elley, 1989). The children in the intervention groups made some gains in vocabulary, but they did not learn all the new words and there was not a very large differential between their scores and the scores of the comparison groups. Perhaps, as the authors found in a follow-up study, the introduction of direct instruction of the vocabulary, or use of it at least on a subsequent day, is essential if children are to learn new or sophisticated vocabulary. The choice of vocabulary should be what the authors call tier 2 – for example, it might be a more sophisticated word for the word *nice*, e.g. pleasant. The authors acknowledge that learning which can be represented pictorially with the use of pictures is easier for children than simply hearing the word in isolation. The intervention in the current study used books which had a high proportion of large illustrations featuring the words that were being targeted.

Children can also benefit if their parents are trained in interactive reading. Colmar (2013) conducted such a study in the USA, which involved children's parents rather than only their teachers. She trained 36 parents to deliver an intervention over four months to their children who had a mean age of 5:0 years and who had delayed language skills.

The intervention consisted of the parents extending the children's responses and asking them open questions. A baseline was established, using *Test of Early Language Development* and the *Peabody Picture Vocabulary Test*. Parents were asked to pause at the page turn when reading to their child, to allow the child to initiate talk about what was being read. When parents read picture books to their child, these were used as a stimulus for conversation later in the day. Even though the sample was small in this study, significant differences in receptive and productive one-word vocabulary were found in favour of the intervention, with medium to large effect sizes (Colmar, 2013). Interactive storybook reading, then, can improve children's vocabulary.

Storybook Reading and Children with English as an Additional Language

Storybook reading has been shown to be useful in developing the vocabulary of children who are learning English. Silvermine and Hines (2009) compared an English Language Learning (ELL) group with a non-English Language Learning (non-ELL) on their vocabulary development after a 12-week intervention in the USA. After a storybook reading session, a video involving the subject of Science was used to enhance the one-word vocabulary in one group, and not in a control group. While it seems that the non-ELL did not show any impact of the intervention on both a researcher-designed and standardised vocabulary test, the ELL group did show an improvement. It was not necessarily the storybook intervention that made the difference, but more the media enhancement contained within it. However, it could be argued that the combination of storybook reading with another medium helped to improve the vocabulary of ELL children (Rebecca Silverman & Hines, 2009). The sample in the current study did contain children who were learning English (ELL). The storybook was a useful way of introducing vocabulary to these children. Children with English as an Additional Language (EAL) often enter school with a proficiency in their own language and indeed can have an already rich linguistic repertoire (Mahon & Crutchley, 2006). One must be cognisant of children's differing repertoires on school entry.

Results from intervention studies where storybook reading is combined with another medium of instruction produce even stronger results in terms of children's vocabulary development, and these will be discussed next.

Harris and colleagues also argue for the use of a mixture in the pedagogies used to teach children vocabulary, for example storybook reading alongside explicit instruction. The implicit instruction through storybook reading can enable children to interact with new words at a deep level, by using them in context. This can complement explicit instruction (Harris, Golinkoff, & Hirsh-Pasek, 2011). Most authors argue that storybook reading on its own will not serve to teach children vocabulary – it usually needs to go hand-in-hand with another pedagogy. The

current study adopted this approach. It first introduced the vocabulary through the storybook session, but the vocabulary was reinforced through its use in context by the children in planned pretend play, on a subsequent day.

Conner *et al* (2014) conducted a study on the combined use of story and pretend play in the USA. The authors were examining the effects of pretend play and story on children's play and language abilities. However this was done with two year olds, rather than the age-group that the current study focused on. A story was read to the children and afterwards the children were asked to play with toys which were representative of the story. This only lasted approximately five minutes. This could be viewed as an unrealistic timeframe to elicit whether the children had improved or not, but the children were very young and may have lost interest if the time had been longer. The sample was extremely small, with only 10 children in it. The authors claim that there were improvements in the *Preschool Language Scale* (Zimmerman & Castilleja, 2005) scores of the children in the intervention groups. However, the children were not matched for language ability or play level. The results are highly questionable. There are a lot of variables which could have affected the results, such as teachers, the setting, the parents, the backgrounds and abilities of the children. There was no diversity in the sample either, with only white middle class children involved (Conner, Kelly-Vance, Ryalls, & Friehe, 2014).

Results from previous studies which combine storybook reading with pretend play showed promise, so there is a need for more experimental studies. The current study addressed this lacuna. Furthermore, the current study also included a puppet in the storybook reading session. The merits of using a puppet to engage children as part of the intervention will be discussed next.

2.4.2 Storybook Reading and Puppets

Puppets have been used in the education – and indeed entertainment – of young children for many years, as children can identify with and believe in them (Baron-cohen et al., 1985; Webster-Stratton, Jamila Reid, & Stoolmiller, 2008). Nowadays, with advances in technology, children are surrounded by lively and exciting

entertainment and it can be difficult to maintain their interest. Puppets can capture children's kinaesthetic, visual and auditory learning experiences simultaneously, and this can stimulate them (Fisher, 2009).

The joint-attention episode which puppets can provide, facilitate conversation between the adult and child; these conversations help to improve scientific thinking, social, emotional and behavioural development. They also aid the development of syntax and grammatical skills, along with the introduction of new vocabulary (UNICEF 2004; Simon *et al.* 2008; Rollins & Snow 1998; Webster-Stratton *et al.* 2008; Department for Children, Schools and Families 2008; Moylett & Stewart 2012).

In policy too, the benefits of using puppets have been highlighted. The purchasing of puppets was seen as a beneficial way to spend public money for outreach projects in the UK and for encouraging language and cognitive development at home with young children (Gibb, 2011). Previous policy has alluded to the success which puppets can bring to various interventions which were deemed to be successful (Department for Children Schools and Families, 2009; Moylett & Stewart, 2012).

Measuring Young Children's Development with Puppets

Puppets have often been used as a methodology in research with young children (Stadler & Ward, 2005). For example, Schulze and colleagues, in Germany (2013) found puppets useful for increasing the engagement of the children in their study. The children interacted with the puppet, even making deductions and inferences about what the puppet's desires were, i.e. what he wanted for breakfast. The puppet answered questions with a statement that was related, but not a direct answer, to the question that was asked. The question asked was "*what do you want for breakfast?*" and the puppet replied, "*I got milk*". The children in Schulze *et al.*'s study knew what action to take, based on inferring what the puppet wanted for breakfast. The fact that the children had developed such a relationship with the puppet to be able to deduce and infer shows just how useful they can be and how much the children enjoyed engaging with them (Schulze *et al.*, 2013)

Puppets have long been used in studies which examine executive function and tasks where theory of mind is being tested (Carlson & Moses, 2001). Beck and colleagues (2011) used a puppet in their study in the USA, which tested the test-retest reliability of executive function tasks. They reasoned that using the puppet to engage with the children would keep the children interested. They chose to use puppets which were familiar to the children from a well-known children's television programme, Elmo and Ernie from *Sesame Street*. The children responded to the puppets and were put at ease by their presence (Beck, Schaefer, Pang, & Carlson, 2011).

Puppets have been extremely useful to studies on pretend play also. Children enjoy watching scenarios with puppets and while being entertained by them, engage with the tasks more enthusiastically; the generic knowledge being transferred can also be assimilated more readily, even if it contradicts what they already know (Sutherland & Friedman, 2013).

Importantly for the current study, puppets have been used in studies which have focused on language development. Trionfi and Reese (2009), when researching the narrative development of monolingual English speaking children in New Zealand, used puppets as a way of obtaining the children's narratives. The children told the puppets their stories. Using a puppet was a novel way of assessing the children's language development. Rather than a child attempting a pen and paper task, or answering straight questions related to his/her phonological awareness, puppets can ascertain the child's level of phonological awareness by making humorous mistakes with their pronunciation (Carroll, Snowling, Stevenson, & Hulme, 2003). The child enjoys interacting with the puppet and is more engaged with the tasks as a result.

Davies, Shanks and Davies (2004) used puppets to aid narrative development in children with a language delay. Thirty-one children from high poverty areas in the UK were involved in an intervention which took place three times per week. The children were encouraged to use puppets to tell their own narratives after learning about the *who*, *what*, *where* and *when* of their own stories. Davies *et al* found that

the puppets helped to bring the stories to life for the children. The children could see a physical manifestation of their stories, and this helped them to internalise the process of developing a character's movements and actions in a story (Davies, Shanks, & Davies, 2004).

Similarly, puppets have been used to identify children's perceptions of reading. In a multiple case-study design, Levy (2008) conducted interviews with five nursery children using a puppet to elicit data on the home and school discourses related to reading. Levy's interviews with the children consisted of a puppet whispering questions to the researcher and the researcher relaying these questions to the child. Levy argued that the use of the puppet in the interviews served to gain rich and varied data on a range of questions relating to reading, such as: "*what do we need to read and why do we read?*" (Levy, 2008: 52). Levy contended that the use of the puppet in the interview was age-appropriate therefore respecting the voice of the child in research (R. Levy, 2008).

The puppet has even been used in the development and success of a child interview research tool. The *Berkley Puppet Interview* (BPI) (Ablow & Measelle, 1993) was developed to assess very young children's self-perceptions. It was thought, before this instrument was developed, that children at a young age perhaps did not have the ability to articulate their own self-perception. The tool was developed to be used with children who are as young as between four and seven years old in the USA. The authors of the BPI argued that more interactive and age-appropriate ways of eliciting information about academic self-perception, depression and social self-perception from very young children should exist, rather than simply asking them questions. They claimed that researchers who changed the way they spoke to children elicited better responses from the children. They therefore devised an interview tool where the child was asked to agree or disagree with statements that two puppets made to the child. The interview took place at floor level and the exchange was more peer-like than an adult-child interaction (Measelle & Ablow, 1998). This produced better and more plentiful responses from the children, even

more so than pictures. The way puppets interact with children seems to have a positive impact on the amounts of information they are willing to share (Perels, Merget-Kullmann, Wende, Schmitz, & Buchbinder, 2009).

Puppets and Social and Emotional Development

Puppets have long been used in interventions which target the social and emotional development of young children. One such example is the renowned US-devised *Incredible Years Child Dinosaur Programme* (IYCDP) for children with behavioural difficulties (Webster-Stratton *et al.*, 2008). In this programme, during a circle time small group therapy activity, a puppet would present a particular problem directly to the children. The children and the puppet would try to resolve the problem together. The children responded to the fact that the puppet was present and introduced in the same way each week. This predictability of the sessions stabilised the children. Even children with Attention Deficit Hyperactivity Disorder had interacted successfully and in a sustained way and their inattention, oppositional behaviour and hyperactivity had benefited from interacting with the puppet (Webster-Stratton & Reid, 2008). Children with conduct problems, and those with emotional self-regulation difficulties in socially disadvantaged areas also benefited from interaction with the puppet in IYCDP. IYCDP is a child-friendly programme which uses life-size puppets with which the children enjoy interacting (Webster-Stratton *et al.*, 2008). The interaction with the puppet, in more recent research has been shown to have an impact on the aggression of young children with ADHD, and in follow-up studies one year later (Webster-Stratton, Reid, & Beauchaine, 2011, 2013). The effect sizes were medium to large in the original study and these were maintained at follow-up. Two thirds of the children scored below the clinical range on aggression measures and oppositional behaviour after the intervention with the Child Dinosaur puppet programme (Webster-Stratton *et al.*, 2013).

Similarly, puppets positively affected the wellbeing of young children in a study in Australia. Over the course of ten weeks, 99 children interacted with puppets which explained how the children should conduct themselves behaviourally. The

interaction with the puppets improved the children's social and emotional competence (Ashdown & Bernard, 2012). The recent use of puppets in studies to improve social and emotional wellbeing, and the favourable responses from young children all serve to show the benefits of using puppets with young children.

Puppets and Academic Achievement

Puppets have been successfully used in the teaching of science. In a study conducted by Keogh and others (2005) in the UK, the puppet was reported as bringing scientific stories to life for children. Their concentration levels were observed to have improved with the introduction of the puppet, and they wanted to contribute to the lesson much more when the puppet was involved. Even children who were reported as being shy and timid before the intervention were reported as contributing much more to class discussions. They seemed to be less intimidated by the puppet asking them questions than the teacher, and saw the puppet as more of a peer than an instructor. The language used by the puppet was more at the level of the child than that sometimes used by the teacher, so that made the subject matter a little more accessible for them. Discussion levels in the classrooms increased. The children perceived the puppet as not necessarily knowing the answers to a question they posed, so the children explained their questions more fully. Not only did the interaction with the puppets have an impact on the amount of verbal contributions the children made, it also affected the quality of those contributions. Students gave more justification of their positions and more reasoned answers. They spent more time reasoning and problem solving, and in what the teachers termed learning conversations, rather than talking about the practical elements of the task they were asked to complete. The children generally listened more and were much more engaged in the lessons. This engagement, the authors concluded, paved the way for more understanding of the subject matter of the science lessons (Keogh, Naylor, Downing, Maloney, & Simon, 2005; Simon et al., 2008).

The teacher's own talk changed too. This was an unexpected finding of the study, as evidenced by the teachers' learning diaries. The teachers seemed to offer more

encouragement to the children when they used the puppets. It is known that children tend to respond more to positive praise and reinforcement, so this would have had an impact on the children's responses to the teacher in turn. Puppets, in that study, provided the teacher with another means of scaffolding the children's learning and constructing knowledge, without directly interacting with the children themselves.

Puppets and Narrative Development

Thorough literature searches took place of the ERIC database, along with the British Education Index in order to find studies which examined the effects of puppets on children's narrative development. This was unsuccessful. The current study addresses this gap in the literature, as it uses a puppet in the group shared reading session of the intervention.

2.5 Section Summary

So far, the components of the intervention (group shared storybook reading and planned pretend play) have been discussed with regard to their origins in language acquisition research and theory and their situation within an enabling environment, which facilitates interaction with the adult or a more knowledgeable other. Also, the strengths of small group interactive storybook reading and planned pretend play have been explicated in this chapter. The use of puppets has been discussed and their merits have been outlined. The next section addresses the outcomes which the components of such an intervention would seek to target.

2.6 Outcomes of the Current Study – Vocabulary and Narrative (Story-retelling)

2.6.1 Vocabulary Development

The Very Early Stages

There is evidence to suggest that, while babies are in the womb and have been read a story repeatedly, they responded to it by headturning when it was read to them

when they were newly born (T. David et al., 2003). It appears that babies are tuning into language, even at this early stage of their development.

During this early stage, the baby learns to filter out the sounds which are not useful, or are not used in the home language.

Phonological Processing

Research has shown that bilingual children do not necessarily differentiate between any of the languages they hear, prenatally and as an early infant (Vihman, 2014). Evidence from research with English and Chinese newborns showed that the bilingual infants did not show a preference for listening to either language when compared to the English-only infants, who preferred English. The authors concluded that the bilingual babies had learned enough about both languages to find them equally interesting (Byers-Heinlein, Burns, & Werker, 2010).

This differentiation in monolingual children can coincide with their phonological perception developing. Indeed, this increased phonological perception can manifest itself in babies as young as ten months making the shapes of sounds they use in language when the primary caregiver has used it indiscriminately (Vihman, 2014). There is evidence that in running speech, babies as young as six months old can recognise frequently heard words such as Mummy or their own name (Bortfeld, Morgan, Golinkoff, & Rathbun, 2005; Depaolis, Vihman, & Keren-Portnoy, 2012; Mandel-Emer & Jusczyk, 2003). They may not, however, be attributing meaning to these words yet, but recognition is evident. However, it has been shown that if children can recognise word forms and indeed produce them at this early stage, then they are more likely to show stable understanding of them later (Vihman, 2014).

Jusczyk's USA study found that, when passages of text were read to monolingual infants of between six and eight months, which they had listened to for a series of days previous to the trial, the infants listened longer, i.e. they did not turn away for longer than two consecutive seconds (Jusczyk, 2001).

Bilingual infants possessing two phonological processing systems seems to negatively affect their ability to respond to vowel sounds in the non-dominant language, but bilingual children have the advantage when processing vowel sounds that are present in both their languages, which would be unfamiliar to monolingual infants (Vihman, 2014). However, bilingual children appear to have had less practice with known or familiar words even in their stronger language. This could lead to a lower lexical processing and smaller vocabulary in each language. However, it is thought that bilingual children's total vocabulary in both languages is equivalent to monolingual children's and is dependent on the interaction with the adult, or the exposure to each language (Murphy, 2014).

While, there is no conclusive evidence that there is a development by stages in language development, a process called canonical babbling usually occurs later than the first phonological processing of early infant life (Vihman, 2014).

Canonical Babbling

During their first year, children begin to engage in canonical babbling, where they put consonants and vowels together. It is thought that, by the time they are approximately ten months old, children are in what can be termed the jargon stage. This is when they use protowords which they have created themselves to indicate what they need, so the functional nature of language is emerging.

It is thought that at this stage, very young children will operate a lexical selection. They will use words which have a particular consonant which they like to pronounce and they engage in vocal play, testing their voices (Stoel-Gammon & Menn, 2013). Furthermore, Bloom's experimental work (1975, 1977) showed that infants increased their vocalisations when a parent or adult is present (K. Bloom, 1975, 1977). However, they argued that in fact, the rate of vocalisations changed dependent on the contingent talk the adult engaged in. When the adult was engaged in contingent talk, the infant tended to pause, become attentive and often smile and then vocalise. During non-contingent talk, the infants vocalised in what

Bloom termed “*bursts*” (Bloom, 1977: 368). Moreover, Bloom and colleagues argued that more adult-like vocalisations could be carried out by an infant who is stimulated by turn-taking during such an interaction. Infants can partake in vocal matching with the parent. For example, infants at three months and five months exercised attempts to match their mother’s utterances, particularly syllabic ones, when the mother and infant were engaged in mutual, symmetrical patterns of communication (Hsu & Fogel, 2001).

However, it is not only the case that the infant is merely imitating the mother’s vocalisations, as Goldstein and Schwade (2008) found, in their recent study of mother-infant dyads. They found that the form of a mother’s response influenced an infant’s vocal production, but not due to imitation, rather due to a “*socially guided statistical learning*” with the infants responding to input information through analysis of its structure, which in turn facilitated their own vocal production (Goldstein & Schwade, 2008:521).

Gathercole and Baddely (1989) found that phonological memory could have an impact on the speed at which children acquire vocal productions at the jargon stage. If children could remember novel sounds with relative ease, then it could be that they may have a memory for new words, which is a combination of these new sounds. Children need to be able to identify these new sounds and separate them from the rest of the words in a particular sentence uttered to them, i.e. speech segmentation. This is where phonological memory has a role to play. Gathercole and Baddley (1989) found that phonological memory was highly correlated to vocabulary at age four and age five (Gathercole & Baddeley, 1989).

There are undoubtedly roles for gesture, onomatopoeia and protowords in young children’s transition from phoneme production to early word forms (Vihman, 2014). However, it is argued by Vihman, that procedural routines play an even more significant role, where they allow the infant to engage in speech-planning, which will

eventually lead to systematic language. This functional nature of language is evident in infants' early linguistic development.

Owens (2012) suggests that typically-developing children progress from having single words only at approximately 12 months, to having around 150-200 when they reach the age of two years. When they reach the age of three years, Owens maintains that typically-developing children can have up to 1,000 single words. Children who are developing in such a way can ask questions can make multi-word utterances and begin to use the possessive noun as they learn about the social functions of language (Owens, 2012; Tomasello, 2009).

In contrast to Stoel-Gammon and Menn (2013) mentioned above, Tomasello differentiates between the child uttering what he terms 'vocal signals', and actual words from the child's native language. He contends that the child's utterance of a sound which they have heard an adult use, might just be a playful activity based on his/her desire to interact, rather than a conscious use of a new word. However, even in these reflexive vocalisations, Tomasello argues that the child is interacting with those around him/her (Tomasello, 2001).

Social Pragmatic Approach

Tomasello (2001) proposes a social-pragmatic approach to vocabulary acquisition. He maintains that children are not passive recipients of new information or, in the case of language development, new words. Rather, they are constantly deciphering what the adult is referring to. This could be the total sum of what the adult is referring to, or just part thereof. He argues that, in fact, children learn language in the same way in which they acquire other conventions particular to their culture.

An example of this might be when a child tries to make sense of what an adult is attending or referring to and thus deciphers the interaction. Tomasello differs from Bruner in this way, because he does not suggest that children learn by gaze direction only. Instead, he argues that the child is seeking to understand the adult's intention

for them through language. He based this supposition on a study he conducted in 1994, involving two-year-old children. This study comprised an adult looking a child straight in the eye and announcing that they were intending to search for a particular item, and then proceeding to search for it. In one condition, the adult moved directly to where the item was. In the second condition, however, the adult went to the vicinity of where the item was hidden, and searched under each of the cups, scowling at each unsuccessful one. When the adult finally located the correct item, he/she gave a satisfied smile. The adult's reaction to finding the toy was crucial to the child learning the word, not *which* toy the adult was looking at, at that time. Tomasello claimed that gaze direction was not a factor in the child learning the word (Tomasello, 2001). Perhaps it was a combination of gaze direction and the adult's interaction with the items that helped the child to learn the words.

In a second study by Tomasello, the adult carried out an action on a toy and then did the wrong action by accident. When the adult subsequently did the right thing, he/she expressed satisfaction. The child was then asked to complete the action him/herself. The child had to listen to the direction from the adult and then complete the action correctly. The child was able to do this after the adult had completed his/her action first. Tomasello argued that the child was using the intentions of the adult to decipher the action word. The action was not stopped for the word to be announced to the child. He/she implicitly obtained the word for the action through the interaction with the adult. This, Tomasello asserts, is the way children can learn language.

Studies carried out by Gergely, Nadasdy and Csibra and Biro (1995) in Hungary have exemplified the potential for children to understand others' intentions and make decisions to act in a particular way based upon this. These studies consisted of an adult awkwardly bending to switch on a light with the child present. It was clear to the child that there was an easier way to operate the light through the use of a large switching panel. However, the child, when asked to repeat the action chose to imitate the *modus operandi* of the adult. The child recognised the intention of the

adult and deduced that the best way to achieve what the adult wanted, was to bend awkwardly (Gergely, Nádasdy, Csibra, & Bíró, 1995; Tomasello, 2001).

Children listen very carefully to language and can begin to isolate the phonemes in their native language and segment the language to which they are attending. This is no easy task, as phonemes, particularly in the English language, can be pronounced in many different ways. A child needs to ensure that all the sounds are categorised differently. Newman and colleagues claim that this is a prerequisite for language development (Newman, Ratner, Jusczyk, Jusczyk, & Dow, 2006). They claim that this needs to happen before the age of one year and that this is the window for segmentation. Within this window of development, there is a possibility for statistical learning.

Statistical Learning is a term used by Newman and colleagues to describe the situation where the child learns the frequency of something occurring in a language, which, in turn, helps them to learn where and how to use a particular feature of the language. This would be dependent on a child being able to hear, and tune in to, the people around him/her who are speaking. An anomaly arises with children who are hearing-impaired. If they cannot tune in to the language they are learning, there might be a possibility that they might miss some of this statistical learning. Also, listening in could only take a child so far, as he/she might be limited by the others with whom he/she is interacting, and who may use a small number of words on a regular or frequent basis. This again reinforces the important element of interaction of the infant or child with another person. It is not just the ability to recognise sounds and indeed make them and put them together to form new vocabulary which is relevant, it is at least two people interacting and essentially communicating that makes it a language. This social context of the child is extremely important (Newman & Sachs, 2013). In particular, the interaction between the mother and the child is important, without over-reliance on Infant Directed Speech or Adult Directed Speech, but an interaction of these two types of communication.

In most cultures, the amount of talk the mother engages in with the child can affect their speech development later. This can begin as joint attention.

For example, during Bruner's intersubjective mode in a child's first year of life, the child can acquire words through joint attention, which involves focusing on joint objects of reference through modelling of gestures by adults. The child can learn that communication can be reciprocal, as was discussed in Section 2.2.3. The first half of this early development is usually characterised by emergent conversation. The child is not necessarily talking and having conversation, as adults would necessarily know it. However, certain more developed aspects of conversation are visible, such as initiation, early turn-taking and joint gaze, but actual words are not yet apparent. Gesture emerges during this stage also and is a key milestone in the acquisition of vocabulary. The child, in the second half of the intersubjective stage, i.e. six to twelve months, may hold something so that the adult can view it. Alternatively, they may point to something or jointly point at something which the adult wishes them to attend to (Sheil *et al.*, 2012). This is not always straightforward for all children. In particular, children with Autistic Spectrum Disorder cannot always achieve joint attention, or joint eye gaze, or even exchange smiles with another. These are all signs that the child's interest in the pragmatics of language may not be there (Sheil *et al.*, 2012). Joint gaze is also culturally bound, as, in a study conducted by Fernald and Morikawa in 1993 in the USA, American mothers encouraged their children to look around and take in their surroundings, thus engaging in joint attention, whereas Japanese mothers preferred their infant's focus to be on them (Fernald & Morikawa, 1993).

The effects of the mother/main parent on the child's vocabulary acquisition is apparent, even though how that relationship manifests itself may be different for each culture. For example, Pan, Rowe and Singers (2005) found evidence of this influence when they examined 108 children who were monolingual and from a rural background in New England, USA. They found that, if the mother had a higher word bank herself, then the child's vocabulary was higher. Rodriguez also suggested that

the amount of time that the mother spent reading to the child, and the availability of literacy activities and materials at home, predicted the child's vocabulary (Rodriguez & Tamis-LeMonda, 2011; Rodriguez *et al.*, 2009).

Hoff (2005) argues that, when children first acquire words, they are context bound. They represent something for the child so they are referential. Hoff argues that these first words are usually understood by the adult who is interacting with the developing child. Wells (2009) has identified this functional nature of language development in his landmark study in 1980s with young children. Wells and colleagues recorded children's conversations at home and at school in order to investigate the similarities or differences between the two contexts in terms of language development. They contended that children followed a particular functional trajectory of development (albeit individual to the child and their familial situation), which is contingent on the interaction with another (Wells, 2009). The context in which the child is conversing then, becomes an increasingly important factor in measuring that child's language development, according to Wells. This should, Wells contends, be considered carefully, when measuring a child's language acquisition. He argues that the development of vocabulary, in particular, is bound up with the child using language to fulfil a need or want they have, which can be possibly met by the adult that they are interacting with. This is discussed next.

Children may typically begin with nominal words such as *mummy* or *daddy*, or they can be associated with a routine which the child follows, such as bedtime, drinking and eating. Uccelli and colleagues argue that 40% of a child's first 50 words are typically nouns. It is thought that nouns are acquired first because, in English, these are the words that come at the beginning and ending of sentences which the child's family is uttering. The grammatical structure of English is subject-verb-object (SVO). So, in English, the child hears a noun as the subject, and a noun as the object (Uccelli & Pan, 2013).

Sometimes, Hoff (2005) argues, children who are at this stage of their vocabulary development mistakenly overextend the words they know. For example, they may begin to associate men with the word Daddy and call all men Daddy. Similarly, Gathercole and Baddley (1989) refer to the phenomenon of children's 'whole object assumption'. When children learn a new word, they often use this word to name all other objects that are associated with it. For example, a child might use the word *cup* to describe the liquid inside, and the action of drinking. It can take a while for children to learn mutual exclusivity. It can be difficult for them to learn that members of the cat family do not overlap with members of another animal family. This can also occur in the opposite way too, with some children underextending. For example, they may call all dogs a collie, if that is a word they associate with dogs, or their own dog in particular.

After the child can master some nouns, they may move to action words such as *all gone*. They then might move to personal words such as *want* and *no* and *please*. When the child moves up to having approximately 600 words, 40% are nouns, 25% are verbs and adjectives, 15% are function words, for example, drink, banana etc. (Uccelli & Pan, 2013). The word spurt might occur after this, as the child switches to learning about the grammatical function of words (Hoff, 2005). Bruner argues that this is when the normative mode takes place, during the time at preschool for a typically-developing child. This is when children's vocabulary bank increases. In this stage, according to Bruner, the child can typically begin to use multi-word sentences, sentence combinations, talk about their experiences and begin to develop decontextualised language. It is at this time also that the intervention in the current study was carried out, as the children would have been beginning to use language pragmatically and for conversation, rather than only to fulfil their needs.

The familial environment within which a child lives can influence a child's vocabulary development, Hoff (2005) argues. For example, the position in the family can affect the child's language development. Hoff (2005) suggests that a child who was first born or last born may have a slight advantage over his/her siblings. This can be due

to spending more actual time talking to parents and their siblings and the fact that they may have more one-to-one attention from the parent, depending on the parents' work situation. What is clear, however, is that the family does play a role in the child's acquisition of vocabulary.

Other environmental factors, which might affect language development, have been identified through large-scale research studies. For example, socio-economic status has been shown to have an influence on vocabulary acquisition. Rodriguez and colleagues (2011) found that monolingual children from low socio-economic groups across the US were at, or below, the norm-referenced level for vocabulary. The opposite was the case from the higher socio-economic groupings (Rodriguez & Tamis-LeMonda, 2011). Another important finding from their study was that the preschooling of the children seemed to build on what was learned in the first two years of life and supported "*more complex aspects of emergent literacy*" (Rodriguez & Tamis-LeMonda, 2011: 1071). Tomasello (1998) argues that personality can play a role too. He argues that a child who may be outgoing may elicit more opportunities to talk. They simply engage with others more, which gives them more opportunities to acquire more words.

The socio-economic grouping the children originated in, whether they attended preschool, and the level of interaction they engage in, all can have an impact on their vocabulary acquisition. The number of languages spoken at home can have an impact on children's vocabulary acquisition, and indeed language development in general. For example, even though children who are born into a bilingual home produce their first words around the same time as monolingual children (Genesee, 2003; Patterson & Pearson, 2004; Petitto et al., 2001), this evidence is less conclusive as it can very much depend on the age of children in a sample and whether receptive or productive vocabulary outcomes are being reported. For example, in large samples of preschool children, a smaller receptive vocabulary has been reported in bilingual children in comparison to monolingual children (Bialystok, Luk, Peets, & Yang, 2010; Mahon & Crutchley, 2006). In productive language, bilingual school

children have tended to have a smaller total vocabulary repertoire in each language, i.e. Language 1 (L1) and Language 2 (L2) (Yan & Nicoladis, 2009). However, the amount of exposure to each language can determine the size of the vocabulary repertoire, i.e. a greater exposure leads to larger vocabulary size, particularly in the L2 (A. David & Wei, 2008; Poulin-Dubois, Bialystok, Blaye, Polonia, & Yott, 2012). Therefore, it might be beneficial for children with EAL to be exposed to an intervention that is in their L2, in order to support their total vocabulary development. How we know what affects children's vocabulary acquisition has also changed and influenced the way we support it.

2.6.2 Collecting Data on Vocabulary Acquisition

During the 19th and early 20th centuries, diary studies of children's vocabulary development were popular, with parents reporting on their child's vocabulary acquisition. This was a useful methodology for examining individual children's language development. However, the diaries proved less useful when it came to trying to establish any patterns which existed in children's language development. Methodologically speaking, the validity of diary studies was called into question, as the diarists were documenting happenings with the child's language development which were particularly interesting, rather than rudimentary scheduling of events in that development. More recently, the use of *Communicative Developmental Inventories* has enabled the measurement of children's vocabulary acquisition to become more scientific, as these are standardised, norm-referenced measures (Uccelli & Pan, 2013).

Interventions and Vocabulary Development

Interventions can be successful in supporting children's vocabulary development. Children in low-income areas, particularly, have benefitted from vocabulary development interventions (Beck & McKeown, 2007; Biemiller, 2003; Pan, Rowe, Singer, & Snow, 2005; Roskos *et al.*, 2010; Sénéchal, 1997). For example, American monolingual children who were screened as having <85 standard score on the Peabody Picture Vocabulary Test due to high poverty circumstances, or a language

delay, responded positively to an intervention with interactive read aloud as the main component (Roskos & Burstein, 2011).

The children, who had a mean age of 57 months, were exposed to the intervention twice weekly, for 12 weeks. The intervention took place in four-week slots, with a break between each slot. Two books were read each week to the children, with a 'say and tell' about three to five single target words before each read aloud session. This was in keeping with children's need to gain approximately two new words per day from the age of one year old, which can result in 6,000 words by the time they reach seven years old (Biemiller & Slonim, 2001).

The children also discussed the words after the story was read, as this has proved successful in improving vocabulary (Beck & McKeown, 2007). The storybooks were picture fiction books; the target words were taken from these books and they were high frequency words to which the children might be exposed as their vocabulary developed. The experienced teachers and learning assistants had debriefing sessions about what was working in the intervention and changes were made as the intervention progressed. This may have had an impact on the study's results, as the staff had the experience and expertise to know how to adapt the intervention to make it more successful.

The children were encouraged to retell the story themselves with puppets or to role-play it. The children were repeatedly exposed to the new words in different contexts, which helped them to make mind-maps of the new words, rather than just rely on an increasing memory load. When the words were introduced into the play activity, for example, they made a shift from the short-term memory to the long-term memory. These interactive dialogic reading sessions resulted in moderate to large effect sizes for productive and receptive vocabulary (Roskos & Burstein, 2011).

Wasik, Bond and Hindman (2006) investigated the effects of **combining** storybook reading with conversation strategies, in an intervention to develop American

children's one-word vocabulary. They trained teachers to engage in purposeful dialogue with the children; results showed that the children in the intervention group improved much more than the control group for receptive vocabulary (Cohen's d effect size=.73) and productive vocabulary (effect size=.44) (Wasik, Bond, & Hindman, 2006).

Aram (2006) also conducted a study combining the methodologies of teaching alphabetic skills and storybook reading. One group of Israeli children was assigned to a storybook condition, another to an alphabetic condition, another to a combined approach and another to a non-treated comparison group. It was predicted that the storybook reading group would score higher on the single word vocabulary measures at post-test. In fact, results showed that the children in the combined programme scored higher than the storybook group in single-word book vocabulary, but the storybook group did show gains over the non-intervention comparison group. Also, results showed that the younger children in the sample did better than the older group on receptive vocabulary. Aram's study's results were based on a less robust quasi-experimental design, and measures that were questionable, which included a translation of a pre-existing vocabulary measure. This may have affected the results. The fidelity of the intervention could also be questioned, as the teachers only received one page of guidelines. What is significant is that the children did better on the oral language measures than on alphabetic skills.

There are many other studies, which have been discussed throughout this review, which have shown favourable results for interventions that target vocabulary (Section 2.3.2, 2.4.1). The studies delineated thus far in this review have measured both receptive vocabulary and productive vocabulary, predominantly focusing on single-word phrases and novel word learning. They have mostly availed of the use of general word learning, norm-referenced assessments. However, it is worth considering, whether, particularly in the context of a storybook reading intervention, which involves the implicit instruction of novel words, a general measurement of productive or receptive vocabulary can suffice. By analysing vocabulary, through

the use of norm-referenced tests, the results usually provide evidence of breadth of vocabulary and quite comprehensively too. Standardised measures such as PPVT²⁸, BPVS²⁹, EOWPVT³⁰ and indeed the British Ability Scales Naming Vocabulary subtest, can have limitations in a preschool context, particularly in a reading-aloud context, as they do not measure the target words which preschool practitioners are particularly interested in the children learning (Hoffman, Teale, & Paciga, 2014). There is no doubt that they have strong validity and reliability and they can assure a normal distribution of scores, which makes for highly valid analysis, especially in terms of the evaluation of interventions. However, they do not account for depth of vocabulary knowledge, i.e. the use and meaning.

A second way to assess children's vocabulary might be through an analysis of the definition for a single-word provided by the child. This can serve to access the child's semantic knowledge of a specific target word, and give both researchers and practitioners evidence of depth of word learning. However, seeking definitions is not immune from its methodological limitations, as what type of definition is being sought becomes problematic. For example, would an equivalency statement suffice, e.g. '*a cat is...a cat means...*' or merely being able to correctly categorise that word be best e.g. '*the cat is an animal...*' or indeed would an ability to use a particular target word in context be better? Using context can prove problematic, as the child may or may not be able to transfer the meaning to a wider context, which may lead to a tester incorrectly interpreting this as not knowing a particular word. Additionally, if children are providing multiple different responses, it may be difficult to establish which definition is correct for the test. These definitional assessments, do, however, provide information about how children think about and categorise words, which can be useful information for language development in general. As definitional assessments are few in number in empirical research, it is difficult to find reliable and valid methods and, in turn, replicate them.

²⁸ Peabody Picture Vocabulary Test (Dunn, 1981)

²⁹ British Picture Vocabulary Scales (Dunn, Dunn, Whetton, Burley, 1997)

³⁰ Expressive One-Word Picture Vocabulary Test (Brownell, 2000)

A third way to assess only target words being taught in a particular intervention, is by the use of pictorial representations selected by researchers and children's verbal labelling of these (see Coyne *et al.*, 2009; Hargrave & Senechal, 2000; Justice, 2002; Harris *et al.*, 2011; Silverman, 2007; Bond & Wasik, 2001). These type of assessments can, and have, been used in breadth-of-word-learning studies: (Bond & Wasik, 2001; G J Whitehurst, Arnold, Epstein, & Al., 1994). But these assessments have also had methodological limitations. For example, it can be difficult to represent some target words pictorially, as often more difficult abstract target Tier 2 words (Beck *et al.*, 2002) are tested in interventions that include storybook reading as a component. Concern arises when researcher-designed picture-naming assessments are used in isolation, to the exclusion of general reference assessments. With the validity and reliability considerations in relation to these assessments, over-emphasis of any results, be they positive or negative, may result in misinterpretation of 'what works' in terms of children's vocabulary development.

To conclude, it could be suggested that perhaps a combination or complementary use of different types of productive and receptive single-word vocabulary assessments could be useful. In particular, the breadth of vocabulary could be tested through general learning norm-referenced vocabulary assessments and target words through researcher-designed assessments. Some form of definitional assessment may be useful also to assess depth of knowledge, however there is little empirical evidence to support the successful use of these. It would be important, however, to exercise caution when interpreting any results in relation to researcher-designed tests, due to validity and reliability concerns, particularly in relation to larger effect sizes, which can be a feature of researcher-designed tests. The current study used complementary techniques, as outlined by Hoffman *et al* in 2014.

Children's ability to acquire vocabulary is invaluable to their overall development of language. Vocabulary is the building block of syntax and, eventually, conversation. This conversation, in turn allows the child to develop the ability to narrate and/or retell personal and fictional stories in the form of narrative. Narrative is the other

targeted outcome of *Let's Talk* in the current study and the background and justification for this will be discussed next.

2.6.3 Narrative Acquisition

Narrative is said to be one of the first “*discourse abilities acquired by young children*” (McPherson, 2002: 23). According to Vygotsky (1933), typically-developing children will usually progress from interacting with their families as very young babies, smiling etc., to then internalising these interactions, which become emotions and cognitions. A child’s first exposure to narrative may comprise having a story read to him/her. This has the potential to introduce him/her to the structure of a narrative. Engaging in a joint attention episode with a child can introduce him/her to the idea that stories are comprised of different elements such as characters, times, events and places (McPherson, 2002). Narrative is being able to convert something one knows into oral communication. Children’s narratives will often include an introduction, then the elements pertaining to *who*, *what*, *where* and *when* in the story, and end with a conclusion. Hoff maintains that narrative, like other areas of cognitive development within the child, is culturally influenced. North American children typically produce lengthy narratives, whereas in Japan, talking a lot can be considered a negative personality attribute and is discouraged in schools and children’s learning (Hoff, 2005).

Narrative can manifest itself through different genres, for example, self-generated or personal narratives which are based on a child’s own experiences. These are usually found in early narrative development in children who are just beginning to develop narrative skills. What comes later is the ability to generate fictional/fantasy narratives. The ability to retell a story falls within the fictional/fantasy genre and was targeted in the current study. This type of narrative can manifest itself during symbolic play (Uccelli, Hemphill, Pan, & Snow, 1999). In Uccelli and colleagues’ American study, young children were videotaped in a laboratory setting, interacting with one of their parents at three different time points. The children were studied at 20, 32 and 60 months. Results showed that, when the children had had

conversations about fantasy stories which contained non-present actions at 20 months, their development of narrative was more developed at 32 and 60 months (Uccelli *et al.*, 1999).

Baldock (2006) advocates the notion of narrative competence. He defines this as *“the ability to understand and create stories”* (Baldock, 2006: 67). He suggests that, when children are attending preschool at the ages of three and four years old, the potential for developing narrative is at its greatest. He suggests that there are five components of narrative competence.

Firstly, the child has the ability to understand and/or construct a sequence of events which are ordered chronologically. Secondly, the child understands time and the significance of its passing and that it is not just something which facilitates the repetition of routines and rituals. Thirdly, the child understands that there are connections within a story which are linked causally, i.e. one thing can cause another in a story. This could include one character causing an event. Fourthly, a child can understand that a story is usually told from a particular standpoint and that different characters can have different opinions on what has happened. Lastly, the child can use conventions of story which are linked to his/her culture only, and these, of course, may differ in other cultures. These conventions can be changed or shifted in order to increase dramatic effect or change the story. The current intervention sought to support these narrative competences, through the use of pre-existing stories.

Preece’s definition of narrative arose from an 18-month long case study of three monolingual children (one of whom was her own child) who took a car journey together on a weekly basis (Preece, 1987). She recorded every utterance of the children and analysed them with reference to narrative development. This led to her defining narrative as: *“any verbal description of one or more past events, b) any examples of stories, both original creations and retellings, with stories begin defined as accounts of some happenings or groups of happenings...either true or made up,*

intended to interest the reader or hearer, and c) any examples identified and labelled as stories by the subjects themselves” (Preece, 1987:360). This definition was problematic, as the stories had to be a description of past events. This ruled out many stories that children tell which are situated in the present and describe what they are currently doing, as can often happen during pretend play. Preece did, however, include retellings in her definition; this often gets overlooked by narrative describers, who tend to categorise narrative into either personal generation or fantasy narratives only. Story retelling is a narrative skill which still requires the child to sequence events, identify the characters, events, problems and solutions in a story. In the current study, the children’s story-retelling was supported through sequencing activities.

Narrative has been defined by McCabe (1991) as the ability to sequence events. These events can be fictional, or stem from real experiences which the individual may have had. The events usually have a temporal element and usually contain a problem that needs resolving. There are also usually characters involved, there is a spatial element to it and it usually has a location, or several locations (McCabe & Peterson, 1991). The above describes one of many approaches to the analysis of narrative ability in children, i.e. structural. Other narrative analysis strategies include story grammar, functional psycholinguistics, sociolinguistics and interpretative models of narrative development. These will be discussed in brief next.

2.6.4 Analysing Narrative Development

Structural Narrative development

A comparison of some of the different ways of categorising narrative development is contained in Table 2.2. Applebee advocated a structural view of narrative development. Applebee’s levels will be discussed in detail. His was a model which suggested that children’s narrative development mirrored their cognitive development (Applebee, 1978).

Table 2.2 Structural Models of Narrative Development

Stages of Narrative Development			
Stadler and Ward Levels	Applebee's Levels	Stein and Glenn's Levels	Description
Labelling	Heaps	Isolated description	Unrelated statements that label or describe
Listing	Sequence	Descriptive sequence	Statements around a central topic
Connecting	Primitive Narrative	Action sequence	Statements around a central topic with perceptual not temporal links
Sequencing	Unfocused chain Focused chain	Reactive sequence Abbreviated sequence	Temporally related statements without a central topic Temporally related statements around a central topic Character goals and intention causality
Narrating	True Narrative	Complete episode	Temporally related statements around a central topic with a theme or moral. Developed plot

(Hedberg & Westby, 1993)

Applebee (1978) entitles the first of his stages of narrative development *heaps*, when the typically-developing child is approximately two years old. These narratives are disorganised monologues. These monologues do not have any plot line and merely describe rules, and sometimes events that have occurred. There is no temporal element to this type of narrative. When children begin to grasp the idea of time, they can begin to offer sequences in their narratives which have a central character, which is Applebee's next stage, called sequencing. Primitive narrative comes next – where there is no central topic but some perceptual links are made throughout the story. This then leads to the next stage of narrative development called unfocused chain. This is when the child can describe events but there is not necessarily a beginning or ending, and if either exists, then they are possibly not linked in any way to each other or follow each other sequentially.

Next, according to Applebee, the child can develop a focused chain of narrative, which is governed by time and focuses on a central topic. By the time the child has reached the age of five years, there is usually a central theme running through his/her narratives. This enables a child to finally develop Applebee's last stage, called real narrative. In real or true narrative, there can be a climax to the story. The child, according to Applebee, is centring. This is where the child is searching for and maintaining a central theme to the story and looks for links within the story itself.

There is usually a developed plot and the story may even have a moral. However, with children who have language difficulties, there are often less goals associated with the main characters (Davies *et al.*, 2004). This structural approach was quite Piagetian in its thinking, as it focused on narrative developing at certain ages in certain stages. However, the environment surrounding the child, or people/listeners with whom he/she may interact over the course of this development, are not mentioned. This potential influence of the child's environment is not acknowledged in this theory of narrative development. The elements contained in it are, however, useful in examining children's narrative.

Stadler and Ward (2005) also argue that children begin to develop narrative around the age of three or four years. They suggest that children begin by telling their own personal experience stories, for example, *I went to beach; I fell over in the playground*. Over time, they begin to tell fictional stories. Stadler and Ward argue that this development occurs over several progressive levels.

Firstly, the child engages in labelling, where he/she repeats him/herself and favours demonstrative pronouns such as *this* and *that*. Then the child may move to what Stadler and Ward call the listing stage. The children will simply list the actions of the main characters in the story one after another – these actions may or may not be in the sequence in which they occur in the story. At this stage, they argue that the child has no understanding of time, or the links between sequences, or causes of the action. Their next stage is called connecting. This is when a central character emerges and a child's story retelling revolves around this character and, in doing so, links other characters to him/her. With this stage comes the introduction of the use of pronouns, which coincides with the introduction of stories about others, rather than the child him/herself. Children in this stage begin to have an understanding of theory of mind and that others also have stories to tell. Sequence still does not appear until the next stage, which Stadler and Ward call, predictably, the sequencing stage. The causes of action in the story can be explained by the child in this stage. He/she also understands the temporal element of sequences of action. Lastly,

narrating occurs. The child can finally predict what might happen from beginning to end, they can develop plots and initiate links between actions and characters (Stadler & Ward, 2005).

Story Grammar Model

Narrative ability has also been analysed under the Story Grammar Model (Stein & Glenn, 1979). Here the story is split into various story units and a series of events develops over the course of the story/narrative. The story is seen as separate from the cognitive processes in the mind which generate or tell it. The narrative usually consists of seven content units comprising 1) character, 2) setting, 3) problem, 4) emotion, 5) attempt at resolution of the problem, 6) consequences of that resolution, and 7) an ending. The Story Grammar Model has been used frequently to assess children's narrative ability and this is discussed in this thesis in the Section on Early Intervention and Narrative Development. Story Grammar was the model which was used to measure story retelling in the current study.

Functional Psycholinguistics

The Functional Psycholinguistics approach to narrative analysis focuses on the linguistic devices which are used by the child to generate a competent narrative. These might include grammatical tenses and the use of pronouns etc. This approach has mostly been studied by those who study language acquisition, and is typically concerned with spontaneous narrative production, rather than story retelling. For this reason, it was not used in the current study (Peterson & McCabe, 1994).

Sociolinguistics

In the sociolinguistic approach to narrative development, communication with others is central. The positioning of a child's narrative in relation to those around him/her is important in the sociolinguistic approach. The emotional content and structure of children's narratives can be examined, as the interpersonal is important. Time is a crucial element of narrative development in this approach. Narrative becomes true narrative when young children begin to sequence the events of a story correctly and recognise that there is a temporal element to story (Labov, 1977). Labov defines narrative as *"two clauses which are temporally ordered: that is, a*

change in their order will result in the temporal sequence of the original semantic interpretation” (Labov, 1977: 360). The interpersonal is less important in story retelling, as the elements of story grammar are the focus, so this model of analysis is not used in the current study.

Interpretive Analysis of Narrative

Developmental psychology is responsible for this approach to narrative development. Here, narrative is viewed as a way for the child to make sense of the world around him/her. By narrating personal experiences, and narrating on what they are engaged in, children can work out why certain things are happening in their environment and how their world works. This appears to be quite close to the concept of pretend play. The comparisons between pretend play and narrative will be addressed next.

2.6.5 Narrative Acquisition and Pretend Play

Pretend play and narrative are quite closely linked in their make-up. Research in neurology has shown recently that the parts of the brain which are activated during pretend play are, in fact, the same parts of the brain which are activated when constructing a narrative and/or engaging in theory of mind tasks, namely the medial prefrontal cortex (Whitehead, Marchant, Craik, & Frith, 2009).

Whitehead and colleagues (2009) conducted a UK study with 15 adults to test this. The adults viewed videos of actors using objects in three different ways. Firstly, the actors would use the object in the way in which it was originally designed to be used. Next, they would use it in a novel way for a novel function. This was used as a control. Lastly, the actors would use it to represent something completely different, as can often be found in symbolic substitution in pretend play. The participants’ brains were observed as they were watching the videos. Results showed that the brain parts which were activated during the pretend play video were the same as those activated whilst listening to narrative.

The research suggests that the movement in the brain during a particular type of pretend play, that of role-play, is most aligned to the movement of the brain during narrative (Whitehead *et al.*, 2009). That study was conducted with adults, so cannot be generalised to children, but it could be suggested that engaging in pretend play may strengthen children's narrative development. The aim of the current study was to engage in pretend play and, through this, combined with group shared storybook reading, support narrative development.

Eckler and Weininger (1989) also investigated the similarities between pretend play and narrative. Eckler and Weininger (1989) found similarities when they examined 50 English-speaking Canadian children's play episodes. The children, ranging in age from four to eight years old, were encouraged to describe what they were doing as they played and the sessions were video-recorded. The transcripts and videos were then analysed by proposition (the smallest unit of meaning). The plays were then examined using a story grammar model (Stein & Glenn, 1979). The story grammar had to include an event, a character desiring a particular goal associated with the event, the character then trying to achieve that goal, and succeeding or not in achieving it. In addition to this, the play episode had to contain at least two propositions. Having all of these elements meant it could be equated to a story. The researchers concluded that there were very strong links structurally between pretend play and narrative. The older the child was, the higher the frequency of propositions. They suggested that the pretend play continued to develop as the child got older (Eckler & Weininger, 1989). Thus, it is reasonable to assume that these similarities between pretend play and narrative could be used advantageously in an intervention to strengthen narrative in young children, as was the case in the intervention in the current study (Eckler & Weininger, 1989).

Harris (1994) also argued that there was a strong link between narrative and pretend play. He suggested that the ways in which the two develop within a child are similar. Both pretend play and narrative use connections which link the action in the narrative. Episodes are constructed in both and these are linked by the

aforementioned connections. Harris developed his *situational model* to explain this. In this model, he argued that, in pretend play, children could put to one side what was happening in their lives in reality at that point in time and create an imaginary event through the use of decontextualised language. Narrative employs this same cognitive power of the child. The child has the ability to tell the difference between what is real and what is imaginary. However, children do not over-rely on the real in order to make the imaginary. They often use real characters alongside fictional ones. Kavanaugh and Harris (1994) found that children could use what is real to feed their imaginary play and narrative. Twenty-four to 30 month old children were shown an adult shaking make-believe powder over a soft toy. When the child was asked to point to the picture which corresponded to how the soft toy was after that, the child picked the picture which showed the soft toy covered in powder. This showed that the child engaged with the make-believe, an element that was encouraged in the current study also (Kavanaugh & Harris, 1994).

Unlike other theorists, such as Piaget, Harris contended that this ability to construct pretend play and generate story through imagination is not restricted to early childhood, when its initial development takes place; it continues into adulthood. The ability of adults to put themselves in another's shoes might illustrate this point. Rinck and Bower (1995) found that adults, when asked about the location of things within a story, will often offer their position from the point of view of the main character (Rinck & Bower, 1995). Children can also do this (Rall & Harris, 2000). The current study targeted children at the time, according to Harris, at which children are developing narrative, i.e. three to four years old.

Furthermore, Ilgaz and Aksu-Koc (2005) found that pretend play could actually predict narrative ability. They compared the elicitation of narratives of 30 three to five year old children, comparing direct elicitation of narrative and elicitation via play prompts. When the children in their study used props to tell a story (play prompts), they could manage many more characters, as the action was live. However, when they had to hold these characters' actions in their minds with no support from acting

out or props (direct elicitation), their narratives were more basic. The children, they found, used similar skills in narrative production to the ones that used in the pretend play/acting out.

Ilgaz and Aksu-Koc also found that children's narrative when they are attending preschool is episodic and contains much of the elements of story grammar that Applebee (1978) spoke of, such as goal attempt and consequence. However, caution would be advised when interpreting the findings of that study, as the children were sampled on their willingness to participate in the tasks. This could most certainly have introduced a Hawthorne effect, with the children possibly improving even if they had had a placebo intervention. Age did play a part in the predictive ability of pretend play on narrative in Ilgaz and Aksu-Koc's study (2005). Five year olds produced episodic narratives, irrespective of their ability to pretend play. With four year olds, the case was slightly different. The four-year-old children produced episodic narratives when they were play-prompted, but only half of the sample produced episodic structures when they were direct elicited. However, that study differed from previous studies, in that it did not ask the children to play with the toys and narrate on what they were doing. It asked the children specifically for a story using props (Ilgaz & Aksu-Koç, 2005). The children in the current study were three and four years old and their age will be considered when analysing their results.

Narrative development's relationship to pretend play varies as the child grows, according to McPherson (McPherson, 2002). In a series of case studies with eight children, similar to what Ilgaz and Aksu-Koc found later in 2005, she found that language skills become less important to the narrative as the child grows. Language skills, she suggests, are very important to narrative at age two years. However, at age 30 to 36 months, pretend play becomes more important to narrative development. She also found that earlier pretend play (at 30 months) was a predictor of narrative development later at 42 months. If a child can extend beyond reality when they are 30 months old, then they can extend beyond reality in narrative later. Through her storyboard task, she claimed that the use of props was

useful in extending the narrative. In the current study, the props or aids used to practise and elicit narrative were visual – the pictures from the story. It should be noted that the sample in McPherson's study was limited to 53 children, with a further eight of these children examined by case study only. This could lead to skewed or unreliable results. Also, the sample was quite homogenous, with the children coming from highly educated homes, where maternal education could have influenced the children's language development (McPherson, 2002).

There are also some *differences* between pretend play and narrative. During a narration, the child must change an action into language to utter it. Moreover, in pretend play, the child moves seamlessly from one action to another. It has been suggested that pretend play emerges first and then narrative follows (McPherson, 2002). However, it could be said that the type of pretend play which was used in the current study, socio-dramatic play and the ability to sequence the events from a story, are emerging more or less alongside each other. Children can use temporal relations as young as three years old, so it is possible that they are able to use these in pretend play also at this age.

The preceding studies mostly show a link between play and narrative. It is a link between the ability to produce a narrative from prompts or from a title only. In the current study, the children were helped to produce a narrative from pictorial prompts, but also after having re-enacted the story themselves. Moreover, the children were asked to retell a story, rather than generate a new one. This is different to what has been asked of many of the children in the studies described above. Lastly, in the current study there was also an adult present supporting the child's utterance of the narrative, and the relevance of this role will be discussed next.

2.6.6 The Role of the Adult in Narrative Production

Narrative production does not take place in a vacuum. The interaction which can take place between an adult and a child can facilitate narrative production. Hoff

(2005) argues that narrative can be developed simply through interaction with an adult. The adult begins the process by scaffolding the child. He/she asks the child questions, which enables him/her to recall past events. Narrative then moves from recalling past events, to including a plot with imaginary events. When the narrative becomes established, it usually contains linguistic devices which link the different elements therein. This is referred to by many authors as coherence. Social settings, such as nurseries, or even interaction at home with a parent, can encourage narrative development. When significant adults in the child's life use complex elements in their own narrative, this can influence the child's narrative production as they grow (Fivush, 1991). For example, in a study conducted by Fivush, mothers who used complex elements in their narratives with their children, influenced their child's narrative production positively later.

Settings, too, can have an impact on children's narrative development. As was shown by the Nutbrown review of quality in the Early Years and the various EPPE studies, it is crucial that the staff who are working with young children are appropriately trained and up-to-date with the research pertaining to children's narrative development (Nutbrown, 2012; Sammons *et al.*, 2002; Sylva, Melhuish, Sammons, Siraj-Blatchford, & Taggart, 2004, 2008). Baldock (2006) offers some advice for the development of narrative in settings. He advises that narrative development should be at the very heart of most of what the child engages in, in the Early Years. He calls for a more theoretical input in the practitioner's work. This means that every exchange between the child and the adult should have narrative development at its core. An exercise as simple as the child telling the adult about his/her experiences can be developed and encouraged.

Reading to children is another way in which adults can develop children's narrative (Stadler & Ward, 2005). Exposing children to a sequential story has the potential to nurture and improve what is developing at a fast rate at that age in the Early Years. The types of stories which are read to children should be considered when supporting narrative development. Baldock suggests that, if it is true that children

initially narrate in 'heaps', perhaps the stories which are presented to them should also be arranged in heaps around one central theme. It is possible that children are not uniformly developing at this stage and that they should be presented with books and stories which stretch their capabilities. However, it does seem that, when children are developing the ability to describe routines and rituals, they quite enjoy books which are based around one theme. Children can identify with a theme that focuses on ritual and routine, as they themselves operate that kind of monologue too. One strong example Baldock gives of this is *The Very Hungry Caterpillar* (Carle, 1970). This is a very simple sequence of events, but it also contains a climax by way of the caterpillar turning into a butterfly. The story has a clear conclusion.

Repetition is also useful when trying to develop narrative. *We're going on a Bear Hunt* (French, 2000) is a particularly strong example of this. The children identify with the ritual of the repetitive rhyme. It helps to fix "*the narrative in the child's mind*" (Baldock, 2006:49). Formal openings and closures, such as *once upon a time* and *they all lived happily ever after* help the child to situate the story between a beginning and an end. Successful books have also used non-human characters and incorporated a temporal element. This helps children to realise that the story is separate from their daily routine and that they live in a world that passes in time (Baldock, 2006).

Adults can help to actually elicit narrative from young children also. They can ask questions such as *who*, *what*, *where* and *when*, which can elicit the crucial story grammar elements which the child needs to tell a story (Peterson & McCabe, 1994). Adults may have a role of guidance through an original story, or guidance through the child's attempt at recreating or generating a new one. They may be engaged in task regulation while the child is narrating. This might take the form of scaffolding the child with helpful hints, or information so that they can complete a story or narrative. They might also offer necessary feedback to the child, in the form of questions about the narrative, or simply just discuss the story once the child has completed telling it. The adult's role may be merely to offer praise to the child

regarding his/her efforts in creating or retelling the story, or to make utterances that reassure the child that the adult is listening and engaging with his/her story.

These various roles, which the adult can play initially, can eventually become intrapsychological ones which the child uses independently as his/her narrative skills develop. As the child gets older, perhaps the adult's presence helps in the collaboration of narratives. McPherson (2002) found that, once the children were aged between 38 and 44 months, the narratives were constructed more collaboratively with the adult and contained more elaborate details as a result. Adults can scaffold the children's narratives, as they develop and produce information which may help to produce more elaborate stories from the child's own memory.

Creating an environment which can prompt the child to create narrative can be beneficial to his/her narrative development. For example, it is thought that, by using pictures to help children create narratives, rather than relying on their ability to construct one from a title alone, this enables them to construct more coherent stories. The adult's role here could be one of facilitation, especially when the children have lower text comprehension abilities (Cain, 2003). The role which the adult played during the current intervention was a collaborative and supportive one. The adult provided pictorial prompts, facilitated the re-enactment of the story and, in turn, supported the sequencing of the events. This led to the children having the opportunity to eventually retell (narrate) the story. Along with collaboration with an adult, the child relies on his/her memory when constructing narrative and this will be discussed next.

2.6.7 Memory and Narrative

Baldock (2006) suggests that theory of mind appears around the same time that infant amnesia disappears. This is significant as it is the time when narrative can develop also. He suggests that memory – moreover, working memory – is a crucial element in being able to develop narrative competence. He argues that very young

children (younger than three years old) can construct memories long before they can express them. Children as young as two years old can have event knowledge, but not necessarily have autobiographical knowledge. On the other hand, it has been argued and indeed challenged, that adults cannot remember anything before their third birthday (Baldock, 2006).

Bruner argues that narrative can help to frame memories for a child. If a child does not have the frame for a certain memory, then it can be lost (Bruner, 1990).

Narrative can, therefore, help the child to frame what is happening in his/her life enabling him/her to recount it at a later date in the form of narrative. This ability to talk about something which has happened in the past, or not at the actual time of speaking, requires the child to have decontextualised language. This is the ability to tell a listener about something which the child has experienced outside of the timeframe of the narration. This requires the child to call upon language which is not shared with another, but relates to the experience he/she is describing. Children must also access their memory to retell the narrative.

Montgomery, Polunenko and Marinelle (2009) conducted a study into the importance of working memory, i.e. phonological short-term memory (PSTM), attentional resource capacity in the central executive and processing speed in the development of children's understanding of spoken narrative. They used the definition offered by Bower and Morrow (1990) of narrative having two crucial elements: characters and a physical setting, and they examined story grammar under these elements (Bower & Morrow, 1990). Characters can be related to the problem and its cause in the story and, very importantly, the characters can be related to other characters in the story (Montgomery, Polunenko, & Marinellie, 2009). Montgomery and colleagues argued that, in order for a child to be able to understand a story, he/she needs to be able to remember it first, i.e. store it in a PSTM and then process the understanding of it through the language processing system, thus engaging their working memory. Their study examined older children (e.g. six-eleven years) than those in the current study, but the results are valid

nonetheless. They found that certain components of working memory, i.e. attentional resource capacity and processing speed did have an impact on children's spoken narrative comprehension. However, it is worth noting that their original conceptualisation of narrative was quite narrow in focus, only concentrating on physical setting and characters. The focus in the current study is on many more aspects of the story. Other evidence has also emerged that working memory can contribute to the global language abilities of school-going children aged five years approximately (Määttä, Laakso, Tolvanen, Ahonen, & Aro, 2014). If children's narrative development occurs at such a young age, there is potential for intervening in this development, in order to support it. Early intervention in narrative development will be discussed next.

2.6.8 Early Intervention in Narrative Development

Early intervention in children's narrative development has been shown to improve it (Fricke, Bowyer-Crane, Hulme and Snowling, 2013). Fricke *et al* conducted a 30-week intervention thrice weekly. 180 pre-schoolers from 15 nurseries with a mean age of 4:0 years took part. These children had been screened and deemed as having below average oral language skills, as evidenced by their scores on a screening test: *Clinical Evaluation of Language Fundamentals - Preschool II* (Wiig, Secord, & Semel, 2004).

The intervention, which was delivered by nursery staff who were trained for two days and who also received fortnightly tutorials, took place over the last ten weeks of preschool and the first 20 weeks when the children entered Reception. Children were randomly allocated to the intervention group or a waiting control, in line with the study's experimental design. The children's listening comprehension, taught vocabulary, sentence structure and narrative skills were tested at a post-test and a delayed follow up. The children's phonological awareness, literacy skills (spelling) and general cognitive ability were also tested.

During preschool, the intervention comprised three 15-minute group sessions. When the children moved to Reception, they continued with the three group sessions, but they also received two individual sessions per week. This was quite an intensive intervention which focused on story creation, acting out of those stories and the teaching of new vocabulary. The children's vocabulary in the intervention group improved in taught weeks 11-30 of the intervention with large effect sizes $d=.83-1.18$, but less so for the first ten weeks ($d=0.25-0.27$). The results were also favourable for the intervention in terms of narrative skills also at immediate post-test and delayed post-test, thus making a case for early intervention in narrative development (Fricke *et al.*, 2013).

Spencer and Slocum (2010) also conducted a study to test the effectiveness of their story grammar intervention on the narrative of children who had below average narrative skills. They based their study on a previous study conducted by Hayward and Schneider (2000), which had also taught story grammar to children with a specific language impairment. Their small sample of 13 children had also benefited from narrative instruction (Hayward, 2000). Having defined narrative as "*orally presenting causally related events or an experience in temporal order*" (Spencer & Slocum, 2010: 179), they introduced various picture cards which had icons on them that referred to parts of the story, or the story grammar of that story. The children had firstly to retell the story in a group with each child recounting one element of the story grammar. Then the children would individually retell the story with and without picture cards from the story. The groups were arranged in such a way that there was a range of abilities in each group.

The design of their study is questionable, delivering the intervention to 19 children, but only focusing on the test results of five of those who had below average scores on Renfrew Bus Story Test (Renfrew, 2001) and a Personal Narrative Test. They claim to have used an experimental design; however they do not appear to have used a control group.

Furthermore, the teachers who were working with the children did not agree with the researchers' scoring system and rated some of the post-intervention stories as of lesser quality than those elicited at baseline. Could it be that the fact that the abilities were arranged for each group had an impact on the children's narrative? However, Spencer and Slocum's results were positive in favour of the intervention.

Spencer and Slocum's study was reacting to Dickinson and colleagues' (2006) call for narrative instruction before formal schooling (Dickinson, McCabe, & Essex, 2006). This is a culture-specific study, as the possibility of introducing narrative intervention in other parts of the world so early in a child's life would be scrutinised. Cultural differences can arise in relation to the types of narrative produced. For example, American Caucasian children tend to create stories with one theme only. African American children tend to create stories with lots of themes. This data is very old, with Michaels having carried out the research in 1981 (Michaels, 1981). Japanese children tended to produce shorter stories in general. Perhaps with the advent of widespread technology, different results might be produced now (T. D. Spencer & Slocum, 2010).

Recent research which pertains to early intervention in the development of narrative using storybook reading is that of Dockrell *et al* (2010). A study with a quasi-experimental design measured vocabulary, oral comprehension, sentence repetition and narrative of English Language Learners. An intervention entitled *Talking Time* was delivered to one group of children, with storybook reading at its core. Open-questioning and modelling of language were used by the teachers, along with pictures of local settings as stimuli to develop narrative. Children were tested on the non-verbal subtests of the *British Ability Scales II* (BAS II) (Elliott, Smith, & McCulloch, 1997). Language was assessed using the *Naming Vocabulary* and *Verbal Comprehension* subscales from the BAS and narrative was measured by The *Bus Story Test* (Renfrew, 2001).

Dockrell *et al*'s intervention was reported as having had an effect on vocabulary, oral comprehension and sentence repetition, but not on narrative skills (Dockrell *et al.*, 2010). However, there was a significant difference between the English Language Learners and the monolingual children on narrative, which might suggest that perhaps the children's original language abilities had a bearing on the results. The current study builds on this research, as the sample consisted of native speakers and the storybook reading was combined with pretend play to target narrative development. Vocabulary was reinforced during questioning in the storybook reading in the current study, again during the sequencing and once again during the planning and execution of the pretend play sessions. Also, methodologically speaking, the current study randomly assigned the children to the groups, rather than it being a quasi-experimental design, as was the case in Dockrell *et al* (2010).

Early Intervention, which borrows methodologies from the realm of acting, can also prove successful for children's narrative comprehension and production. In an intervention entitled *Playworld*, children were encouraged to 'live through' different concepts in a multisensory way. Using *The Lion, the Witch and the Wardrobe* (C. S. Lewis, 1994), a treatment group of 17 five-year-old children participated in a 14-week intervention. A story was read to the children, and then the children had a choice of free play, re-enactment of the story or art activities, followed by a discussion of the book. The children in the intervention group had improved narrative comprehension (tested through sequencing an unknown story with pictures) and narrative production (tested by using visual prompts to tell a story) (Baumer, Ferholt, & Lecusay, 2005). The children, in a make-believe setting, experienced what the characters in the book would have experienced.

The components of *Playworld* are comparable with what actors using the Stanislavski method do when trying to create a believable role (Stanislavski, 1981). Similar to the Stanislavski method, children also have the opportunity of experiencing what the character might feel, see, do, how they might react to certain things and essentially see life from the point of view of that character. The acting

out of a story facilitates the playing of a character. This can help children to internalise characters' actions and the events of the story in which they are involved, thus helping to improve their ability to retell that story.

2.7 Section Summary

Oral narrative can be considered as a cultural practice, as culture and heritage is transferred from one generation to another (Ely *et al*, 2000). It promotes social interaction among children, enabling them to share experiences (Coupland & Jaworski, 2003). It develops in preschool and continues to be refined through a child's school career into adulthood (Reuterskold *et al* 2011).

Narrative can be defined as consisting of a macrostructure and a microstructure. The macrostructure consists of the content and organisation of a story retelling as indicated by story grammar. Story grammar refers to aspects of the story such as the setting information, an initiating event, internal response to the event, and consequences of the event in the story. Microstructure refers to technical aspects of language used, such as connectives and conjunctions (Epstein & Phillips, 2009). Younger children tend to have a lower level of cohesion in their narrative, i.e. they have lower levels of microstructure. At the age of three and four years, they are mastering the concept of real narrative, they can identify a central theme in a story and establish links between the main elements of that story (Applebee, 1978).

Oral narrative can promote social interaction among children, enabling them to share experiences (Coupland & Jaworski, 2003). If narrative development is not supported, however, the effects can be detrimental to the child's educational experience. Deficiencies in narrative ability can lead to bullying, negative evaluation by others and peer rejection in time, not to mention lower academic success with regard to children's literacy abilities (Crais & Lorch 1994; Epstein & Phillips 2009; Davies *et al*. 2004).

There appears to be a lack of experimental research currently which pertains to narrative development in native speakers. One of the main aims of the current study was to produce a research design that was as methodologically sound as possible, to address this gap in the research literature.

2.8 Chapter Summary

This chapter presented a review of the literature which supports the development of an intervention which has group shared storybook reading with a puppet and pretend play as its components.

The choice of components is supported by evidence from the literature about how a child develops narrative and vocabulary, and language in general. Specifically, it is argued that when children develop narrative skills, these are identifiable through a structural model of narrative development, which was developed by Stein and Glenn (1979) and Applebee (1978). The adult's role in this development is explicitly discussed in relation to both Stadler and Ward's (2005) and Baldock's (2006) contention that the very act of adults reading to children, can highlight the structure of story, which in turn can support their understanding of story grammar (Stein & Glenn, 1979), i.e. the foundations of story retelling.

In terms of children's vocabulary development, it is argued in the current thesis, that children rapidly develop one-word vocabulary from the age of two and a half / three years. The current intervention worked with children from the age of three onwards. Tomasello's (2010) work on collaboration and mutual engagement and his Social Pragmatic model of vocabulary development (Tomasello, 2001) are offered as the foundations for developing the children's vocabulary in the intervention. The intervention aimed to facilitate children's interaction within a specific context, i.e. a pretend play episode and a storybook reading session, using new vocabulary, which is related to the story that was read each week.

Overall, it is argued here, that Vygotsky's (1978) Social Interactionist model underpins the intervention. The children are interacting with each other, the intervention materials and the adult. This interaction is aiming to facilitate the children's use and indeed rehearsal of language in an age-appropriate and child-friendly manner.

The role of the adult is discussed in relation to children's general language development, in the form of Bruner's (1983) work on joint reference. The use of the storybook is viewed here as a way of developing that joint reference, which in turn supports children's language development.

Play is discussed in light of its strengths in creating an enabling environment for children's language development. Pretend play is highlighted as being the particular type of play that is most favourable for this development. It is contended here that the adult has a crucial role to play in this enabling environment and some of the strategies that have been adopted in both the *Tools of the Mind Curriculum* (Bodrova & Leong, 2007) and indeed drama-in-education, are offered as pedagogies within the intervention.

The use of components, which are based on interaction, is also supported by evidence from the research literature that currently exists. Intervention research relating to vocabulary development, to a lesser extent narrative development, due to a paucity of experimental research, storybook reading and pretend play are all discussed in relation to its methodological standing along with its links to the current intervention. Intervention studies, which are directly relevant to the decisions made in relation to the intervention design, are summarised in a table with comparisons made between them. Classic studies on language development in the UK, such as Tizard and Hughes (2002) and Wells (2009) are also discussed in order to provide some historical context for the current study (Tizard & Hughes, 2002, 2009; Wells, 2009).

Attempts were made to provide a sound theoretical foundation and research evidence for the selection of both the components and outcomes of the intervention in the current study.

The actual design and development of that intervention is described in the next chapter.

CHAPTER THREE – DEVELOPING AN INTERVENTION

3.1 Introduction

This chapter presents the development of the intervention – *Let's Talk*.

Firstly, *Let's Talk* is introduced and then a very brief reminder from Chapter Two of the way in which children develop language, specifically vocabulary and narrative by way of rationalising the intervention, is presented.

Secondly, the reader is reminded of the outcomes that the intervention was targeting in the young children, i.e. vocabulary and narrative. Details are presented of the target vocabulary which was selected for each session, and the reasons for choosing such vocabulary.

Thirdly, a timetable illustrates the timescale of the development of the intervention over the course of the study. It shows its development from its basis in best practice, to its piloting and finally its delivery in the main study.

The next section addresses again briefly the empirical research which has already taken place which can support the chosen components of the intervention, i.e. group shared storybook reading and pretend play. In addition, the nature of the involvement of the adult in the intervention is discussed, and links are made to the pedagogical principles of the day and the evidence that supports them. This section also describes the overall approach of the intervention. In this study, the intervention targeted vocabulary and narrative development, so objectives or learning goals were developed in keeping with the Early Years Foundation Stage (Department for Education, 2012). The target audience of the intervention is discussed, including the age group of children and their socio-economic grouping.

Links are made to the rationale for such an intervention which was presented in Chapter One and the literature and research discussed in Chapter Two.

Fifthly, the principles and each of the aims of the intervention are listed and the exact components of the intervention – group shared storybook reading and pretend play – are introduced. The exact usage of the puppet (*Tobi*) in the storybook sessions is described. The choice of puppet is described and the way he was introduced at each session is supported by relevant literature. Photographs of the puppet are included and the participants' reactions to him are described. The rationale for the use of planned pretend play is shown again, based on evidence from the research literature in Chapter Two. The children's role in the planning of the pretend play episodes is explained, as well as the nature of the sessions. The dramatic device of *teacher-in-role* is explicated and its exact usage is described (Johnson & O'Neill, 1984; Neelands & Goode, 2001; Wagner, 1976).

The chapter then discusses the themes which were selected, how they were selected and the materials which were used with reference to EYFS learning goals (Department for Education, 2012) and research on children's play preferences (Gmitrova *et al.*, 2009).

The materials which were used by the researcher for role-playing with the children are described. There were very few actual props required for this intervention and the ones brought to the session by the researcher are listed. Photographs of the session packs are presented. Some examples of symbolic substitutes, which the children used for items they required to enter the make-believe world, are listed. The resources and materials used for the storybook sessions are described and discussed. The rationale for the choices which were made with regard to these resources, and their basis on the themes above, are explained.

Next, the delivery of the intervention is discussed. The layout of the room, the group sizes and the number of sessions are discussed. A detailed description of where the

children were positioned in relation to the researcher, and what furniture was used at each session, is presented. The benefits of children working in small groups are discussed in this section.

As this was an intervention which was delivered by the researcher, it is important to discuss the fidelity of its delivery. This is discussed next.

Lastly, a chapter summary is presented to summarise the content of Chapter Three.

3.2 Overview of the Intervention

For the purpose of this thesis, an intervention will be defined as “*the implementation of an experimental project or programme, or a change in the focus or delivery of existing services*” (Oliver & Smith, 2000:3). Although this conceptualisation of intervention is narrow in focus, only taking into account the programme itself and not the environment surrounding the intervention’s members, it summarises the current study’s main focus (Oliver & Smith, 2000). The study seeks to implement an intervention, which collates good practice and which targets children’s oral language skills. In addition, the intervention itself aims to counter the narrow focus described above, by integrating the receivers’ (i.e. the children’s) interactions with their peers and their environment.

The intervention was devised to target oral language skills of children aged between three and five years, specifically their vocabulary and narrative (story retelling). It was grounded in the Social Interactionist perspective of Vygotsky and Bruner (Bruner, Jolly, & Sylva, 1976; Bruner, 1981; Vygotsky, 1933, 1986). It took place twice weekly for nine weeks. It featured a two-pronged approach— firstly, a group-shared storybook reading session, followed by a planned pretend play session later in the week. Groups consisted of no more than five children and no less than three, of mixed gender and ability. Each session was based on thematic units appropriate to the children’s environment, interests and the *Early Years Foundation Stage* learning goals.

The intervention consisted of two elements of good practice – group shared storybook reading and pretend play. The storybook was introduced in the first session in the week with a puppet, and a dialogic discussion took place between the researcher and the children, and among the children themselves. Session Two consisted of a planned pretend play episode, based on the story that was introduced in Session One. Each week a new storybook was introduced, but the theme only changed fortnightly. An example of a session is contained in Appendix 2. The *Let's Talk* model consisted of a facilitation of children's natural inclinations to play and enjoy storybook reading.

3.2.1 Rationale for *Let's Talk*

Early intervention in literacy development is crucial and has proved successful in having a long-term impact on children's life-chances or outcomes (Nutbrown *et al.*, 2005). More specifically, research shows that younger children benefit from oral language interventions which contain talk and narrative that can improve their reading later in life (Aram, 2006; Bowyer-Crane *et al.*, 2008; Landry & Smith, 2006). Vocabulary and inference training can also improve oral comprehension, vocabulary and sentence repetition in young children with English as an Additional Language (Dockrell *et al.*, 2010).

This oral language development, which is so crucial for a child's literacy development, can take place through play, talk and interaction (Bergen, 2013; M.D. Coyne *et al.*, 2004; Sualy *et al.*, 2011; Vygotsky, 1978). As the Literature Review in Chapter Two highlighted, this language development does not arise only out of an inbuilt predisposition to speak, nor does it emerge solely as a result of influences from outside of the child. It is a transactional process which operates within an interactionist context (Bannard *et al.*, 2013; Childers & Tomasello, 2002; Harris, 1992; Schulze *et al.*, 2013; Tomasello, 2003; Vygotsky, 1978). This interactive model enabled the two outcomes of the intervention to be targeted.

3.3 Intervention Outcomes

3.3.1 Narrative (Story Retelling)

Previous studies have shown that narrative typically begins to develop any time between the ages of three and five years. This age trajectory has been identified through observational studies, and experimental research which has measured children's narrative at different ages (Baldock, 2006; McPherson, 2002; Stadler & Ward, 2005). Different approaches have accounted for the way narrative develops, but most authors generally agree that it takes a variable path from single topics of interest, to personal story generation, to where a child can generate a story from a title, from his/her play and/or using props or visual prompts; full fictional or fantasy narratives. Story retelling, which is the focus of the current study, occurs around the time that the typically-developing child can engage in fictional narrative development (Bergen, 2013; Ilgaz & Aksu-Koç, 2005).

In the current study, the children were trained in sequencing a story, each contributing a section of the story at first and then retelling the entire story in turn. In the storybook session, a puppet was used as an audience for the children's story retelling. Then, after acting out the story in the second session, the children were asked to sequence the story, using pictures, and to practise retelling it once more. Visual prompts are useful for aiding children's narrative production (Ilgaz & Aksu-Koç, 2005). Such prompts were used in the current intervention and children were supported according to their relative abilities regarding story retelling.

3.3.2 Vocabulary

Vocabulary development begins from birth (Fernald, Perfors, & Marchman, 2006; Hart & Risely, 2003; Howes et al., 2008; Newman et al., 2006; Uccelli & Pan, 2013). However, from around the age of two years, children's vocabulary development has the capacity to increase rapidly. There is a substantial opportunity to support vocabulary acquisition when children come to preschool, as most three to five year olds in the UK are doing now, due to the provision of 15 free hours per week of preschool (European Commission/EACEA/Eurydice/Eurostat, 2014). Interventions

which aim to improve vocabulary in young children have proved successful in the past, to varying degrees. Such interventions could be summarised as being successful in supporting children's productive and receptive vocabulary (Allen, 2011; Aram, 2006; T. D. Spencer & Slocum, 2010). Interventions have differed in the methodologies and pedagogies they employ, from direct instruction to implicit acquisition. A combination of these strategies can help children's vocabulary and that was the approach used in the current intervention.

The choice of the target vocabulary for the intervention was based on research evidence, discussed in Chapter Two, which showed that young children's early vocabulary acquisition consists predominantly of nouns - 40% of a child's first 50 words (Uccelli & Pan, 2013). Nouns which were novel, but which might be used frequently by the children in their everyday language in the future, were chosen, and these words were taken from the storybooks which were used in the intervention. There were several criteria for selecting the words, based on evidence from previous intervention studies (Sénéchal, 1997; E. J. Spencer et al., 2012). Firstly, as this was an intervention which was aiming to support and/or supplement children's vocabulary, then it was important to select concepts that the children may already know, but might not have a new or alternative word for e.g. *uniform (clothes)* *rowboat (boat)*, *sign (signpost)*, *patient (sick lady)*.

Secondly, each target word was selected as the children were readily exposed to it in the storybook. For example, each word was represented pictorially in the storybook, used multiple times, embedded in the story grammar itself, and was associated with a key character or event in the story. Therefore a rich context for each word was readily provided.

Thirdly, it is beneficial to choose words that were unlikely to be familiar to preschool children but which could be used in conversation in the future and may have a high utility for the children (E. J. Spencer et al., 2012). It is possible, that had this vocabulary test been more rigorously piloted, then perhaps the choice of words

could have been a more refined and appropriate list for the children in this study. Two words from each story (four from each theme) were included, and a list of these, along with their corresponding themes, which will be discussed in Section 3.7, is contained in Table 3.1.

The target words were then tested in the *Researcher Designed Vocabulary Test*. Some of the words had acceptable alternatives, as many children offered these at the testing stage; it was not possible to have a completely unambiguous pictorial representation of some of the more abstract nouns, such as ‘dessert’ and ‘slice’. The children showed semantic knowledge of the pictures, so an alternative was accepted for three of the more difficult words. The words were repeated before, during and after reading, which has been shown to increase children’s vocabulary (Biemiller & Boote, 2006; Roskos & Burstein, 2011; Sheil et al., 2012). Also, the words were used in the sequencing of the story, after reading and during the planning, executing and reviewing of pretend play in the second session of the intervention each week. The children experienced the words in a contextual manner. Using the new words themselves in the correct context could help the children to make mind maps of the words (Roskos & Burstein, 2011). These words and storybooks were chosen early in the process of developing the intervention. A detailed description of the timetable of this, and the rest of the intervention, will be discussed next.

Table 3.1 – Target Vocabulary for *Let's Talk*

Intervention Theme	Target Vocabulary	
Household	1	vase
	2	onions
	3	flowers
	4	fabric
Transport	5	rowboat
	6	harbour
	7	signpost
	8	roundabout
Banquet/Feast	9	sandwich
	10	slice (pizza)
	11	dessert (ice-cream)
	12	pineapple
Market	13	basket
	14	shopkeeper
	15	purse
	16	escalator (moving stairs)
Professions	17	uniform
	18	postcard
	19	dentist
	20	patient

3.4 Timetable of Development for the Intervention

Let's Talk was developed over a period of 18 months, from the initial consultation of the literature in October 2011, to the main delivery of it to the children in the first two settings, in January 2013. Development took place in four phases (Figure 3.1). Phase One consisted of a literature review, Phase Two included the development of the components of the intervention and details of its operationalisation. In Phase Three, piloting of the intervention took place and in Phase Four, the fully developed programme was delivered.

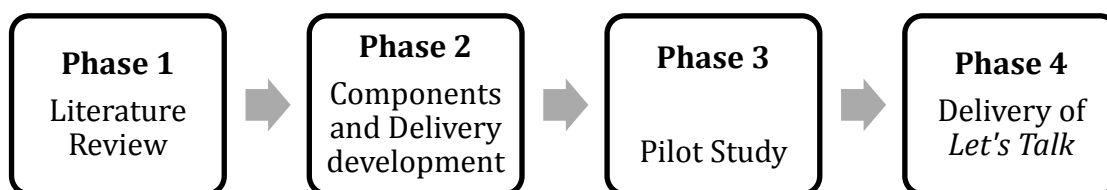


Figure 3.1 Development of *Let's Talk*

3.4.1 Phase One

A comprehensive literature review was conducted on the oral language development of young children. This included any meta-analyses, journal articles, books, policy documents and unpublished theses (a full description of how the literature search occurred was presented in Chapter Two). It appeared from the literature that there was a paucity of evidence-based narrative development interventions for children aged three and four years. Also, it was apparent from the literature that vocabulary was important for narrative development. As oral language has been found to be a predictor of literacy development later in a child's life, and early intervention tends to give at least moderate effect sizes (Dickinson *et al.*, 2010; Muter *et al.*, 2004), it was decided to focus on the outcomes of narrative and vocabulary development for the intervention.

The literature suggested that a good stimulus and means of introducing target vocabulary is the storybook (Coyne *et al.*, 2004; Mol *et al.*, 2009; Sénéchal, 1997). The story would be sequenced repeatedly, using the target vocabulary, which would facilitate story retelling. Pretend play is seen as a crucial part of the development of narrative, so it followed that this should be introduced as a second session in the intervention. The planning element of the play session helped the children to use the vocabulary once again and embed the sequence of the story in their minds. The sequencing was then repeated once more at the end of the pretend play and the

children would discuss what they had done in the play. This reviewing allowed the children to retell their part of the story once more.

3.4.2 Phase Two

A discussion took place with a Programme Lead on Undergraduate and Foundation Early Education Studies Degree Programmes. This person, who had many years' experience as a nursery headteacher, offered useful insight on the proposed programme. A semi-structured interview was conducted and the questions and field notes are listed in Appendix 25.

These discussions provided rich and detailed information based on the headteacher's experience of working with children in the early years, which the researcher considered while developing the intervention. The respondent stated that he had often used stories orally. He maintained that the interaction between children was different, when they were asked to interact orally about a story, than when they sat stationary, listening to a story being read to them in a didactic way. He argued that storytelling was a rich experience, which contained several elements. The richness of the storybook itself was important, but so too were the illustrations and the plot line within that book. Books needed to be interesting and sometimes humorous enough to hold the children's interest. This is in line with the current research evidence on children's literature, so was considered by the researcher when choosing the intervention storybooks (which is discussed in Section 3.8.1).

The respondent also offered advice about the use of a puppet. He thought that perhaps the puppet should have some mystery surrounding it, and that perhaps it should be introduced out of a box to arouse the children's interest.

He had used planned pretend play before and he gave useful insight into the themes for the intervention: *"The ones that I immediately like are the ones that have concrete elements to them, so therefore a market, hairdressers, going to the doctor, builders"*. The professions were chosen as one of the themes for *Let's Talk*. He also argued that, *"If you are going to go down [the route of] role play, then they [the*

themes] *need to be attached to situations that the children recognise*". This was in keeping with the research on children's play preferences (Gmitrova *et al.*, 2009), so it was decided by the researcher that topics which are familiar to young children should be chosen for each theme.

It was decided that a manual would be developed, to aid practitioners' delivery of the intervention in the future. Providing practitioners with as much information as possible to ease their delivery of a programme is beneficial, as research has shown that the level of expertise varies from setting to setting, and the quality of preschool settings has a profound effect on the children's outcomes (Justice, Mashburn, Hamre, *et al.*, 2008; Mathers, Sylva, & Joshi, 2007; Nutbrown, 2012). It therefore seemed appropriate to ensure that, if the intervention were used in settings in the future, something concrete should exist for the practitioners to use. It could contain guidance rather than be totally prescriptive. Creating a manual was also a useful exercise for the researcher, as it enabled her to focus on the development of underlying principles for the intervention (Section 3.5.1).

Once the researcher had consulted the literature, the overall outline of the intervention could be developed. There were several factors which were considered when designing the intervention and these will be discussed next.

Factors for Consideration when Developing an Intervention

The Learning Environment

Consideration of Rogoff's theory about children's learning was useful in framing the development of the intervention (Collins, Joseph, & Bielaczyc, 2004; Rogoff, 1995). Rogoff (1995) argued that the learning environment (of an intervention) should have 1) a personal layer, 2) an interpersonal layer, and 3) a community layer.

Firstly, at the *personal* layer, it is important to uncover what the children themselves might know before they enter the setting, or in the case of the current study, engage in the intervention. For example, the researcher checked whether the children had

already been exposed to any of the storybooks, or whether they had ever engaged in the practice of planned pretend play and if so, to what extent. Whether the children had been taking part in any other language interventions was also taken into account. None of the children had, in fact, done so. The intervention also had to be malleable enough to enable the introduction of the concept of planned pretend play to the children, if they were not familiar with it.

On consultation of the literature, it was apparent that there was a paucity of research relating to ‘intervention development’, in particular. It was decided that some of the factors that are considered, and the vocabulary that is used, when designing curricula, could be useful to the researcher in the current study, when developing the intervention.

Even though it was not the setting staff who was developing this intervention, the principles in Brundrett, Duncan and Rhodes’ (2010) body of work on curriculum development can be applied to the researcher’s process for developing *Let’s Talk*. The intervention in the current study could be viewed as a very minor curriculum of sorts, albeit much smaller in nature than the likes of national curricula. Brundrett *et al* (2010) conducted studies examining the key skills which are required of school staffs to be leaders in curriculum innovation. These researchers were specifically interested in whether a link existed between curriculum innovation and school effectiveness. The sample ($n=12$ in three primary schools) was quite targeted and small, but this was intentional, as the participating schools had all implemented some interesting alternative curricula previously. Their findings indicated that curriculum development was useful and important, as long as it supported good practice which already existed and there was real engagement with the staff who worked there. The intervention in the current study did exactly that, as it incorporated two elements of pre-existing good practice, storybook reading and pretend play.

The headteachers in Brundrett *et al.*'s (2010) study recommended that there should be rigorous planning and monitoring of the implementation of any new programme. They argued that it should be an ongoing, dynamic and reflective process, which facilitates an ethos for change through risk-taking, experimentation, trialling and piloting. The thinking behind these points can be applied to the development of the current intervention. There was an element of risk-taking involved on the part of the settings, in investing in the research, but the intervention was well-trialled and piloted; this is discussed fully in Section 3.6 (Brundrett *et al.*, 2010).

Secondly, at the *interpersonal* level, the way in which the adult and the children were going to interact, and the ways in which the children would interact with both each other and the materials, was considered carefully. Research has shown that adult-initiated play can have an effect on the language outcomes of young children (Sheil *et al.*, 2012; Weisberg *et al.*, 2013). Partaking in small group activities can also have a positive impact on the oral language outcomes of young children. They share, use and learn new vocabulary by interacting with each other directly in small groups (Wasik, 2008). Children can be assessed more readily by the adult in small groups, as the instructor is not as restricted by time, and can observe children both individually and in terms of their ability to interact and communicate within the group.

Children's interaction with the resources in any intervention is also crucial. Factors to be considered for the current study in relation to this were: what resources would be used, how accessible they should be and how integrated they needed to be in the activity in which the child was engaged. Storybooks were the main resources required for the current intervention and they were selected very carefully with support from the research literature regarding children's interaction with books (Roskos & Burstein, 2011; Sulzby, 1985). They had to be engaging enough to hold the children's interest, have a strong narrative content with a good plot line and have interesting humour and illustrations to appeal to a younger audience. The choice of books will be discussed further in Section 3.8.1. For the pretend play aspect of the

intervention, objects available in the immediate vicinity were mostly used. The children were required to engage in symbolic substitution of items/furniture in the room, in order to enhance their use of the new target words. A different costume item was brought each week by the researcher to help to create the role of the character she played. These were brightly coloured and sufficiently different from the researcher's clothing to help create the character. Descriptions of these will be outlined in Section 3.8.2.

Lastly, Rogoff (1995) suggests that learning needs to include consideration of a *community* layer. Here, he emphasises the importance of the agreement of all sides. In this case, practitioners, the researcher and parents all had to agree to invest their time in the intervention and the research. The parents and settings were provided with detailed information about the intervention and had many opportunities to ask the researcher questions about any aspect of it (Chapter Four).

Rogoff suggests that the micropolitical impact, if any, should be accounted for in developing a learning environment for children. In the current study, the researcher had to ensure that the intervention had a strong foundation in theory and research on oral language. This has been described in full in Chapter Two.

To summarise, two important factors which were considered when designing the intervention in the current study, were the potential influence on the learning outcomes of the children, and the relative ease with which the programme could be adopted by settings (Roskos & Burstein, 2011).

Recipients of the Intervention

When developing an intervention, it is important to be clear about the audience for which it is intended, so that it can attempt to match their needs. Bond and Wasik argue that children move from noise, to single words, to complex sentences, and between birth to five years old it is estimated that children acquire 10,000 words

(Bond & Wasik, 2009). In order for any or all of this development to occur, children need to be exposed to chances to talk (Bond & Wasik, 2009).

Some studies show that targeted literacy interventions have had large effects on participants, similar to those targeted in this intervention: pre-school children (Chambers, Chamberlain, Hurley, & Slavin, 2001; Justice & Ezell, 2004; Justice & Pence, 2004; Justice *et al.*, 2010). Specifically, an integrated curriculum – *Curiosity Corner* – was implemented with children in 27 pre-school settings in a low income area in New Jersey, USA, to improve their oral language skills (Chambers *et al.*, 2001). The expressive abilities of children aged three years in the sample were significantly higher than the children in the matched control group. Aram (2006) also highlights the importance of promoting vocabulary and alphabetic skills from three years of age. This supports the argument for targeting children at this stage of their oral language development through an intervention.

Research has also shown (Burns *et al.*, 1999; Muter *et al.*, 2004; Snowling *et al.*, 2011) that introducing oral language curricular interventions to children at a young age can influence their reading abilities later in life. Bowyer-Crane *et al.* (2008), in their study on the improvement of language and literacy skills via phonology versus oral language, conclude that an oral language intervention before primary school is useful in reducing children's reading difficulties later on (Bowyer-Crane *et al.*, 2008). During this period also, it is thought that typically-developing children switch from giving personal narratives, to offering fictional and fantasy narratives in narrative development (McPherson, 2002). Importantly, as was the case in the intervention, pretend play during this age-period can be a useful way of supporting narrative development (Baumer *et al.*, 2005; Eckler & Weininger, 1989; Feldman, 2005; Ilgaz & Aksu-Koç, 2005; McPherson, 2002).

Socio-economic Grouping

There has been much emphasis in educational research on improving the educational attainment of children in lower socio-economic areas (Bond & Wasik,

2009; Dockrell et al., 2010; Pungello, Iruka, Dotterer, Mills-Koonce, & Reznick, 2009). August and colleagues (2006) state that children who are disadvantaged are at risk of oral language failure (August, Shanahan, & Shanahan, 2006). Policy-makers, too, have highlighted the need for resources to be focused on children's language needs in these socio-economic areas (Bercow, 2008). The OECD states that a child's socio-economic background can have an influence on that child's academic performance (OECD, 2010). The OECD data suggests that in the OECD countries:

"a student from a more socio-economically advantaged background (among the top one seventh) outperforms a student from an average background by 38 points, or about one year's worth of education, in reading" (OECD, 2010:8).

Burger, in his meta-analysis on the effectiveness of early years programmes, found that children who start school from lower socio-economic areas lag behind their more advantaged peers during their later school years (Burger, 2010). Also, in relative terms, children from socio-economically disadvantaged backgrounds made slightly more progress than their counterparts in higher socio-economic backgrounds (Burger, 2010). Both the research above and the increased focus of government policy show that reaching the target audience of an intervention is extremely important, especially when it is targeted at those who may be vulnerable, e.g. preschool children from lower socio-economic backgrounds.

There is a detailed description, in Chapter Four, as to how the children for the current study were recruited. Socio-economic status was considered, along with the general cognitive and language abilities of the children. Attendance was not a factor in the children's selection, but it was a factor that emerged during implementation, as some children were absent due to summer holidays.

The Role of the Adult

A recent European Union report, *Key Data on Early Childhood Education and Care* (2014) has advocated a mix of adult-led and child-initiated activities. The Report found that there was currently a balance between these two types of activities in the UK; however, there was little support material for practitioners on how this should manifest itself on a daily basis in settings (European Commission/EACEA/Eurydice/Eurostat, 2014).

In the current study, as the intervention comprised shared storybook reading and planned pretend play, the adult's (in this case the researcher's) role was key to its development and implementation. This role was to be one of a facilitator, or a creator of an enabling learning environment for the children. This is directly in keeping with the *Early Years Foundation Stage* (Department for Education, 2012).

For example, in the storybook session, the adult/researcher chose the stories, fielded questions and explained things during a dialogic discussion. Before, during and after reading, she engaged with the children through the use of the puppet. She operated the hand puppet and interpreted questions which the children asked the puppet. She also facilitated the story retelling practice for the children. She was responsible for establishing the background to the pretend play session which would occur later in the week.

There is also evidence to suggest that adult-initiated play can have a positive impact on both children's play and language development (Weisberg et al., 2013; Wood & Attfield, 2005). In the pretend play session, the researcher discussed the play episode with the children and helped them to plan the story re-enactment. She provided prompts such as "*How will we build a rocket?*" and "*what do we need to go shopping?*" The researcher in the current study also entered into role in order to initiate the play episode. This built belief in the play episode and tension regarding the children's solving of that episode's problem, two essential elements which

helped the children to live through the socio-dramatic play (Johnson & O'Neill, 1984; Neelands, 1992; Stanslavski, 1981; Wagner, 1999).

Research to Practice

When designing an intervention, developers should consider a research-to-practice model (Justice *et al.*, 2010). The intervention should be formed on a strong theoretical and evidence-based foundation. For example, Aram (2006) argues that storybook reading is more useful for pre-schoolers than kindergarteners for developing receptive vocabulary. This position supports the rationale for including storybook reading as an integral part of this intervention. In addition, others claim that storybook reading with discussion can help to develop de-contextualised language which is useful for narrative development (Coyne *et al.*, 2004; Snow, Burns, & Griffin, 1998; Snow, Griffin, & Burns, 2005; Grover J. Whitehurst & Zevenbergen, 1999). Using this model of *research-to-practice* facilitates reciprocity, and current, relevant material can be produced and used in the field (Justice *et al.*, 2010).

Blenkin and colleagues (1994) argue that international research is powerful evidence for early years practitioners. Their standpoint, even though it was referring to curriculum development, can be applied to an intervention development context for the purpose of this thesis. They maintain that the educational values which exist in the literature and research are not always present in an intervention. They argue for the embracing of knowledge of the various developmental stages of young children when developing any intervention, in order to create a child-centred programme (Blenkin & Kelly, 1994). Blenkin and Kelly (1994) summarise their position by underlining how important it is to actually 'care about' children when developing an intervention. The intervention in the current study strove to have the adult as a partner in the child's learning, with a focus on creating a stimulating environment which was relevant to the child, where optimal learning could take place.

It is clear that the adult (the researcher) in the current intervention had a role of facilitator and initiator at different times throughout the intervention sessions. She also had a part to play in setting the agenda for the intervention, setting out the ways in which the outcomes would be targeted and setting the objectives for the intervention.

Objectives-Driven versus Process-Driven Intervention

Process-Driven

Blenkin and Kelly (1994) argue that a child cannot make sense of the world if it is only presented in an abstract form. They suggest that children need to discuss and figure out learning material in collaboration with another, in a context which is familiar to them. Here we see the influence of the theory of Vygotsky's Zone of Proximal Development theory which described how valuable the support of an adult to a child is, in his/her learning (Vygotsky, 1978). The adult can draw the child upwards developmentally, based on where he assesses the child can go. Examining research on curriculum development was a valuable way of deciding whether a process-driven or objectives-driven intervention should be designed. According to Ross (2000), a process-driven curriculum is one context which allows this transaction to take place. The child and the teacher are partners in this type of educational process and the demands of a curriculum have relevance to the learner (Thompson & Whitehead, 1994). The emphasis in a process-driven curriculum is on how a child is shaping their learning, rather than satisfying curricular goals and objectives, as would be the case in an objectives-driven curriculum. But is the 'process' enough? Some authors suggest that any intervention should have a pre-planned systematic design, with focused goals, aims and lesson-by-lesson objectives (Aram 2006; Justice *et al.* 2010).

Objectives-Driven

Applying an objectives-driven curriculum model to the intervention, knowledge is viewed as a commodity which can, and should be measured (Ross, 2000). However, problems arise in the notion of measurement itself. Often in this model, there is not a comparable way of measuring objectives. There is also debate about whether the

objectives are actually measurable at all (Golby, Greenwald, & West, 1975).

Objective-setters often assume that all children can acquire knowledge over the course of the teaching episode or learning day. This is not always the case. The consultation process regarding the conception of the *Early Years Foundation Stage* has indicated that, while objectives have their place, rewards for effort, i.e. an integral part of process, as well as the continuous monitoring of children's progress, should be included (Tickell, 2011).

Eisner (1975) makes a distinction between expressive objectives and instructional objectives. Expressive objectives are those which describe a situation that should take place, or a task that should be attempted. These are in contrast to instructional objectives, where the child is deemed to have been successful only if some tangible results have been attained (Davies, 1975). Both of these types of objective, even though they differ, can reduce success to serving a summative end or fulfilling various assessment criteria. The usefulness of a programme which is *only* based on serving objectives is questionable. Evaluation of the child's achievements as measured against some milestone has its place in checking what works and what does not. However, Bernstein (1971) maintained that curriculum development should not be summative-driven, but rather the other way around. He argued that it would be more beneficial to the pupil to develop objectives founded upon what a curriculum is endeavouring to teach (Bernstein, 1971). However, one should also be cautious of this approach, as it only measures a narrow band of knowledge, rather than the more general development of the child.

So what could the evidence on curriculum objectives offer this intervention and what form should they have taken? If they were to be useful in this intervention, objectives had to be flexible, so that they could be adapted to the child's progress, if the child was to be at the centre of the learning (Davies, 1975). Objectives had to be context-specific for the child and have the ability to be translated into learning and pedagogy, but not be so specific that any creativity or spontaneity in the lesson from the instructor or the pupil was lost (Davies, 1975). They needed to be consistent

with each other and work towards the same goal, as well as being suitable and relevant to the learner's capability, and specific and feasible (Marsh, 2009).

However, to base this intervention only on rigorous objectives, and use it as the only framework, might have meant that a narrow view of children's development was taken (Department for Children, Schools and Families, 2008).

The focus on the child and how they process their learning, has been shown to be beneficial to children's development (Aldwinkle, 2001; Edwards, 2003; Milikan, 2003). If knowledge is viewed as something that is co-constructed by the child with the educator, then it was important for the practitioner in this case, i.e. the researcher, to work in tandem with the child. This required the researcher to be adaptable in considering how best the child could access the language instruction. While this process-driven approach is useful, one cannot ignore the relative merits of objective-setting in relation to the practitioner's role in the child's development. Setting targets enables the practitioner to guide the child through their Zone of Proximal Development (Vygotsky, 1978). This, in turn, allows the child to develop. Objectives in this intervention remained flexible and responded to the creativity of the child's efforts. This was of utmost importance to this particular intervention, as drama and pretend-play, which are heavily reliant on spontaneity, were the main media of instruction.

Process-driven and objectives-driven models of curriculum development are independent of each other, but they also have some overlapping themes. It is here at the overlapping point that the intervention for this study lies. For example, Ross (2000) highlights that the process-driven curriculum and the objectives-driven curriculum share the importance of individual student ownership and responsibility for learning. This intervention had the best fit in this overlapping model; for example, the children took ownership through their creativity and planning of the pretend-play, but the researcher set the objectives in keeping with the aims of the intervention. Both the process-driven curriculum and the objective-driven

curriculum also have a broadly egalitarian approach (Ross, 2000), in that competencies are assessed in both models. They may be assessed in different ways, but they are assessed nonetheless. Whitehead argues that there should be an element of open-endedness in interventions which target young children with regard to the objectives therein (Whitehead, 1994). They should be flexible enough to allow for spontaneity on the part of both the teacher and the student, a factor particularly pertinent to the use of drama as a medium of instruction. Brundrett sums this up by saying:

"An enriched, theme-based or arts-based curriculum which has the effect of engaging children's enthusiasm and interest in new directions can also boost academic achievement in ways which have a reasonably close fit with those recommended in the Rose curriculum" (Brundrett et al., 2010: 411)

Cost of Development and Implementation

This includes any costs to be incurred in the development, implementation and evaluation of a new intervention.

Cost of Development

Most of the costs incurred in the development of any intervention at a national level are related to initial research and consultation. Other costs in relation to the development of interventions might arise from the development and printing of new guidance materials, e.g. handbooks. There are, of course, other miscellaneous costs which arise as the intervention progresses. As this intervention was on a very much smaller scale than any national curriculum would be, any financial implications of development fell to the researcher to justify.

Cost of Implementation

If there is a high cost involved in administering an intervention, it is less likely that it will be taken up by various practitioners (Justice et al., 2010). Interventions which have had high take-up by practitioners, such as *Read it Again*, a 30-week language and literacy curriculum supplement consisting of separate lesson plans were

inexpensive and were compatible with what resources were available already in settings (Justice *et al.*, 2010). In contrast to this, materials which were developed for *Doors to Discovery*, a story-book reading intervention (Wright Group, 2001), required teachers to use several sets of materials, and this rendered the intervention very expensive (Assel, Landry, Swank, & Gunnewig, 2007). With regard to this study, storybooks which were already being used in preschools were used for the shared storybook reading and dialogic discussion activities. The other materials, including the handbooks, for example, were developed at a cost to the researcher. Any props for the pretend play session were the researcher's own, with the exception of a set of costume dog-ears which were purchased.

3.4.3 Phase Three

A pilot study containing a reduced sample ($n=40$) took place in the academic year before the main intervention was rolled out. Two weeks of the intervention were trialled and decisions were made to change certain aspects of it. These will be discussed in full in Section 3.9.

3.4.4 Phase Four

This was the delivery phase of the intervention. Details on how it was delivered are contained in Section 3.9.

3.5 Principles and Aims of the Intervention - *Let's Talk*

The development of the intervention required strategic and innovative thinking. It needed both to be practical in order to implement it, and to contain objectives which were realistic and measurable. The thinking and planning behind the development resulted in nine aims. These will be discussed next.

3.5.1 Principles

Figure 3.2 illustrates the overarching principles of the intervention. The child's learning is central to the intervention and is supported by interaction with the child and scaffolding his/her learning. His/her learning is stimulated by the methodologies used.

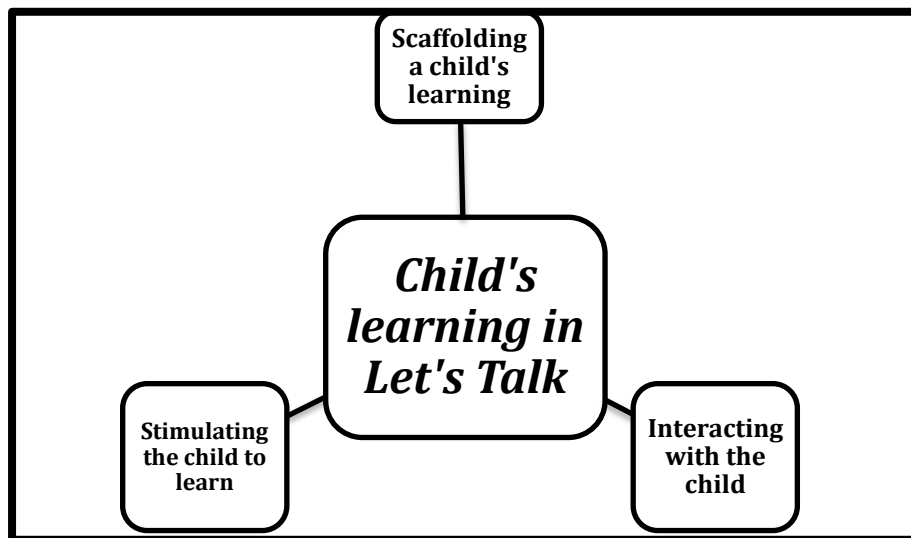


Figure 3.2 Principles of *Let's Talk*

3.5.2 Aims

1. To support the development of vocabulary in children in the Early Years
2. To support the development of story retelling in children in the Early Years
3. To support children's use of new vocabulary in play and conversation
4. To promote children's retelling of narratives which draw on language patterns of stories
5. To facilitate children's enjoyment of listening to, and use of, spoken language, and turn to it in their play and learning
6. To encourage children to listen and respond orally to story
7. To enable children to plan and review their play
8. To enable children to explore children's play preferences through their talk in planned play
9. To deliver, in 10 weeks, an intervention which supports children's oral language.

These aims follow the guidance for effective teaching in the early years contained in the *Early Years Foundation Stage* (EYFS) guidelines:

- *playing and exploring* - children investigate and experience things, and 'have a go';

- *active learning - children concentrate and keep on trying if they encounter difficulties, and enjoy achievements; and*
- *creating and thinking critically - children have and develop their own ideas, make links between ideas, and develop strategies for doing things*
(Department for Education, 2012: 7).

Furthermore, the aims of *Let's Talk* are in keeping with the Early Learning Goals of the EYFS. The Early Learning Goals comprise the three prime areas of Communication and Language, Physical Development and Personal, Social and Emotional Development (Department for Education, 2012). Under the prime area of Communication and Language, which is relevant for the current study, children were helped in their listening and attention, their understanding and their speaking.

The intervention provided opportunities for developing children's listening and attention skills through the shared storybook reading session. The children were helped to anticipate events in the story and they were encouraged to respond to it through interaction with the puppet. They were required to give their attention to the story and to all of the interactive activities, in a small group. They were also encouraged to participate in repeated refrains in the storybooks.

Let's Talk aimed to support children's understanding through dialogic discussion before, during and after reading the story. The children were asked to answer questions about the stories and to respond to questions put to them by the puppet. This aimed to help them to focus on, and understand, the characters and events of the story. Their understanding of the story was supported through re-enactment of the stories and the planning of their versions of it. The use of props and the encouragement of symbolic substitution were used to increase understanding of the new words from the story.

Under the EYFS learning prime area of Communication and Language, children's development in speaking must be supported. *Let's Talk* aimed to support the children's expression of the story. They would be supported in the use of new vocabulary while playing, and encouraged to ask questions during the storybook

session. They would also be encouraged to show awareness of the listeners’ needs by directly addressing the puppet and each other, explaining things and taking turns in sequencing different parts of the story.

3.6 Components

The intervention took place over two sessions per week, each approximately 20-25 minutes long. This differed from the pilot study, where the sessions lasted 30 minutes. In the pilot study, the children were losing interest and their attention was waning towards the end of the sessions, so it was decided to reduce the session times for the main study. The first session comprised group shared storybook reading; the second consisted of planned pretend play. Figure 3.3 lists the two main components and their core activities. Also included in Figure 3.3 are guiding principles that were considered when developing the intervention (Section 3.4.2).

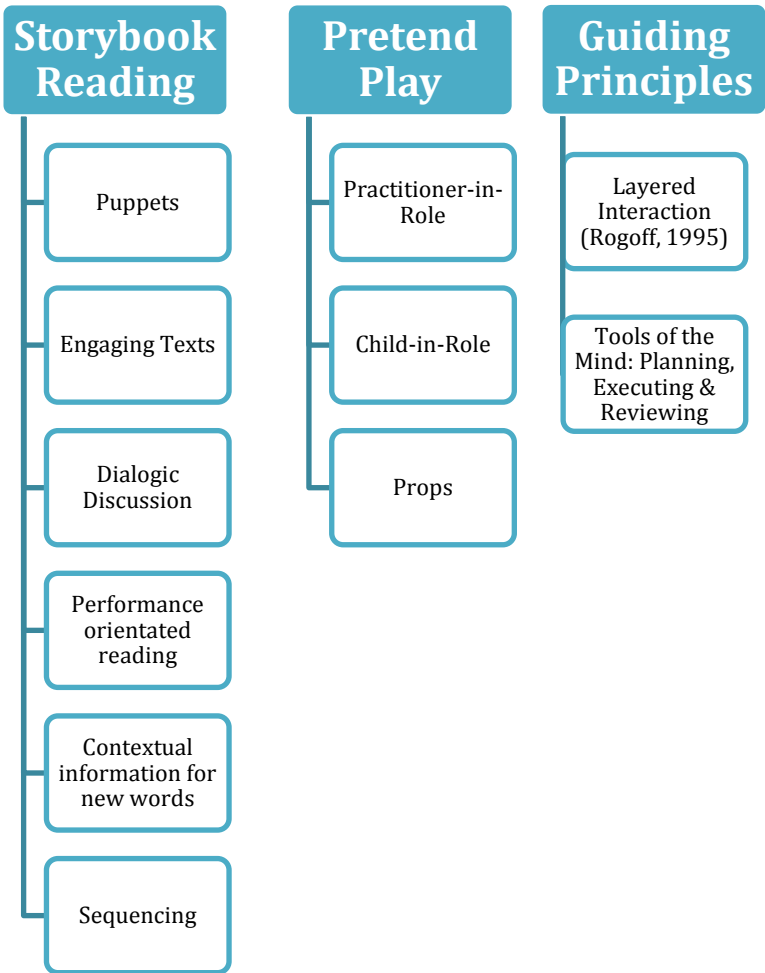


Figure 3.3 Core Activities and Delivery of *Let’s Talk*

3.6.1 Group Shared Storybook Reading

The first session in the week was a group shared storybook reading session. Music worked well in breaking the sitting-time of the children during the story. The use of lively pieces of music, and the children's physical interaction with that music, helped to refocus their attention. The researcher introduced the storybook via a puppet – *Tobi* (Figure 3.4).



Figure 3.4 *Tobi* the Puppet

The story was read and dialogic discussion was facilitated, with the puppet asking questions and helping to maintain the interest of the children. The children were asked to retell the story to the puppet at the end of each session, using prompt pictures from the story. A puppet was incorporated into the storybook component of the intervention to aid the discussion, engage with the children and to develop the syntax associated with questioning (Bierman et al., 2008; Carroll et al., 2003).

Using the Puppet

Puppets have been used in the education – and indeed the entertainment – of young children for many years, as children can identify with them and can believe in them (Baron-cohen *et al.*, 1985). They can provide a joint attention episode, with conversation for both adult and child, and these conversations have helped to improve scientific thinking, social, emotional and behavioural development and also to develop syntax and grammatical skills (Department for Children, Schools and Families, 2008; Moylett & Stewart, 2012b; Rollins & Snow, 1998; Simon *et al.*, 2008; UNICEF, 2004; Webster-Stratton *et al.*, 2008).

Puppets can help to:

- Encourage previously-inhibited feedback from children
- Provide a visual stimulus for a dialogic discussion
- Support children's development of listening skills
- Allow the child to explore the use of vocabulary in an atmosphere of fun
- Create variety in the learning environment
- Help the child to explore the imaginary world.

Practitioners often fear the use of puppets, due to a lack of confidence or inexperience in using them. However, puppets are, in fact, just an extension of the practitioner and his/her interactions with the children. The puppet should have a fully developed character, so that he is a believable addition to the classroom (Simon *et al.*, 2008).

In this study the researcher:

- Chose the puppet carefully. A boy puppet is usually preferred; boys tend to react better to that, fearing the stereotypical notion that it could be a doll
- Created a fact file about the puppet, a puppet passport containing his name, where he is from, where he lives, his likes and dislikes. This was useful for engaging the children (Figure 3.5)
- Had taken some photographs of the puppet in different places which were easily identifiable to the children in order to create a background for it (Figure 3.6)
- Had the puppet sit on her knee and had the puppet turn the pages during the storybook session

- Used the puppet to model listening and the asking of questions
- Had the puppet act as an audience to whom a child retold the story
- Used the puppet to model taking turns in conversation about a book
- Used the puppet to encourage children to try use new vocabulary in sentences
- Made the puppet the games organiser for games based on the book. For example, the puppet gave the children a picture from the story and they had to exclaim when the researcher reached their part of the story.

Participants' Reactions to the Puppet

Based on observations by the researcher and feedback from the practitioners, the puppet was very well received by the children in both the pilot study and the main study. The children looked forward to his company and repeatedly asked when he would visit again. The children very much enjoyed his humorous side. They tended to engage more with him when he had brought props which helped to create his character, e.g. photographs. They engaged with his presence, and, at times, and interacted more with him than with the researcher. The children also projected their questions onto him. For example, they said, *"Tobi wants to see that picture again"* or *"Tobi wants to know..."* The puppet did not speak, which increases replicability of the intervention in the future.

There was a need for parameters to be established with regard to the puppet. At the beginning of each storybook session, the puppet would be in his brightly coloured box (Figure 3.7). The researcher would say *"What day is today? And who always comes on this day?"*. The children would respond with the correct day and immediately recognise the box as containing *Tobi*. The children would be encouraged to read the sign on the box which read *"Look inside"* and this created anticipation and excitement in the children. The puppet would emerge and chat, (through the researcher) to the children before introducing the new book (Figure 3.6). These actions were repeated at each storybook session, so that the children could predict and anticipate the session. The popularity of the puppet was used to its full advantage by the researcher

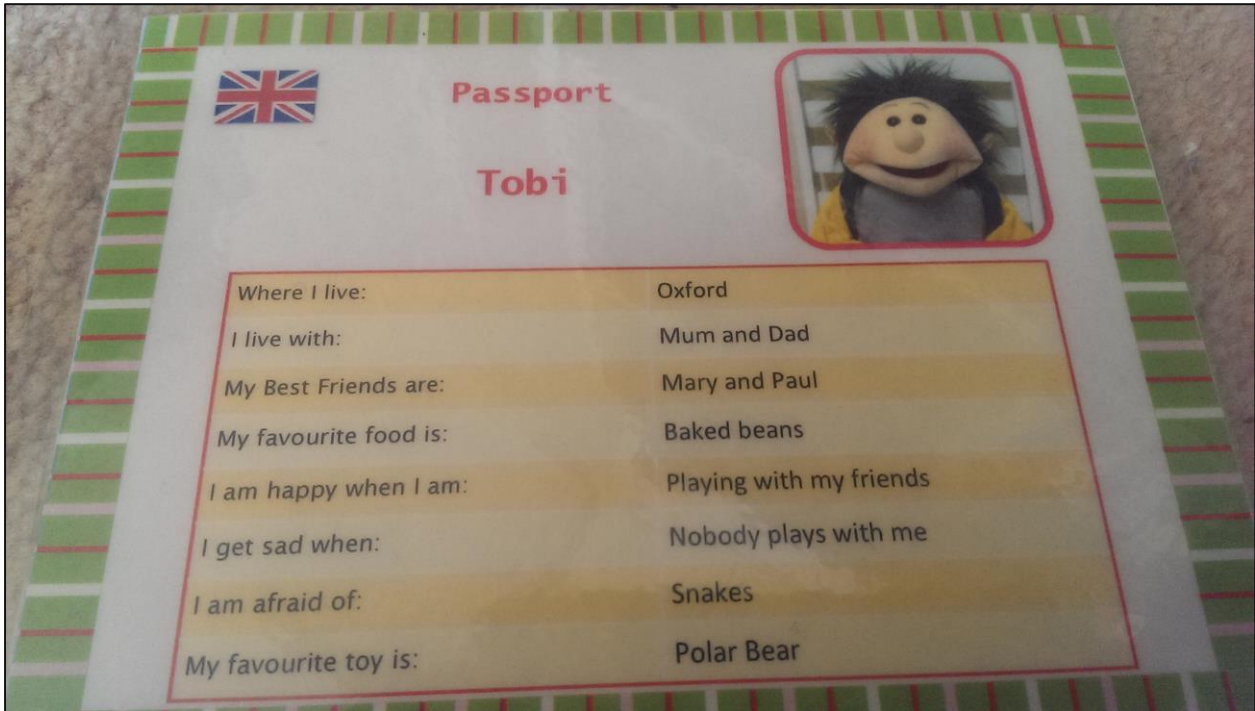


Figure 3.5 Passport for *Tobi* the Puppet

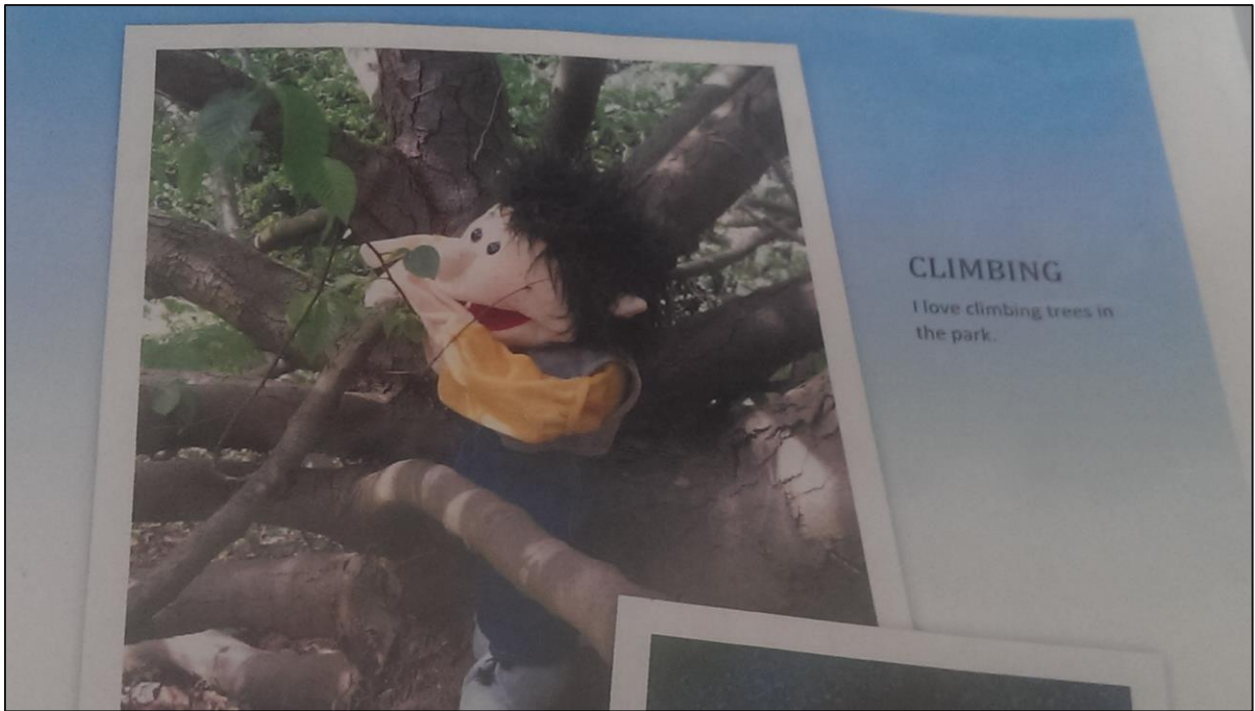


Figure 3.6 *Tobi* the Puppet’s Photograph Album



Figure 3.7 *Tobi the Puppet* Introduces the Storybook for the Session

Performance-oriented Reading

The dialogic discussion that can take place during storybook reading can develop de-contextualised language (Coyne et al., 2004; Sénéchal, 1997; Grover J. Whitehurst & Zevenbergen, 1999). Storybook reading can also be used as a stimulus for story-retelling also. The focus for practitioners in *Let's Talk* included elements of performance-oriented reading (Coyne et al., 2004).

This involved:

- Being very familiar with the text
- Emphasising target words
- Creating a sense of occasion, using the puppet before starting the reading session
- Using a variety of pitches and tones in the voice
- Using different voices for different characters in the book
- Using eye contact
- Generating suspense and interest in the book using questioning.

A list of the books which were used in the intervention, and the selection criteria which were used, are contained in in Section 3.8.1.

To summarise, the group shared storybook session was the first of two sessions in the week. The storybook was introduced by the puppet, and before, during and after reading activities, a discussion took place. After the story, the children were asked by the puppet to describe what was in a visual prompt, i.e. a picture from the story, and to retell their part of the story to the puppet. As the intervention progressed, the children took turns to retell the whole story, using the pictures.

3.6.2 Planned Pretend Play

The second session in the week was a planned pretend play session. Pretend play, as a medium of instruction in oral language, has an interactionist perspective as its overarching principle. In *Let's Talk*, the pretend play involved the instructor interacting with the child in a way that was both adaptive and reactive to the child's learning needs, while being enjoyable for the child (Bergen, 2013; Harris, 2000; Johnson & O'Neill, 1984; Sutherland & Friedman, 2013). *Let's Talk* targeted young children's oral language through sustained socio-dramatic play episodes (Bodrova & Leong, 2007; Harris, 2000; Heathcote, 1980).

Socio-dramatic play is a quite natural process for children (Deunk *et al.*, 2008). It involves the child entering into a make-believe world, which can be based on a real-life scenario. The child takes on roles associated with the real world and can adhere to the social rules of that scenario. This socio-dramatic play can be used to develop total words in conversation, vocabulary specific to a defined theme of play and an increased number of words indicating concepts of colour, shape, number, quantity, space, and time (Deunk *et al.*, 2008; A. K. Levy *et al.*, 1986).

Implementation of Pretend Play Sessions

The planned pretend play session was based on the story from the first session in that week. The researcher entered into 'role' as one of the characters from the story and invited the children to act out the story, or a version of it. The researcher, while in role, would pose a problem to the children, which was based on the story. The children planned what character they would play and the way the playing area should be set out, including what props and furniture might be required in order to

solve this problem. When the play was finished, the researcher came out of 'role' and a discussion ensued, facilitated by the researcher, as to the nature of the play session and the participation of the children in it. The session required the children to self-regulate their participation and learning. They engaged in planning, executing and reviewing their play, which can aid the children's self-regulation of their play. The researcher had a large role to play in facilitating this self-regulation. This will be discussed next.

Planning

This is the first of three steps in planned pretend play. The researcher:

- Introduced the children to the theme for the session
- Introduced the children to the props which might be required, including some of the target words
- Discussed with the children what could be used to represent various items needed for the play session
- Helped the children to set out the area for the play session, i.e. positioning of furniture
- Gathered together possible items which could be useful as props in future sessions.

Executing

The researcher initiated the play session; however, once the children were engaged in it, she stepped back. The researcher:

- Encouraged the children by offering verbal encouragement as needed
- Engaged in the play by assuming a role at the beginning
- Offered non-directive statements to the children which advanced the play (A. K. Levy et al., 1992)
- Physically intervened in the play by committing an action which advanced the play
- Modelled language and used target vocabulary.

Reviewing

In this part of the play session, the researcher's role was that of facilitator. The researcher:

- Facilitated a discussion among the children about their and others' roles in the play session

- Investigated with the children how the play deviated from the original plan
- Highlighted the goals originally set by the children for the play
- Discussed with the children how they might change the play session if they were to engage in it another time
- Facilitated the children's sequencing and description of the story.

Participants' Reactions to Pretend Play

Feedback from the children indicated that they appeared to enjoy the pretend play sessions. Many of the children had not taken part in this type of pretend play previously (adult-initiated role-play). When it was discovered that the children had little experience of entering into a predefined role, sessions were adapted to make them more interactive. For example, in session two, the children were invited to physically experience what it would be like to *be an animal*. They were asked to move around the space like a particular animal and make that animal's noise (Appendix 2). This enriched the children's involvement in the play session. In the main study, work on physical representation and relaxation exercises was included in early sessions, to enable the development of the children's confidence and engagement.

Interacting with the researcher-in-role was a new experience for many of the children. The researcher used a prop related to the character in the story which she was playing, e.g. a hat, to signal when she was *in-role*. This made the divide between being *in-role* and *not-in-role* much clearer to the children. The researcher was an evoker of the action, posing a problem for the children to solve. This added focus to the play session and gave it a purpose.

Let's Talk was received well in all settings by children and practitioners alike. Oral feedback was positive and the practitioners confirmed that they could see the potential of the intervention. They also said that the children were very excited on the days on which the intervention was to be delivered each week.

3.7 Themes of the Intervention

Choosing themes that were engaging, age-appropriate and relevant for the children was crucial in the development of *Let's Talk*. In their study on children's play preferences, Gmitrova *et al* (2009) found that, when the teacher examined which themes were popular with the children during pretend-play, they could focus the educational objectives accordingly (Gmitrova *et al.*, 2009).

The chosen themes for the weekly sessions in *Let's Talk* were based on research on children's play preferences (Gmitrova *et al.*, 2009). This facilitated maximum engagement of the children. The overarching themes (one per fortnight) were translated into more accessible topics, with two storybooks chosen for each theme (Table 3.2). For example, when the theme of Banquet/Feast arose, the two storybooks were about a jam sandwich and a girl who ate lots and lots, respectively. The two stories were different, but the theme remained the same over the fortnight. The storybooks for the market theme were about, first, a little boy who goes shopping and, second, dogs that go in search of a birthday present. These books were age-appropriate, but in keeping with the theme and guidelines from *The Early Years Foundation Stage* (Department for Education, 2012).

Table 3.2 Themes for *Let's Talk*

Week	Theme
1 & 2	Household
3 & 4	Transport
5 & 6	Banquet/feast
7 & 8	Market
9 & 10	Professions

3.8 Materials for the Intervention

Each week in *Let's Talk* had its own resource pack, containing the storybook for the week, the script and guidance notes for the sessions, any role props for the researcher, music to be used in the session and visual prompts from the story (Figure 3.8).



Figure 3.8 Example of Resource Pack for *Let's Talk*

3.8.1 Storybooks

As was discussed above, it is vital that storybooks which are chosen for an intervention with young children are theme-based and in keeping with the objectives of the intervention (Sheil *et al.*, 2012).

Along with this, humour and vibrant illustrations can help children to engage with storybooks. The sequencing nature of the books in this intervention, and their use of repetitive language, helped to engage the children with the stories. The books (Table 3.3 & Figure 3.9) which were selected for *Let's Talk* encouraged the child to engage with the story, due to their:

- Vibrant and engaging illustrations
- Repetitive text, i.e. the use of refrains
- Accessible language
- Larger size (some)
- Humour
- Length.



Figure 3.9 Storybooks in *Let's Talk*

3.8.2 Pretend Play

Play sessions with and without real props, were carried out in the current study. The children substituted items for props in many of the play sessions when encouraged by the researcher. This facilitated their use of the new vocabulary, as they labelled things and shared those labels with their peers. Having basic furniture in the space was useful and the children enjoyed setting it up. An item was brought each week by the researcher to aid with the changing of the researcher into the character from the story. For example, when the session on *A Squash and a Squeeze* (Donaldson & Scheffler, 2011) took place, the researcher assumed the role of the main character, which was a little old lady. When she was in character as the old lady, she wore a headscarf and, when she was not, she removed it. This pattern of wearing an extra item of clothing was followed throughout all of the play sessions. A list of all of the 'in-role' props is provided in Table 3.3, along with other miscellaneous resources which were required for each week.

Table 3.3 Storybooks, Themes & Props for Researcher-in-Role (RIR)

Themes	Week	Storybook	Prop (RIR)	Other Misc. Props
Household	1	<i>A Squash and a Squeeze</i> , (Donaldson & Scheffler, 2011)	Headscarf	Cups, plates, necklace, sequencing pictures, jig music
	2	<i>Abby's chairs</i> , (Santucci, 2004)	Glasses	Music for musical chairs, chairs, sequencing pictures
Transport	3	<i>Lost and Found</i> , (Jeffers, 2009)	Baseball cap	Furniture, sequencing pictures
	4	<i>Please Don't Chat to the Bus Driver</i> , (Roddie, 2001)	Tie	Furniture, sequencing pictures
Banquet	5	<i>Nora: The Girl who ate and ate...</i> (Weale, 2012)	Straw hat	Sound effect of slurping, furniture, sequencing pictures
	6	<i>The Giant Jam Sandwich</i> , (Burroway, 2009)	Mayor Badge	Music (<i>Peer Gynt</i>) Morning, sequencing pictures
Market	7	<i>The Shopping Basket</i> , (Bunningham, 2002)	T-shirt	MP3 of animal sound effects, sequencing pictures
	8	<i>Dogs go Shopping</i> , (Rennta, 2010)	Dogs ears	Small pictures from the story, sequencing pictures
Professions	9	<i>The Jolly Postman or Other People's Letters</i> , (Ahlberg & Ahlberg, 1999)	Post-bag with letters	Sequencing pictures
	10	<i>Doctor De Soto</i> , (Steig, 2010)	Shirt	Sequencing pictures

3.9 Delivery

3.9.1 Duration

A ten-week intervention can yield a medium-to-large effect size for literacy interventions (Schickedanz & McGee, 2010). In an examination of the National Early Literacy Panel's meta-analysis, Schickedanz and McGee (2010) found that the duration of the particular intervention, especially those that included dialogic reading, had little bearing on the effect size. For example, Lonigan and Whitehurst's dialogic reading intervention for children with a mean age similar to the children in this study (44 months), lasted just six weeks and resulted in an effect size of .43 (Lonigan & Whitehurst, 1998). Moreover, Wasik and Bond's 2001 dialogic reading and interactive group session intervention was carried out for 15 weeks with children of a mean age of 55 months, and had a large effect size of 1.69 (Bond & Wasik, 2001). Lastly, an intervention which targeted the narrative of children with a

mean age of 51 months, and which lasted 30 weeks, only yielded an effect size of 0.18 (Zevenbergen, Whitehurst, & Zevenbergen, 2003). It therefore seems that a longer duration does not always mean that the intervention will have more of an impact on the participants – it often has the opposite effect, in fact, due to a possible dilution of the effect of that intervention, or the increased chance that the children may be affected by confounding variables.

Let's Talk was ten weeks long. When the intervention was piloted, the sessions lasted 30 minutes each. This was proving too long for children aged three to four years to remain fully focused; therefore, 20 minutes was the optimum duration chosen for each session in the main study (Roskos & Burstein, 2011).

A detailed description of the number of sessions which the children attended is in Section 4.5.1 of Chapter Four. Table 3.4 summarises the average number of sessions, out of a total of 18 (as last week was missed), which the children attended over the course of the intervention.

Table 3.4 Average Number of Sessions Attended by Children (*out of total of 18 sessions, as last week was missed*)

	Settings 1 & 2 (<i>sessions</i>)	Settings 3 & 4 (<i>sessions</i>)	Total attendance (<i>sessions</i>)
Treatment group	15.62	15.86	15.73
Control group	15.15	16.56	15.69

3.9.2 Intervention Spaces

The intervention was delivered in four settings, in various different types of space. In one setting, a front atrium was used; this was quite a big space and had two entrances which could be closed. In another, the bottom floor of a stairwell was offered to the researcher. This proved difficult at times, as there were fewer items available to the children for symbolic substitution. In the other two settings, classrooms were available. The children in all venues were separated from the other children in the preschool and were withdrawn from their normal classroom for each session. The same configuration of furniture and the relative positions of the

children and researcher were followed in all settings for the storybook session and each time the children sequenced the story (Figure 3.10). The children sat in a semi-circle facing the researcher on chairs or cushions, depending on the size of the room in the setting. Having the children sitting in this pattern allowed for maximum interaction with each other, and the researcher could establish eye contact with each child (Baldock, 2006). Also, the children could all view the storybook and puppet from where they sat.

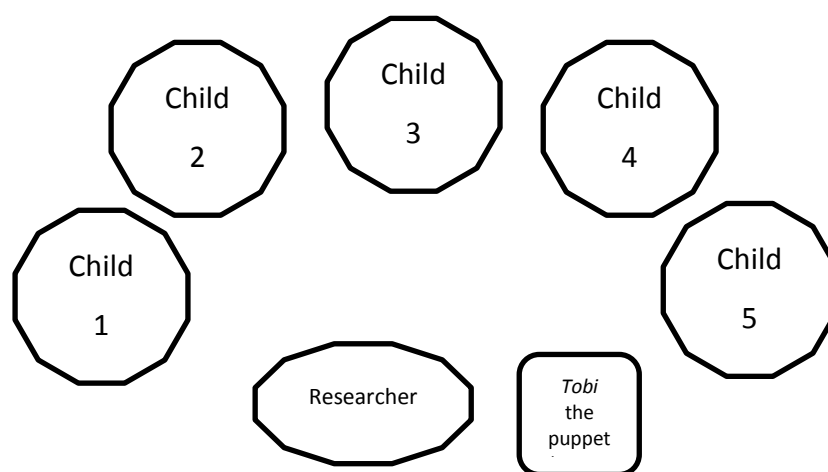


Figure 3.10 Configuration for Storybook and Discussion Sessions

3.9.3 Implementation Observations

Firstly, the intervention was received well by the staff and children in the settings. Feedback from management and practitioners was positive; they enjoyed watching, and took notes from some of the sessions. The children looked forward to the sessions each week and were excited about the programme. It worked best when the group of children was four/five in number. Two few in number and there was little interaction between the children; too many and the children distracted one another.

Secondly, the theme was changed twice in the two weeks of the intervention during the pilot phase; this meant that the vocabulary learning opportunities were lessened, as the children had to cope with a new theme, along with new words. It

was, therefore, decided that the theme would only change once a fortnight, but the storybook would change once a week, to maintain the interest of the children. The fact that there was a mix of abilities within the groups was a positive factor. The children who were verbally stronger scaffolded the children who were more shy and less verbally able. The children interacted with each other, as well as with the researcher. This interaction was necessary to sustain the play. A mix of both difficult and easy new nouns was selected for the main study, to challenge all abilities.

Lastly, during the pilot study, due to some child-absences in one of the settings, some of the children were not as familiar with the researcher as others. Therefore, some children were more shy than others in the play sessions and indeed the group shared storybook sessions, which hindered their engagement at times. Thus, it was imperative that, in the main study, the researcher completed a period of familiarisation in the setting.

3.9.4 Fidelity

The sessions were audio-recorded each week and the researcher listened back to each recording carefully, to ensure that similar language and interaction with the children was occurring from week to week.

3.10 Chapter Summary

To summarise, *Let's Talk* was a ten-week intervention, which targeted three to five year olds' vocabulary and narrative development. It comprised two sessions per week. The first was a group shared storybook reading session with a puppet that encouraged the children to retell the story; the second was a planned pretend play session with the adult/researcher *in-role*. The intervention was piloted and the researcher discussed it with an experienced practitioner in the field of Early Years. The planning stage included the development of the goals of the intervention, its procedure for implementation, its critical phases and its projected outcomes. It was important that the intervention would have an influence on learning outcomes, and

that it would be practicable enough for practitioners in the Early Years to adopt in the future. Its effectiveness was examined by Randomised Control Trial and this research design will be discussed next.

CHAPTER FOUR – RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

This chapter addresses the methodological considerations for this study; the study examined the effectiveness of a researcher-designed intervention, which targeted three to four year old children's oral language skills, namely narrative and vocabulary. The chapter describes the rationale for the experimental research design; it also lists the research questions and the instruments used to address each one. The sampling and recruitment procedures are described, as are the challenges which the researcher dealt with in this regard. This chapter also provides a breakdown of the research process over three phases and includes a detailed write-up of a pilot study which was conducted in June-July 2012. It also highlights the ethical procedures which were followed.

4.2 Aims of the Research

The first aim of this study was to deliver an intervention which supported young children's oral language development, in a ten-week school term, in Early Years settings. The second aim was to examine the intervention's effectiveness by conducting a Randomised Controlled Trial (RCT). The intervention combined the two approaches of 1) group shared storybook reading with a puppet, and 2) planned pretend play episodes based on the storybooks that were read to the children, to support both their vocabulary and narrative (story-retelling) development. The aims of the *Let's Talk* intervention were:

1. To support the development of vocabulary in children in the Early Years
2. To support the development of story retelling in children in the Early Years
3. To support children's use of new vocabulary in play and conversation
4. To promote children's retelling of narratives which draw on language patterns of stories
5. To facilitate children's enjoyment of listening to, and use of, spoken language, and to facilitate them in turning to it in their play and learning
6. To encourage children to listen and respond orally to story

7. To enable children to plan and review their play
8. To enable children to explore children's play preferences through their talk in planned play
9. To deliver, in 10 weeks, an intervention which supports children's oral language.

The study aims to contribute to the experimental research literature which addresses young children's oral language needs.

Details of the intervention, and its development, were discussed in detail in Chapter Three. In brief, the intervention had *interaction* as its foundation. This interaction took place between the researcher/adult and the child, between the child and the materials of the intervention, and also between the child and the other children in his/her group, through dialogic discussion. Differences in settings, and within the child, could have affected the outcomes of the intervention. It was important to consider this when recruiting the children; thus, randomisation within the setting was used and differences between the settings were analysed (Chapter Five). The intervention was developed with support from current oral language research literature. There is a detailed discussion of this in Chapters Two and Three. Lastly, the intervention was implemented and evaluated in a consistent manner, so that rigorous evidence could be collected.

4.3 Research Design Rationale

4.3.1 A Post-Positivist Paradigm using Quantitative Research

This study takes a post-positivist stance, with the tools of data collection predominantly following the natural scientific model, i.e. the tools aim to obtain quantifiable facts pertaining to the participants' interaction with the intervention. Robson (2002), in his discussion on research paradigms, maintains that, even though facts can be obtained through operation of the positivist stance, it is more common nowadays to see an emphasis on the probabilistic nature of any quantitative findings, rather than their ability to prove or disprove hypotheses. This post-positivist approach appears to be an altogether more pragmatic approach to research, and describes the nature of this particular research project

more accurately. The researcher's input is acknowledged, alongside the quest for objective quantitative research.

Quantitative research was the chosen methodological approach for this study. It can be difficult to choose between quantitative and qualitative approaches when designing a research project. Indeed, many researchers do not choose one over the other and their studies result in having a mixed-methods methodology (Robson, 2002). However, the two approaches are also a useful way of categorising the methods of data collection to be used and the potential outcomes they might provide. This study sought to test a series of hypotheses, which relate to theories of oral language development in young children, with quantifiable outcomes. It followed, then, that quantitative research methods were used.

4.3.2 Randomised Controlled Trial

The strategy used to conduct this quantitative research project was a Randomised Controlled Trial (RCT), or Experimental Design. The typical features of an RCT include hypothesis testing and manipulation of the measurement variables (Robson, 2002). RCTs are often used when there is a need to examine the effectiveness of a particular programme. Gomm (2008) suggests that Randomised Controlled Trials are:

“designed to answer questions about cause and effect by attempting to exclude all those factors which might affect the results, except those of interest” (Gomm, 2008: 59).

Gomm (2008) argues that this type of design is one of the most effective ways of investigating cause and effect, i.e. whether, in this case, the intervention had any impact on the children's oral language abilities. To examine cause and effect, it is necessary, within the RCT design, to control the conditions within which the experiment is conducted. For example, the procedure of any intervention might be strictly consistent with the researcher not deviating from a predefined script and it may be conducted in clinical laboratory conditions. Some authors (Black, 1999) have criticised the RCT for seeking to control the social world to such an extent that it does not represent what can occur in a more

naturalistic setting. As a result, it is extremely difficult to establish cause and effect. Black (1999) warns against the use of the terminology *cause and effect* at all, as there are so many variables which could be having an impact, seen or unseen, on the dependent variable. However, in the case of this research, the experiment was conducted in the children's own nursery settings, in surroundings with which the children were familiar and as many as possible of the variables, seen and unseen, were controlled for under the experimental design. For example, both the group sessions and the testing took place in rooms within the nursery, where the children had been before. This will be discussed further in Section 4.6.6. Also, any imbalance in pre-test scores were controlled for, in an Analysis of Covariance (Chapter Five).

Torgerson and Torgerson (2003) argue that some educational researchers have turned away from the experimental research design altogether, instead using qualitative methods and/or the quasi-experimental design. In contrast, medical researchers have increasingly embraced experimental design (Goldacre, 2013), and Torgerson *et al* (2003) claim that there are many similarities between education and health research. For example, the majority of large-scale gains were made in both fields more than 100 years ago, with the introduction of compulsory education influencing literacy and numeracy rates in education, and slum clearance influencing public health in the UK (Torgerson & Torgerson, 2003). Any gains in both fields now, and in the future, will be relatively modest by comparison. Therefore, every effort should be made to ensure that these smaller gains are robust; if this can be replicated over a larger sample, then the number positively affected increases several-fold and the impact is maximised. Conducting randomised controlled trials has worked in medicine to find the best treatments (Goldacre, 2013; Haynes, Service, Goldacre, & Torgerson, 2012). Thus, it is appropriate to make greater use of RCTs in educational research.

Punch (2005) argues that the choice of design should be based on the ability of the chosen strategy to achieve the answer to the question which is posed overall within the research (Punch, 2005). In this study, the question posed was whether there was a difference

between the outcomes of a group that received the oral language intervention and one who did not. The aim, Punch argues, should be to:

“relate the treatment variables to outcome variables having controlled the effects of the other variables” (Punch, 2005:65).

He argues that one of the main ways to do this is to minimise the differences between the groups being examined, and that this can be achieved by randomisation of participants to each group in an experimental design (Punch, 2005). In this study, randomisation was completed; the exact procedure followed in this regard will be discussed in greater detail in Section 4.5.1.

To conclude, it can be argued that an experimental approach is appropriate for measuring the impact of an intervention in the settings covered in this research (Bryman, 2008).

Furthermore, the research can be summarised by a process of deduction. As Figure 4.1 shows, the process of deduction originates with a theory from the research literature.



Figure 4.1 Process of Deduction (Bryman, 2008: 10).

Various claims have been made in the literature about the nature of children's oral language development. For example, it has been well documented that group shared storybook reading with young children can have a positive impact on their language development (Dickinson & Porche, 2011). Pretend play's impact on oral language development is evident too (Lillard *et al.*, 2013). What is less evident in the experimental research literature is the effect which the combination of the two can have on children's language development. Therefore, a hypothesis was developed to test whether the combination of these two pedagogical approaches could affect children's language, in a specially developed *Let's Talk* intervention. This hypothesis, in turn, was subjected to empirical study, with the concept of oral language being translated into the "*researchable entities*" of vocabulary and narrative (story-retelling) (Bryman, 2008:9).

Possible other variables, such as previous language experience, type of preschool and socio-economic status (SES), which could influence the development of the children's oral language, were identified and both the randomisation within the setting and the Analysis of Covariance helped to address these possible confounding variables. Chapter Five discusses these in detail.

4.4 Research Questions

This study's overarching research question was:

- **Will an intervention involving planned pretend play and group shared storybook reading have an effect on the oral language outcomes of three to five year old children in early years settings?**

This can be further divided into the following sub-questions:

1. Will an intervention involving planned pretend play and group shared storybook reading have an effect on the narrative (story-retelling) of the children in the treatment group, when compared to the children in a control group who complete numeracy activities?

2. Will an intervention involving planned pretend play and group shared storybook reading have an effect on the vocabulary (receptive and productive) of the children in the treatment group, when compared to the children in a control group who complete numeracy activities?
3. Will an intervention involving planned pretend play and group shared storybook reading have an effect on the verbal ability of the children in the treatment group, when compared to the children in a control group who complete numeracy activities?
4. Will an intervention involving planned pretend play and group shared storybook reading have an effect on the verbal comprehension of the children in the treatment group, when compared to the children in a control group who complete numeracy activities?
5. Will an intervention involving planned pretend play and group shared storybook reading have an effect on the non-verbal outcomes of three to five year old children in the treatment group, when compared to the children in a control group who complete numeracy activities?
6. Will the intervention effect vary according to the demographic characteristics and first language use at home for each outcome?

4.5 Research Design

The study used an experimental design, with a pre- and post-test assessment of a number of measures on the treatment and control groups. The participants for whom consent was received were randomly assigned to either an experimental condition group who received the intervention or a control group who completed numeracy activities. The conditions for both groups are described in Section 4.6.8. The random assignment to group helped to increase the internal validity of the research, as potential threats such as children's ability, their socio-economic status, their home learning environment, their maturation over the period of the intervention, interaction with the researcher and instruments, could have affected the children's outcomes (see Section 4.6.7) (Bryman, 2008). Figure 4.2 summarises the design of the current study.

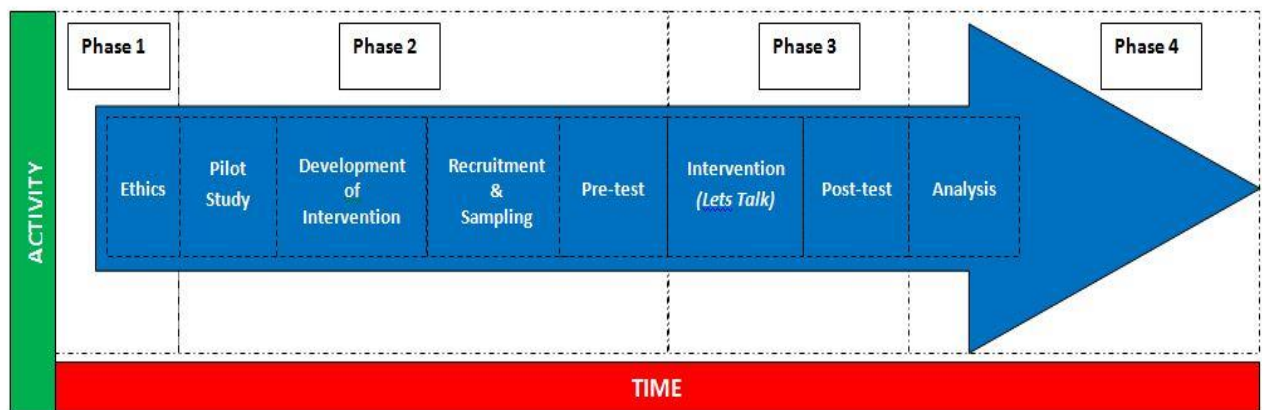


Figure 4.2 Research Design

4.5.1 Sampling Technique

The sampling technique used was stratified random sampling, in order to get as representative a sample as possible from the Oxfordshire area (Bryman, 2008). Strata were identified on the basis of the type of funding the setting received, in order to ensure that all socio-economic groupings were included in recruitment. All settings were restricted to the Oxfordshire Local Authority's jurisdiction.

Recruitment Strategy

Attempts were made to recruit 100 children from early years settings in Oxfordshire Local Authority's jurisdiction.

There are five districts within the Local Authority of Oxfordshire, with a differing number of settings in each. The settings can be categorised under three major headings, depending on how they are funded: Voluntary, Private and Local Authority. Table 4.1 shows the numbers of each type of setting in each jurisdiction.

Table 4.1 Numbers of Setting Types in Oxfordshire Local Authority Districts

	Setting Type	Cherwell	Oxford City	South Oxfordshire	West Oxfordshire	Vale of White Horse	TOTAL	% of total
Local Authority	Nursery/Primary Schools	61 (51.69%)	46 (46%)	70 (46.61%)	61 (48.8%)	55 (44.35%)	293	47.95
	Day care	0 (0%)	3 (3%)	0 (0%)	0 (0%)	0 (0)	3	.49
Private	Independent School	2 (1.69%)	4 (4%)	4 (2.78%)	1 (.08%)	6 (4.84%)	17	2.78
	Private	27 (22.88%)	19 (19%)	26 (18.06%)	26 (20.8%)	27 (21.77%)	125	20.46
Voluntary	Workplace/University nurseries	0 (0%)	16 (16%)	0 (0%)	0 (0%)	0 (0%)	16	2.62
	Voluntary Childcare	28 (23.73%)	12 (12%)	44 (30.56%)	37 (29.6%)	36 (29.03%)	157	25.70
	TOTAL	118	100	144	125	124	611	100%

Local Authority Day Cares, Independent Schools and Workplace/University nurseries accounted for very small percentages of the total number of settings, so these were excluded from the recruitment. Local Authority nurseries, Private nurseries and Voluntary Childcare were the prime focus of the recruitment process. The intervention required a minimum of four/five children per session (Section 4.6.8) and, as the aim was to randomise within the setting, another four/five children were required for the control group in each setting. This meant that each setting had to provide a minimum of ten children. Any settings that could not gain consent for at least this number of children were excluded.

Table 4.2 shows that, in order to gain 100 children for the sample, a total of approximately 45 settings should be approached. Forty-two settings were approached by post, with information packs based on contact details obtained from the Oxfordshire Local Authority Website.

Table 4.2 Recruitment Strategy

	Setting Type	Approx. no. of children required	No. of settings required	No. of settings to apply to
Local Authority	Local Authority Nursery / Primary	48% - 48 children	4	20
	Local Authority Day care	0% 1 child	n/a	n/a
Private	Independent School	3% 3 children	n/a	n/a
	Private Day Nursery	20% 20 children	2	10
	Workplace/University nurseries	3% 3 children	n/a	n/a
Voluntary	Voluntary Childcare	26% 26 children	3	15
	TOTAL:	100 children	9	45

Of the 42 settings approached, 19 Local Authority, 12 Private and 11 Voluntary indicated at that stage that they were interested in participating. Certain settings did not have the required space and time available to accommodate the study's requirements, so these numbers were reduced to 8 Local Authority settings, 3 Private settings and 2 Voluntary settings respectively. These settings' availability then limited their participation and the final number of settings was 3 Local Authority settings and 1 Private setting. The Voluntary sector could not provide enough children's consents, so they were omitted. Table 4.3 summarises this information.

Table 4.3 Recruitment of Settings

Recruitment	Local Authority Settings	Private Settings	Voluntary Settings
Round one	19	12	11
Round two	8	3	2
Final N	3	1	0

Sample size

The sample size needed to be large enough to avoid a Type II error, i.e. results show no difference occurring between the groups, when actually the intervention has generated a difference (Bryman, 2008). Power calculations are useful in determining whether the sample is large enough to be representative of preschools and nurseries in Oxfordshire and reduce the sampling error of the mean (Black, 1999; Torgerson & Torgerson, 2003). Power calculations for this study indicated that, in order to achieve a Cohen's d effect size of .5 (Cohen, 1990) with a power of .7, the total sample size should be at least 92 (Appendix 3) (Teixeira, Rosa, & Calapez, 2009). This effect size is an ambitious one, but similar intervention studies have achieved this effect size (Schickedanz & McGee, 2010).

Attrition

To improve both the internal and external validity of the study, researchers should endeavour to keep the sample as stable as possible for its duration. This should help to reduce the likelihood that influences related to attrition could affect the outcomes (Black, 1999; Robson, 2002). It can be difficult to exercise control over extraneous variables, and randomisation can result in some attrition; researchers cannot exercise control over autonomous participants' lives, with participants dropping out, refusing to give consent or, in some cases, to fulfil all elements of the research. This is potentially difficult when the involvement is restricted to volunteers only, as was the case in this study.

For example, the time of year when an intervention is delivered can affect the participation rate and/or dropouts from the study. As the data was collected from January to July, the researcher's project contended with other activities such as concerts and adverse weather conditions in the Winter, and outings and sports days in the Spring/Summer terms. Illness and absenteeism can affect the children's attendance at any stage of the year. Torgerson and Torgerson (2003) argue that children should be included in a study on an intention-to-treat basis; that was what occurred in this study. Flexibility was required, and any sessions which were missed due to structural factors such as weather or school outings were carried out on another day. However, as will be shown by the average number of sessions which the children attended, there was a similar and good attendance rate at the treatment and control group sessions (Table 4.4). Out of a total of 18 sessions (as last week was missed), the average number of treatment group sessions attended by the intervention children was 16, and the same number attended the control group sessions. The researcher was satisfied with the attendance rate at sessions and that, potentially, generalisability could be increased. The return rates for the questionnaires will be detailed in Section 4.6.6.

Table 4.4 Average Number of Sessions Attended by Children (*out of total of 18 sessions as last week was missed*)

	Attendance (<i>sessions</i>)
Treatment group	16
Control group	16

The total number of children pre-tested was 94. One child left the preschool, did not complete the intervention and was not post-tested. This resulted in a total of 93 children tested at post-test, with 51 children in the treatment group and 42 children in the control group. Gomm (2008) maintains that dropouts and refusals are important. It may be that not all the people who give consent accurately reflect the setting. However, on inspection of the collected demographic information, the families are representative in terms of socio-economic status within the settings, and the children represent the academic average across the setting. Chapter Five will present data on this.

Characteristics of Settings

Black (1999) recommends that efforts be made to homogenise the groups to “*avoid unintended imbalances as a result of selection*” (Black, 1999: 121). Various headings were used to compare the settings in the study. These included the number of staff, type of accommodation, number of children on roll and type of financial support which funds the setting (Table 4.5). Observations in the pilot study (Section 4.6.2) indicated some discrepancies in the quality of provision of preschooling in the settings containing similar populations of children, so attempts were made to recruit from different groups and randomly assign the children within settings. Three Local Authority settings and one Private setting were recruited. Two of the Local Authority settings were Foundation Units within mainstream primary schools, and one was attached to a Children’s Centre with potential for feeding a primary school on another part of the site. The three Local Authority settings were open all day but only took children for half days, as part of their entitlement to a free preschool place. The Private setting offered free preschool places but also offered wrap-around care, afterschool care and a crèche for babies. The qualifications of staff varied, with the majority having National Vocational Qualifications or other equivalent diplomas. Teaching qualifications/degrees were in a minority, as were staff members with Early Years Professional Status. The ethnicity of families was classified by the responses of the parents through the questionnaires. The majority of the children and their families were White British, but in some settings, e.g. Local Authority settings, there were substantial minorities of other ethnicities, such as Black, White Other and Asian.

None of the settings were offering remediation programmes in oral language, either in vocabulary or narrative, except one of the Local Authority settings. In this setting they were offering a pilot programme, which was being evaluated for a research project being run at another university. This programme involved a researcher reciting nursery rhymes and songs with the children on a weekly basis as a whole group. This was in no way similar to the intervention in the current study.

In terms of pretend play, the children did not plan their play or discuss it in advance in any of the settings. Play usually took the form of free-flow play, twice per day, with little or no intervention from the adults in each setting. Child-initiated play was very much encouraged with little intervention. Storybook reading took place at least once per day in all settings. Puppets were sometimes used, but not in relation to a storybook, and not for questioning based on that storybook. Narrative elicitation was limited to personal story generation on an adhoc basis, usually based on the overall theme for that week. Practising sequencing for story-retelling was never witnessed by the researcher, either in the planning documents, or the operation of any of the settings. Although structured observations of each setting did not take place in the current study, and the above account of the settings' approach to pretend play, storybook reading and story retelling was anecdotal, it appeared that in these four settings, there was a need for each of the components of *Let's Talk* to be introduced in a more formulaic manner, with specific learning objectives which could be linked to the early learning goals of the EYFS.

Table 4.5 Characteristics of Settings

No.	Setting Type	Hours each day	*Type of Accom.	Ages of children	Teaching staff		**Qual.	No. of children on roll	***Ave SES of parents	****Predominant Ethnicity of families
					Full time	P/time				
1	Private Day Nursery	11	CB	0y-12y	26	Not specified	20 NVQ 3 6 quals. not specified	150+	M	White-British 78% Asian Other 11% Mixed race 11%
2	Local Authority Preschool	6	PB	3y-5y	5	2	2 QT 1 NNEB3 1 TA NVQ2 1 TA NVQ1	42	M-L	White-British 54% White Other 16% Mixed race 11% Black African 8% Black British 8%
3	Local Authority Nursery School at Children's Centre	6	PB	3y-4y	9	1	3 QT 2 NNEB5	104	M-L	White British 40% White Other 20% Pakistani 13.3% Asian Other 13.3%
4	Local Authority preschool	6	PB	3y-5y	2	0	1 PGCE 1 NNEB	20	M	White British 93% Black African 6.3%

* PB=purpose built, hall, P=Porto cabin, H=home, CB=converted building, C=Church Hall

**QT=qualified teacher, NN=nursery nurse, PPD=Preschool Practice Diploma, NNEB= National Nursery Examination Board, O=other certs, NVQ=National Vocational Qualification, FD=Foundation Degree, EYP=Early Years Professional, PGCE Post-Graduate Certificate in Education. TA =Teaching Assistant

***H=high, M=middle, L=low

Adapted from (Moyles, Adams, & Musgrove, 2002).

Details of the socio-economic status (SES) of the families in each setting were also obtained through the questionnaire data from parents. There were several proxy variables in the questionnaire for this. The proxy variables were:

- The parent's employment status
- The parent's professional class, e.g. Professional occupations, Associate professional and technical occupations and so on
- The parent's partner's employment status
- Highest education achieved by the parent
- Whether the family were in receipt of income support, housing benefit and council tax benefit.

These, when added together, gave a total score for social advantage/disadvantage. The higher the score on this total, the higher the social advantage. Some of the items on the proxy variables had to be reversed, in order to match the direction of coding of the other proxy variables. For example, the variables *parent's employment status*, *partner's employment status* and *parent professional class* were negatively worded, meaning that, as

the code number relating to item increased, the category was lower: e.g. Not employed was coded 9 and Professional position was coded 1. Table 4.6 shows the mean social advantage status for each setting based on the computation of the proxy variables. The ranges were relatively large, and so could have skewed the mean value. Also, quite a few of the respondents declined to answer some of the items pertaining to SES on the questionnaire, so this may have affected the groupings. However, the results showed that the families in each setting were from high, middle and low socio-economic groups.

Table 4.6 Socio-economic Status of Children's Families

Which setting the child attended		N	Minimum	Maximum	Mean	Std. Deviation
1	Total SES for Family	34	5.00	29.00	17.00	7.14
	Valid N (listwise)	34				
2	Total SES for Family	9	13.00	34.00	23.67	7.33
	Valid N (listwise)	9				
3	Total SES for Family	14	6.00	34.00	21.14	9.02
	Valid N (listwise)	14				
4	Total SES for Family	16	5.00	31.00	19.69	9.02
	Valid N (listwise)	16				

Attempts were made to equalise the number of children recruited from each setting but, unfortunately, this was not possible, as the number of consents received and number of children on roll varied from setting to setting (Table 4.7).

Table 4.7 Number of Children Recruited to Study in Each Setting

Setting	Treatment Group	Control Group	Total N
1	24	19	43
2	5	7	12
3	13	7	20
4	10	9	19
TOTAL	52	42	94

Characteristics of Participants

The intervention was targeted at children aged three and four years. The parents of all children in this age group in any setting were approached for consent. The mean age was 47.60 months ($SD=5.11$) for the treatment group and 46.50 months ($SD=4.25$) for the control group at pre-test (Table 4.8), and 47.11 months ($SD=4.73$) for the whole sample.

Table 4.8 Mean Ages for Treatment and Control Groups at Pre-test

Treatment or Control Group		N	Min	Max	Mean	Std. Deviation
Treatment	Age of child at pretest in months	52	37	55	47.60	5.11
	Valid N (listwise)	52				
Control	Age of child at pretest in months	42	38	53	46.50	4.25
	Valid N (listwise)	42				

As was shown in Table 4.6, the children came from all three socio-economic groups.

English was predominantly the first language of parents in both the treatment ($n=27$) and control groups ($n=25$). A proportion of each group did, however, state that English was not their first language ($n=14$ (26.92%) in the treatment group and $n=12$ (28.57%) in the control group). This seems to be a higher proportion than is reported by NALDIC for primary school aged children in England (NALDIC, 2013). However, the NALDIC data refers to primary school aged children, so we can only assume that this number is replicated in preschool. This study was aiming to provide a universal programme for all children in preschool in England. Therefore, if the preschool population has a proportion of children with EAL, then it could be possible to represent them in the sample. We also know that children with EAL can benefit from interventions, which use storybook reading (Dockrell, *et al.*, 2010), therefore, it seemed reasonable to involve them in the sample, notwithstanding a potentially different language development trajectory. However, it is worth stating that this could be viewed as a possible limitation to the study and this is discussed further in Chapter Six of this thesis.

In the longer-term, this study is endeavouring to develop an intervention which can help any child who requires help with language, regardless of socio-economic background.

Randomisation

Schultz and colleagues (1995) (cited in Gomm 2008) found that *“failure to randomise adequately can inflate outcome differences between groups, spuriously by up to 40%”* (Gomm, 2008:65). Some (Black, 1999) have claimed that randomisation should not occur after consent has been allocated – that this somehow can affect the results, as those who volunteer to take part in research are willing and ready for change. However, as the parents

were consenting on behalf of their children, the children did not necessarily volunteer their participation, even though their assent was sought on each occasion on which the researcher was working with them. Each child for whom consent was received was randomly allocated to either the treatment or control group using a random number generator (www.random.org); the treatment group was filled first, as the Pilot Study showed that the random number generator indicated an independence of observations. Table 4.7 shows a summary of the number of children in each group.

4.6 Research Procedure

Research Schedule

The research comprises three main phases and a fourth phase for analysis.

4.6.1 Phase One – October 2011-September 2012

The initial part of this phase consisted of the writing of the literature review, training on the outcome measures, developing and piloting the material for the intervention and carrying out a pilot study.

Firstly, theoretical literature was consulted, to understand the nature of children's oral language development (Chapter Two) and to inform the intervention (Chapter Three). A more detailed description of the Literature Search Strategy is contained in Chapter Two.

Secondly, the oral language assessments were chosen and the researcher received the relevant training required to administer them. These will be described in detail in Section 4.6.4. The researcher also received training in Quantitative Data Analysis methods in this phase.

Thirdly, materials for the intervention were sourced and purchased. Each intervention session was devised and developed, and two weeks of the intervention were piloted. This pilot study, with a reduced number of respondents ($n=40$) was carried out in June-July 2012, in which the assessment instruments were tested and two weeks of the intervention were trialled.

4.6.2 Pilot Study

Robson (2002) argues that a fixed design strategy, such as that used in this study, cannot be employed without first carrying out a pilot. A pilot study was carried out in June-July 2012 with a reduced sample ($n=40$). Ten early education settings were approached and four expressed interest. Children from three settings were recruited, as the fourth replied quite late in the summer term and post-testing would not have been possible. Details about these settings' characteristics are in Table 4.9. The aims of the pilot study were to test the instruments' validity and refine the intervention. Two weeks of the intervention were trialled. Data was collected at pre- and post-test and questionnaires were administered to parents to gather demographic information about the families (and also to check the reliability of the questions).

Table 4.9 Characteristics of Settings from Pilot Study

No.	Setting Type	Hours each day	*Type of Accom.	Ages of children	Teaching staff		**Qual.	No. of children on roll	***SES of parents	Predominant Ethnicity of families
					Full time	Part time				
1	Local Authority Day Nursery	9	CB	3m-5y	5	32	17 NVQ3, 7 NVQ2, 6 NVQ1, 5 Catering	123	M	White
2	Independent School	6	CB	3-5y	1	6	3QT, 1 NVQ3,	33	H	White
3	Voluntary Preschool	3	C	3-5y	5	3	6 NVQ3, 1NVQ2, 1EYP	42	H	White

* PB=purpose built, hall, P=Porto cabin, H=home, CB=converted building, C=Church Hall

**QT=qualified teacher, NN=nursery nurse, PPD=Preschool Practice Diploma, O=other certs, NVQ=National Vocational Qualification, FD=Foundation Degree, EYP=Early Years Professional

***H=high, M=middle, L=low

Adapted from (Moyle *et al.*, 2002).

Results from Pilot Study

Tables 4.11 and 4.12 show a summary of the demographic information on the sample in the pilot study.

Demographic Characteristics

Forty children were tested at pre-test, comprising 20 boys and 20 girls. The mean age at pre-test was 44.83 months ($SD=5.09$) in the treatment group and 44.62 months ($SD=4.90$) in the control group. There were 21 children in the control group and 19 children in the treatment group. Each child for whom consent was received was randomly allocated to

either the treatment or control group, using the random number generator (www.random.org). Table 4.10 shows a summary of the groups. The random number generator ensured an independence of observations.

Table 4.10 Sample in Pilot Study

Setting	Treatment group	Control group	Total
1	10 (2 groups of 5 children)	10	20
2	4	4	8
3	5	7	12
Total	19	21	40

Thirty-four of the parents who completed the questionnaires were mothers of the children at pre-test and three were the child's father ($n=37$). The highest count in each demographic variable is summarised for the parent in Table 4.11 and for the child in Table 4.12.

Table 4.11 Demographics of Parent

Ethnicity of Parent	English First Language	Marital status of parent	Employment status of parent	Employment status of parent's partner	Child Benefit	Educational Level Achieved
58% (23) White	75% (30) Yes ¹	88% (35) married ²	55% (22) employed ³	90% (36) employed ⁴	58% (23) yes ⁵	72% (29) Bachelor's Degree or higher ⁶
N=37	N=37	N=37	N=37	N=37	N=31	N=37

¹2 parents had French as their first language, ²1 divorced, 1 cohabiting, ³14= Part-time & 8=Full-time, ⁴32=Full-time, 1 father full-time parent for children, ⁵0=income support, 0=job seekers allowance, 0=housing benefit, ⁶2=GSCE, 2=Vocational Qual., 4=Diploma

Table 4.12 Demographics of Child

Ethnicity of Child	English First Language	Dwelling	Own/rent	Siblings	Mean no. hrs. in setting
50% (20) White 10% (4) mixed race	85% (34) Yes ¹	83% (33) house ²	75% (30) own ³	45% (18) sisters 45% (18) brothers	21.28 (SD=11.56)
N=37	N=37	N=37	N=37	N=37	N=37

¹2 children had French as their first language and 1 child had Italian, 1 had Telugu and 1 had Punjabi spoken at home. ²4 children living in flats, ³7 in rented accommodation,

In summary, the sample was from the higher socio-economic grouping mostly, as indicated by the educational levels of the parents, their employment status and their claiming of universal child benefit only. There were no significant differences between the groups at pre-test on the demographic variables (Appendix 10).

Descriptive Statistics

The standardised scores showed that all of the children were able to attempt all of the *British Ability Scales* items and there were no floor or ceiling effects. However, the same cannot be said for the *Concepts about Print* measure. The minimum score which can be achieved in this test is 0; the maximum is 22. Thirty-three children in the sample scored under 10 points at pre-test and 34 children had a score under 10 at post-test. These widespread lower scores render the test unsuitable for children in this age-range and, therefore, would only be used should a delayed post-test be carried out when the children are older. The test named '*Baking*' in the table illustrated a floor effect. Perhaps it was the indistinct nature of the illustrations, the nature of the story, or the nature of the language used in the story which rendered it less useful. This test was not used in the main study. *The Bus Story Test* and the *Test of Narrative Retell* are showing low minimum scores but, on examination of the scores, there was a normal distribution of scores, so these two tests were retained for the main study.

Table 4.13 Scores on all Dependent Variables at Pre-test

PRE-TESTS					
	N	Minimum	Maximum	Mean	Std. Deviation
Block Building pre-test tscore	40	30.00	75.00	48.42	9.27
Verbal Comprehension pre-test tscore	40	18.00	72.00	44.65	10.82
Picture Similarities pre-test tscore	40	34.00	69.00	52.30	7.77
Naming Vocabulary pre-test tscore	40	25.00	80.00	52.72	11.45
Total t score pre-test	40	133.00	260.00	198.10	28.28
General Conceptual Ability pre-test score	40	70.00	130.00	100.95	13.40
Verbal Ability Cluster pre-test tscore	40	55.00	144.00	98.30	17.15
General Conceptual Ability post-test score	39	75.00	138.00	105.82	15.26
Concepts about Print raw score pre-test	39	.00	15.00	4.82	4.17
Bus Story information pre-test	39	.00	32.00	11.56	7.09
Bus MLU pre-test	39	.00	10.60	6.04	2.31
Baking story raw score pretest ²	7	2.00	21.00	10.85	7.22
TNR pretest ¹	23	1.00	16.00	8.86	4.46

¹The *Test of Narrative Retell* and *Baking*² were trialled with a reduced number of participants

Independent Samples t-tests showed that there was no significant difference between the treatment and the control groups at pre-test on any of the *British Ability Scales* (Table 4.13).

Also, there were no significant differences between the two groups at pre-test on *The Bus Story Test* or the *Test of Narrative Retell*.

Table 4.14 Scores on all Dependent Variables at Post-test

POST-TESTS					
Block Building post-test tscore	39	31.00	77.00	49.71	10.92
Verbal Comprehension post-test tscore	39	22.00	69.00	49.64	10.26
Picture Similarities post-test tscore	39	42.00	76.00	54.84	7.95
Naming Vocabulary post-test tscore	39	30.00	80.00	54.30	11.74
Total t score post-test	39	144.00	277.00	208.51	32.37
Verbal Ability Cluster post-test tscore	39	66.00	141.00	103.79	17.04
<i>Concepts about Print</i> raw score post test	38	.00	15.00	4.39	4.16
Bus AL5LS post test	39	.00	11.20	5.92	2.10
Bus information post test	39	.00	32.00	13.41	8.64
TNR post test ¹	26	1.00	16.00	9.19	3.87
Baking story raw score post test ²	7	3.00	19.00	10.28	6.26

¹The *Test of Narrative Retell* and *Baking*² were trialled with a reduced number of participants

To test receptive vocabulary, the *British Picture Vocabulary Scales* was introduced in the main study. The researcher had experience of using this test in previous research (Purcell, 2011).

Based on the data from the pilot study, the instruments which should be used in the main study were:

1. British Picture Vocabulary Scales
2. British Ability Scales: Block Building, Verbal Comprehension, Picture Similarities and Naming Vocabulary
3. Researcher-Designed Vocabulary Test
4. Bus Story Test
5. Test of Narrative Retell

Questionnaires

The response rate for the questionnaires was high, with 37 out of 40 (92.5%) questionnaires being returned. Trimming of some of the items was required for the main study. A question pertaining to the social class of the parent was added, based on his/her employment category (Appendix 7). Some of the welfare benefits were no longer relevant, e.g. Child

Support, so references to these were removed. The questions regarding the child's language development were changed (Appendix 7), as the pilot data indicated much confusion and was a non-response item on many occasions. Also, the qualitative nature of the responses was difficult to code. More specific questions about the child's language ability were constructed and these will be discussed in Section 4.6.6. A Likert scale for each item rated 1-3 was developed for Question number 21 (Pilot questionnaire), as order of preference was confusing for respondents.

Treatment – *Let's Talk!*

The intervention consisted of twice-weekly sessions of approximately 20-25 minutes long. The first session was a storybook reading session with the researcher introducing the storybook via a puppet - *Tobi*. The story was read and dialogic discussion was facilitated, with the puppet asking questions and helping to maintain the interest of the children. The story was retold by the children at the end of each session through the use of prompt pictures from the story. The second session was a planned pretend play session, based on the story from the first session in that week. The researcher entered into 'role' as one of the characters from the story and invited the children act out the story, or a version of it. The children planned what character they would play and the way the playing area should be set out, including what props might be required. When the play was finished, the researcher came out of 'role' and a discussion ensued as to the nature of the play session and the participation of the children. Chapter Three – *Developing an Intervention* – provides a full description of the intervention and its development. *Let's Talk* was received well in all settings by children and practitioners alike in the pilot study. Oral feedback was positive and the practitioners said they could see the potential of the intervention. They also said that the children were very excited on the days the intervention was to be delivered each week.

4.6.3 Phase Two – September 2012–December 2012

Transfer of Status was completed in September 2012. This meant that data collection for the main study could commence. Section 4.5.1 addresses the recruitment process in great detail. Questionnaires were administered to all families and these are discussed in detail in Section 4.6.6. All children whose parents gave consent were assessed at pre-test on a

battery of oral language assessments, just before the end of 2012 and the beginning of 2013 to establish baseline scores.

4.6.4 Measures

Assessment Instruments

Stobart (2009) argues that, in order for a study to be valid, it needs to have reliable instruments which are consistent and stable. The assessment instruments in this study, with the exception of the TNR narrative assessment, and a *Researcher Designed Vocabulary Test*, are standardised. The instruments are directly related to the outcomes of the intervention, have adequate fitness for purpose and are reliable, which all lead to internal validity (May, 2001; Stobart, 2009). Table 4.15 summarises the instruments and links each one to its relevant research question. Each of the instruments, and their validity, will be explained in detail in the next section.

Table 4.15 Summary of Instruments and their Corresponding Research Questions

Research Question	Instrument	Dependent variable/Outcome
Will planned pretend play and group shared storybook reading have an effect on the narrative (story-retelling) of the children in the treatment group when compared to the children in a control group who complete numeracy activities?	<i>Bus Story Test</i> (Renfrew, 2001) <i>Test of Narrative Retell</i> (T. D. Spencer & Petersen, 2010)	Bus Story Information score Bus story AL5LS (MLU) TNR total score (raw)
Will planned pretend play and group shared storybook reading have an effect on the vocabulary (receptive and productive) of the children in the treatment group when compared to the children in a control group who complete numeracy activities?	BAS II: Naming Vocabulary (Elliott <i>et al.</i> , 1997) BPVS (Dunn, Dunn, Whetton & Burley, 1997) Researcher designed vocabulary test	Productive Vocabulary Receptive Vocabulary Raw score of target vocabulary
Will planned pretend play and group shared storybook reading have an effect on the verbal ability of the children in the treatment group when compared to the children in a control group who complete numeracy activities?	BAS II: Verbal Comprehension Naming Vocabulary (Elliott <i>et al.</i> , 1997)	Verbal Ability standardised score
Will planned pretend play and group shared storybook reading have an effect on the verbal comprehension of the children in the treatment group when compared to the children in a control group who complete numeracy activities?	BAS II: Verbal Comprehension (Elliott <i>et al.</i> , 1997)	Verbal Comprehension standardised score
Will an intervention involving planned pretend play and group shared storybook reading have an effect on the non-verbal outcomes of three to five year old children in the treatment group when compared to the children in a control group who complete numeracy activities?	BAS II: Block Building, Picture Similarities. (Elliott <i>et al.</i> , 1997)	Picture Similarities standardised score Block building standardised score
Will the intervention effect vary according to the demographic characteristics and first language use at home for each outcome?	BAS II: Naming Vocabulary (Elliott <i>et al.</i> , 1997) BPVS (Dunn, Dunn, Whetton & Burley, 1997) Researcher Designed Vocabulary Test <i>Bus Story Test</i> (Renfrew, 2001) <i>Test of Narrative Retell</i> (Spencer & Peterson, 2010) Questionnaires	Productive Vocabulary Receptive Vocabulary Raw score of target vocabulary Bus Story Information score Bus story AL5LS (MLU) Narrative retell total score (raw)

Knowledge of books: Concepts about Print (Clay, 1979)

In the pilot study, the *Concepts about Print* Test (Clay, 1979) was used to explore the effects of storybook reading sessions on the children's knowledge about books.

Concepts about Print comprises a booklet, i.e. *Stones*, where various norms about print are mixed up and the child must identify these differences (Clay, 1979). There are two possible stories to choose from: one set at the beach i.e. *Sand* and one set in the countryside i.e. *Stones*. *Stones* was seen as the more relevant story in this study, as the sample children do not reside in a coastal area. This test is useful for assessing children who are struggling with the development of reading skills, such as directional rules, line sequence and the concept of first and last parts of a story.

There are explicit instructions for its administration, and its value lies in its diagnostic abilities (Clay, 1979). There are age expectations for all of the items and this was useful for comparing against the children in the sample. Clay reported in 1972 that *Sand*, which is the sister to *Stones*, had reliability co-efficient of .95, based on 40 urban children aged from five years. The children's scores are compiled on a scoring sheet, with one point for correct answers as per the scoring sheet (Appendix 5). Pilot data revealed that there was a floor effect for the majority of the participants (Section 4.6.2) with regard to this test, so this test was not used in the main study.

General Conceptual Ability: British Ability Scales II (Elliott et al., 1997)

The four early years core scales of the *British Ability Scales II* (BAS) measure the General Conceptual Ability (GCA) of the child. The four scales are Block Building, Verbal Comprehension, Picture Similarities and Naming Vocabulary. The GCA measures the child's reasoning ability and each subscale is described in detail below. The BAS is an adaptive form of testing which has alternative starting, stopping and decision points, depending on the child's age and ability. The decision points enable the assessor to decide whether to proceed if the child has not *failed* more than three items, or cease, if they have not *passed* more than three items. The GCA is not an IQ score, but information at a finer level of detail, as it is a psychometric assessment with good reliability and validity (Elliott et al, 1997). The internal reliability for GCA was .93 for 3:0-3:5 year olds, .95 for 3:6-3:11 year olds and .97 for 4:0-4:5 year olds

(Elliot *et al*, 1997). The test-retest reliability was .90, based on a sample of 97 children, a sample size that was very close in size to this study (Elliot *et al*, 1997). The BAS presents score interpretations at three levels – General Conceptual Ability (GCA), cluster scores and scale scores. It is therefore a hierarchical test.

Non-verbal measures: British Ability Scales II (Elliott *et al.*, 1997)

Block Building

This scale measures the child's ability to copy a design from the assessor with wooden blocks. In each item, the assessor builds a 3-D construction using three or four blocks and the child is required to build the same. It is scored in relation to the correct positioning and balancing of the constructions. Low scores on this subscale can signify lower spatial problem solving, low eye-hand co-ordination, or low visual-perception. This item had a high internal reliability of .89 for 3:0-3:5 year olds, .84 for 3:6-3:11 year olds and .88 for 4:0-4:5 year olds (Elliot *et al*, 1997). The test-retest reliability was $r=.67$.

Picture Similarities

This subscale can be administered to children between the ages of 2:6 and 7:11 years. For each item, the child is shown a series of four pictures and asked to place a card on the picture with which it corresponds. The child is required to hypothesis-test as the items progressively get more difficult. Low scores can indicate problems with the child's non-verbal problem solving, visual perception, ability to attach meaning to pictures and use of verbal mediation. Internal reliability was found to be .82 for 3:0-3:5 year olds, .79 for 3:6-3:11 year olds and .96 for 4:0-4:5 year olds (Elliot *et al*, 1997). The test-retest reliability was $r=.56$ (Elliott *et al.*, 1997).

The Dimensional Change Card Sort

The Dimensional Change Card Sort (DCCS) is a test used to examine Executive Function in children as young as 36 months (Zelazo *et al.*, 2003; Zelazo, 2006). As this study was examining Narrative Retell, i.e. the ability to remember a story and retell it, it was thought appropriate to ensure that the child's Working Memory was not influencing their narrative retell ability. However, Working Memory assessments

are often not appropriate for children of three to four years old (Montgomery *et al.*, 2009). As Executive Function is highly correlated with Working Memory, and many of these are suitable for young children, an Executive Function task was chosen instead (Carlson & Moses, 2001; Carlson, 2005; Dick, Overton, & Kovacs, 2005; Klingberg *et al.*, 2005; Lang & Perner, 2002). This Executive Function task (DCCS) has two phases. The researcher begins by showing the child two target cards, one with a blue rabbit on it and one with a red boat on it. There are twelve further cards, six with a red rabbit and six with a blue boat. The child is asked to sort a number of cards (12) according to one dimension, e.g. colour. There is an extra card for each category to use as a practice task. The total number of correctly sorted cards, excluding the practice cards, is counted. Each correctly sorted card is scored one point, giving a total maximum score of 12 points in this phase. In the second, or post-switch phase, the children are asked to sort the cards according to another dimension, e.g. shape. Once again there is one point for every correctly sorted card. Many young children find it difficult to switch to the second phase and continue to sort by the first dimension. The reliability of this test was tested and provided an Intra-Class Correlation for children aged 3-5 years of .94 (Beck *et al.*, 2011).

Productive Vocabulary: British Ability Scales (Elliott *et al.*, 1997), ***Researcher Designed Test and BPVS II***

Naming Vocabulary (BAS II)

This tests the productive vocabulary of children in the early years. The child is shown a number of pictures and is asked to name the items therein. It only requires the child to express the vocabulary, rather than to show comprehension of it. A low score can indicate low expressive language skills, low vocabulary knowledge of nouns and poor long-term memory of words. Internal reliability was found to be .86 for 3:0-3:5 year olds, .89 for 3:6-3:11 year olds and .91 for 4:0-4:5 year olds (Elliot *et al.*, 1997). The test-retest reliability was $r=.80$ (Elliott *et al.*, 1997). The scores from this test, along with the scores of verbal comprehension, added together, give the Verbal Ability cluster score. This will be described below.

Researcher Designed Vocabulary Test

The National Reading Panel (2000) concludes that, when testing vocabulary from interventions, researcher-designed measures are more sensitive to the child's vocabulary development (M.D. Coyne et al., 2004; Loftus, 2008; Rd Silverman, 2007). A naming vocabulary test was designed to assess the productive vocabulary and whether the words were taught effectively over the course of the intervention.

Development Procedure for New Instrument

Bloom (1956) argues that all human activity takes place in three domains: a cognitive domain, an affective domain and a psychomotor domain. Any classification system is arbitrary, so overlaps can occur between the three domains above. However, as will be shown in Table 4.16, a test designed to assess productive vocabulary can assess information acquired by the child under the *knowledge* level, which is one of the six levels of Bloom's taxonomy for the cognitive domain. Thus, accessing the cognitive domain was considered when a new vocabulary instrument was developed for this particular study. The vocabulary test required the children to recall words for items which were integral to the stories that they shared in the intervention. The action verbs associated with expressing this vocabulary match the action verbs advocated by Bloom (1956).

Table 4.16 The Knowledge Level of Bloom's Taxonomy in the Cognitive Domain

Source: after (B. Bloom, 1956)

Level and Description	Behavioural Examples	Action verbs
Knowledge: Remembering facts, definitions, theories, and rules. This does not imply any understanding and is the lowest level of learning in the cognitive domain	Recalls terms, specific acts	States, describes, lists, names, identifies, chooses, tells, selects, labels

The test contained nouns only from the storybooks which were used in the intervention. Four nouns from each theme were chosen. As the intervention was 10 weeks long, 20 words were tested, i.e. two from each story (Section 3.3.2). These words were selected, as they were central to the stories and unlikely to be known by such young children. The children were shown a picture of the word and asked to

name it. Acceptable alternative answers were identified and are listed in parenthesis in the test.

Internal Validity of Researcher-Designed Vocabulary Test

There are many standardised productive vocabulary tests available; indeed one was used in the current study (*Naming Vocabulary*, BAS II; Elliott, Smith & McCulloch, 1997). However, it has been found that researcher-designed vocabulary tests are more “*sensitive to gains achieved through instruction than are standardised tools*” (Loftus, 2008:129; Silverman, 2007). Researcher-designed vocabulary tests have been used in many vocabulary intervention studies in many different ways (Biemiller & Boote, 2006; M.D. Coyne et al., 2004; McKeown & Beck, 2009; Penno, Wilkinson, & Moore, 2002; Pollard-Durodola & Gonzalez, 2011; Sénéchal, 1997; Rd Silverman, 2007; Rebecca Silverman & Hines, 2009). Using pictures from outside the context where the child first encounters the word can identify whether the child has managed to identify the novel word in a different context (M.D. Coyne et al., 2004).

The RDVT was not piloted, however, the individual pictures, which were used, were checked with two four-year-old children from the pilot study, who were revisited before the main study’s data collection commenced. It is sometimes the case that young children will produce synonyms for novel words when presented with pictures outside of the storybook with which they have first encountered them (Sénéchal, 1997). Alternative words were offered by the two children on only three of the words, when the pictures were piloted, so these were accepted in the main study (Table 3.1). There were no filler items in the test, which could have elicited a more accurate measure of the children’s acquisition of the novel words. The fact that:

1. The test itself was not piloted;
2. There were no filler items; and
3. It had a low correlation with the naming vocabulary subtest of the BAS

may have reduced the internal validity of the assessment. Therefore any favourable results found on this assessment should be viewed with caution. It would be useful to work on the test’s development, were the study to be replicated at a later date.

Reliability of Researcher-Designed Vocabulary Test

Even though Black (1999) argues that reliability is an estimate, it is an estimate that is required, particularly when the assessment is researcher-designed. One of the ways of assessing the reliability of such a test is to measure its stability using test-retest. A simple way to do this would be to administer the Pearson Product Moment Correlation (A. Field, 2009). This is when the test is administered at two time points to the same children, to assess its stability. However, there are problems with using such a test in this study. Firstly, simply administering the test twice can affect the respondents' behaviour and thus their scores (Black, 1999). Secondly, respondents may remember the items from one time point to another if the interim period is too short. Thirdly, and most importantly in the case of this study, if the pre-test scores are compared with the post-test scores and they illustrate no strong correlation for the treatment group, then one could surmise that the intervention has been successful and has had an impact, but the reliability remains undetected.

So, in this study, a measure of equivalence was used. This is where one test is compared to another vocabulary test, which measures the same outcome on the same day (A. Field, 2009). The pre-test *Researcher-Designed Vocabulary Test* (RDVT) scores were compared to the *BAS Naming Vocabulary* test scores, as both assessments measured productive vocabulary. As raw scores were collected in the RDVT, and standardised scores were collected for the *BAS*, scores on both tests were converted to z scores and the correlation was run. Results showed that there was a low but significant relationship between the pre-test z scores of the *Researcher-Designed Vocabulary Test* and the *Naming Vocabulary* test from *BAS II* $r = .26, p$ (two-tailed) $< .05$ (Table 4.17). As the correlation is low but significant nonetheless, results must be viewed with caution.

Table 4.17 Measure of Equivalence (Correlation) between *Researcher-Designed Vocabulary Test* and *Naming Vocabulary, BAS II*

		Zscore: Researcher Designed Vocab Test pre- test score	Zscore: Naming Vocabulary pre-test tscore
Zscore: Researcher Designed Vocab Test pre- test score	Pearson Correlation	1	.26*
	Sig. (2-tailed)		.012
	N	93	93
Zscore: Naming Vocabulary pre-test tscore	Pearson Correlation	.26*	1
	Sig. (2-tailed)	.012	
	N	93	94
*. Correlation is significant at the 0.05 level (2-tailed).			

Receptive Vocabulary: The BPVS II (Dunn, Dunn, Whetton & Burley, 1997)

The British Picture Vocabulary Scale II (Dunn, Dunn, Whetton & Burley, 1997) is used to assess children's receptive vocabulary. Children are shown picture cards and asked to point to the picture matching the word read aloud by the researcher. The child is encouraged to point, rather than use the number of the picture, so that his/her numeracy does not affect his/her completion of the task. Practice tasks are administered at the beginning of the test to ensure that the child understands the task. Score sheets are completed behind the flip-over picture book, so that the child is not aware of how s/he is doing and cannot be affected by that (Appendix 5). The children are, however, praised consistently after having completed 12 items, but do not receive any detailed feedback. This norm-referenced test has a very high degree of reliability, with a Cronbach's alpha at $r=.96$ for children of four years old. Construct validity was established during the construction of this test. Items were only included in the final test if they showed a linear increase in facility or percentage correct (Dunn *et al*, 1997).

Verbal Comprehension: British Ability Scales II* (Elliott *et al.*, 1997)*Verbal Comprehension**

This is a scale which tests the child's understanding of language. The first set of items uses a picture of a teddy bear and the child has to point to parts of its body on the picture. In the next set of items, the child is required to complete various

commands related to a series of toys that are presented to him/her. The next set of items is also a series of commands, but is accompanied by a set of wooden toys and the requests include many prepositions. The next set of items contains coloured shapes about which the child has to process commands. This language measure is assessed through the receptive mode. Low verbal comprehension scores may indicate a lack of understanding of spoken language, or lack of ability to follow verbal instructions, as well as distractibility. Internal reliability was found to be .85 for 3:0-3:5 year olds, .79 for 3:6-3:11 year olds and .84 for 4:0-4:5 year olds (Elliot *et al*, 1997). The test-retest reliability was $r=.81$.

Verbal Ability

Amalgamating the two scores of Verbal Comprehension and Naming Vocabulary from the BAS II gives a cluster score of Verbal Ability, the second stage of the hierarchical scoring system. A sum of the child's t-scores³¹ for these two subscales is generated to obtain a total which can be translated to a Verbal Ability score (Elliott *et al.*, 1997).

***Narrative Ability: Test of Narrative Retell* (T. D. Spencer & Petersen, 2010) & *Bus Story Test* (Renfrew, 2001)**

Test of Narrative Retell (TNR)

The *Test of Narrative Retell* forms one third of the Narrative Language Measures: Preschool (T. D. Spencer & Petersen, 2010). The three subtests comprise *Test of Narrative Retell* (TNR), *Test of Story Comprehension* and the *Test of Personal Generation*. The tests of *Personal Generation* and *Story Comprehension* were not used in this study, as the research was concerned with story-retelling only. In the TNR, the child is told a story and is asked to retell it using the four pictures which accompany it. Three stories are used for each child and the best of the three is scored. This is to ensure that the young child's score is not affected by the testing circumstances. The child is recorded at the time the test is administered and the transcripts are scored at a later date. This measure originated in the USA, so the

³¹ -t-score is a total normalised score with a mean of 50 and a standard deviation of 10.

stories were adapted by the researcher to suit English children's vernacular, for example: "*mad*" was changed to "*cross*". These changes were approved by the author of the assessment (Appendix 6). Each story contains elements which measure linguistic complexity, including dialogue, temporal markers and subordinate clauses. The stories also include measures of story grammar, including opening, character's name, problem, attempt and consequence (Appendix 6). Each story is told once; three different stories were adapted to be used at pre-test and a further three were used at post-test. Narratives from 72 preschool children were examined by Spencer and Peterson and gave a significant reliability coefficient of .85, inter-rater reliability was 91% and the TNR was correlated with *The Bus Story Test* (Renfrew, 2001) at $r=.88$ (Spencer & Peterson, 2010).

Narrative Measure

Another narrative assessment (Ebert, 2011) was used in the pilot study. It was an assessment which originally tested maternal input in storybook sessions with young children. It did not translate to this study as a test of narrative retell and every child exhibited the floor effect on this assessment. It was not, therefore, used in the main study.

Bus Story Test (Renfrew, 2001)

The Bus Story Test (Renfrew, 2001) also measures narrative retell. This involves the researcher reading a humorous story to the child about a *naughty* bus. The child is asked to retell the story, using the colourful illustrations as prompts. The child is recorded and the transcripts are scored later. There are two main scores, information and mean length of utterance (MLU). The mean length of utterance score is calculated by taking the child's five longest sentences and dividing their accumulated scores by five. Dockrell *et al*, in their study on oral language with English learners, reported test-retest reliability coefficients for MLU measure as .73 and .79 for the information measure. Criterion prediction validity for the British and American versions of the test are .97 for information and .98 for MLU (Dockrell *et al*., 2010).

4.6.5 Reliability of Language Instruments

The creators of the instruments described above have provided reliability scores. In addition to this, their validity and reliability is considered satisfactory by many other research projects (Allen, 2011; Bowyer-Crane et al., 2008; Dockrell et al., 2010; Muter et al., 2004). It is argued that standardised scores in children's assessment are the most reliable (Gorin, 2007; Messick, 1989; Wolming & Wikstrom, 2010). The tests in this study produce standardised scores for the most part. However, *The Bus Story Test* does not. Its results are being supported by the use of another test of narrative: the TNR. Also, *The Bus Story Test* tends to concentrate on information and story grammar, whereas the TNR measures linguistic complexity in more detail. These two tests complement each other and strengthen the reliability of the narrative information on each child.

Black (1999) recommends several actions to increase reliability: pilot the instruments, code them sufficiently and explain the coding system, and take care to clean the data once it is uploaded. All of these actions were carried out in both the pilot study and the main study. In addition, the tests were administered in a uniform way at pre- and post-test in waves one and two of the data collection.

4.6.6 Test Administration

Each child was tested in a quiet area, at a table with minimal distraction, to increase reliability. The *British Ability Scales* (BAS) was administered in the same order with every child. The nature of the order helped the child to become more comfortable with the testing process. For example, the BAS commences with Block Building, which is a fun activity and requires no verbal input from the child. As the scales advance, more verbal input is required of the child and the child becomes more comfortable.

Let's Talk is a researcher-designed and -delivered intervention. It was important to ensure that researcher bias was reduced. To this end, approximately 10% of the transcripts from the Narrative Assessments were blind-marked by another

researcher who was trained in the assessments. This increased the reliability of results. Cohen's kappa was conducted on *Test of Narrative Retell* at pre- and post-test and on *Bus Story Test* Information Score at pre- and post-test to assess the agreement between the researcher and the blind assessor. The agreement levels were satisfactory. Table 4.18 contains the results of this analysis. Table 4.19 summarises the testing schedule.

Table 4.18 Cohen's Kappa for Narrative Assessments

Bus Story Information Score at pre-test					
		Value	Asymp. Std. Error^a	Approx. T^b	Approx. Sig.
Measure of Agreement	Kappa	.620	.162	5.293	.000
N of Valid Cases		9			
TNR Score at pre-test					
		Value	Asymp. Std. Error^a	Approx. T^b	Approx. Sig.
Measure of Agreement	Kappa	.585	.170	4.290	.000
N of Valid Cases		9			
TNR at post-test					
		Value	Asymp. Std. Error^a	Approx. T^b	Approx. Sig.
Measure of Agreement	Kappa	.625	.166	5.539	.000
N of Valid Cases		9			
Bus Information Score at post-test					
		Value	Asymp. Std. Error^a	Approx. T^b	Approx. Sig.
Measure of Agreement	Kappa	.739	.156	5.702	.000
N of Valid Cases		9			

a. Not assuming the null hypothesis. b. Using the asymptotic standard error assuming the null hypothesis.

Table 4.19 Testing Schedule for Main study

Measure	Time taken
BAS II:	
Block Building	3-5 minutes
Verbal Comprehension	3-5 minutes
Picture Similarities	3-5 minutes
Naming Vocabulary	3-5 minutes
Bus Story	3-5 minutes
TNR	3-5 minutes
BPVS II	3-5 minutes
DCCS	1-3 minutes
Researcher-Designed Vocabulary Test	3-5 minutes
Total	25-43 minutes

In total, each child spent 25-43 minutes (over several different periods) with the researcher at pre-test, and the same again at post-test. The testing was completed on consecutive days (Table 4.20).

Table 4.20 Dates when Pre- and Post-testing was Conducted

Setting		Dates
Pre-test:	Setting 1	9 th -11 th January 2013
	Setting 2	11 th -14 th December 2012
Post-test:	Setting 1	22 nd -28 th March 2013
	Setting 2	20 th -21 st March 2013
Pre-test:	Setting 3	16 th -18 th April 2013
	Setting 4	24 th -26 th April 2013
Post-test:	Setting 3	2 nd , 4 th , 9 th July 2013
	Setting 4	10 th -12 th July 2013

The children's scores at pre-test were compared, to ensure comparability of the treatment group and the control group (results are shown in Chapter Five). The increased reliability which the scores achieved at post-test was not as a result of differences at pre-test. Also, demographic characteristics were obtained through questionnaires, to compare the children from all socio-economic groups.

Demographic Characteristics: Questionnaires

A self-administered questionnaire was developed, to obtain information on the demographics of the sample and also some information about their early language development and current first language use, as reported by their parents (Appendix 7). Self-administered, anonymous questionnaires are generally quicker to administer and are more convenient for respondents. They are also useful for reducing the generic individual-related factors category of measurement errors, for example, the social desirability bias of parents changing, or under-reporting, their

activities with their child at home (Bryman, 2008; Cohen, Manion, & Morrison, 2000; Sechrest, Davis, Stickle, & McKnight, 2000).

The questionnaires had to be parent/parent-friendly, short and with little jargon or emotive words used (Sechrest *et al.*, 2000). Attempts were made to make the sentence structure appropriate to the intended audience (Black, 1999). This reduced the item-content-related category and administration-related category of measurement errors and helped to increase the generalisability of traits of the population recruited to the study (Black, 1999; Viswanathan, 2005). A mix of multi-indicator rating scales, closed convergent questions demanding reasonably predictable answers and tick boxes were used. This added to the variety in the questionnaire.

Return Rates

Securing completion and higher return-rates of research questionnaires by participants is difficult (Bryman, 2008). In this study, questionnaires were initially disseminated to parents through the setting staff. When a suitable time period had elapsed (two weeks), which had been initially indicated as the return date, reminder letters with fresh questionnaires enclosed, were given in person by the researcher to the parents. As the children in the sample were in preschool, parents/parents were often available to complete questionnaires as they collected and/or dropped off their children to the setting. This ensured a higher response rate on each individual question.

Co-operation and help from the whole setting was necessary for successful implementation. For example, children's key workers often had a better relationship with individual parents than pre-school supervisors, and could encourage parents to return questionnaires. Also, staff who operated the reception areas were important, as they often received the returned questionnaires. The return rate for the questionnaires was 83%, or 78 questionnaires out of 94 – a high return-rate.

Demographic Characteristics

Questions one to eight on the questionnaire concerned the familial situation of the child, such as the presence and number of siblings and the type of accommodation in which the family resided (owned or rented). Questions nine to eleven asked about the child and parent's ethnicity and first language, with spaces for the parent to write the first language in, if not English. The latent variable of social class was approached in questions 14-16. The proxy variables of:

- the parent's employment status
- the parent's professional class, e.g. Professional occupations, Associate professional and technical occupations, and so on
- the parent's partner's employment status
- highest education level achieved by the parent
- whether the family were in receipt of income support, housing benefit and council tax benefit

all helped to establish the parent's level of social advantage/disadvantage. These variables were chosen, as they have been used in wide-ranging studies for many years to measure the socio economic status of samples (Davies *et al.*, 2004; Hartas, 2011, 2012; Hoff, 2013; Jordan & Snow, 2000; Pungello *et al.*, 2009) Internal consistency for socio-economic status, as measured by Cronbach's alpha, had a coefficient of .61 (Appendix 12)

Language Experiences of Child

Questions 17 to 23 and 25 to 26 addressed the language experiences of the child, according to the parent. The parents were asked when the child said his/her first words, to whom the child talked mostly, and the nature of the child's current language ability, e.g. whether the child could be understood, whether they put words in the wrong order or understood instructions. The Cronbach's alpha coefficient for these questions was .61. This aimed to collect data on the child's first language proficiency at home. This information is a collation of parent-report items. There were many parents in the sample with English as an Additional Language who may not have had sufficient proficiency in English to answer this questionnaire

accurately. Therefore, it may be the case that the information on this item and others may be somewhat unreliable. In addition, there was no standardised test of the children's first language with English as an Additional Language. The extension supplement of BPVS (Whetton, 1997) attempted to make allowances for this discrepancy, but this, coupled with the parent-report of the children's first language proficiency, could be viewed as a limitation of this questionnaire.

The parents' opinions as to what were the most important aspects in the child's life which facilitated language development, were addressed through a Likert Scale in Question 24. The items on the scale were derived from the pilot questionnaire highlighting of the most popular choices. All of the above items helped to provide as much information as possible on the child's language experiences and development, according to the parent.

Home Learning Environment

The Home Learning Environment (HLE) can serve to enhance vocabulary and letter knowledge (Foy & Mann, 2003). Anders and colleagues found that, controlling for child and family factors at preschool age, a high HLE strongly predicts high attainment in reading at age ten (Anders, Sammons, & Taggart, 2011; Sammons et al., 2002, 2011; Sylva et al., 2004b). To measure the potential for learning experiences at home in the treatment group, the HLE instrument was included in the questionnaire for parents in question 28 (Foster, Lambert, Abbott-Shim, McCarty, & Franze, 2005). The HLE measures seven variables:

1. reading to the child, i.e. the frequency of a family member reading to the child during the prior week using a four-point scale (from *not at all* to *every day*);
2. enrichment experiences, e.g. library visits (Cronbach's alpha estimate 0.68) (Foster *et al.*, 2005);
3. home learning activities (measured on a seven-point scale from *occasionally* to *seven times a week*), e.g. teaching the child numbers;
4. teaching the child sport/dance/physical activity;

5. activities which promote language and reading-readiness skills e.g. playing games with letters (Cronbach's alpha estimate 0.66) (Foster *et al.*, 2005);
6. teaching the child a song/poem, and
7. teaching the child the alphabet (Foster *et al.*, 2005).

4.6.7 Validity

At several stages in the research process, one should consider validity; deciding the design structure, identifying the sample, considering operational definitions, instruments, data collection and the analysis all require an awareness of validity (Black, 1999). There are various types of validity and each was considered in this study.

Measurement Validity

Measurement Validity is understood to be the ability of the assessments/instruments to measure the concepts which they set out to measure (Bryman 2008). For example, some of the assessments used in this study are not standardised or norm-referenced for the age group in the study, e.g. *The Bus Story Test*. However, steps have been taken to try to compensate for this, by adding an alternative/complementary assessment which also measures narrative: *The Test of Narrative Retell*. These two assessments, when combined, provide a more robust picture of any participant's narrative ability.

Internal Validity

Steps should be taken to ensure that no other phenomenon has interfered with or moderated any results, thus decreasing the internal validity. Some of the threats to internal validity in this study included history, test administration and its timing, and maturation of the children.

Potential Threats to internal Validity

Firstly, history can affect the internal validity of the study (Bryman, 2008). For example, in the past, a particular setting may have had a particular emphasis on

language, as a result of a previous Ofsted³² rating or inventory. Perhaps the setting had intervention from other research groups which focused on language. As some of the settings were located in an area where there is a strong presence of research active institutions, i.e. Oxford city centre³³, it is quite possible that this was the case. However, it is hoped that randomisation of the children within the setting has managed to decrease this potential threat.

Secondly, the timing of testing can affect the internal validity of the study. It could be suggested that testing the children at baseline can influence children's ability to complete the tests independently at post-test. The children might have become familiar with the tests, if the pre- and post-tests are scheduled within too short a timeframe. However, in this study, there was a lapsed period of approximately two to three months, with a half-term break in the middle, which would have extended the time between testing. Also, as the children were quite young, it is unlikely that they would remember the content of the tests at each stage. But, to ensure that the stories in the *Test of Narrative Retell* were fresh, different mini-stories were used at pre- and post-test.

Thirdly, testing conditions can affect the internal validity of the Instruments. The conditions remained constant for both testing sessions. For example, the order of the test administration was kept the same the room and situation of the child during testing was also the same on each testing occasion. As the children were randomised within each setting, it is likely that any differences might have revealed themselves in the results of the children in the control group also.

Lastly, maturation of children at such a young age is quite rapid (Moylett & Stewart, 2012b). Children in the early years change and develop, day to day (Howard, 2010). However, the children in the control groups were tested at the same periods as the

³² Office for Standards in Education, UK

³³ University of Oxford and Oxford Brookes University

children in the treatment group. So any change in their progress would have been mirrored in that group also.

External Validity

External validity is concerned with the generalisability of the study and can be linked most closely to the way in which the sample was selected. In this study, all settings in Oxfordshire County were approached and some were excluded due to their non-availability or potential to facilitate the study in its entirety (Section 4.5.1). To satisfy the experimental nature of this research, and to try to make the sample as representative of the Early Years population in Oxfordshire as possible, the children were randomised within each setting to control and treatment groups (Section 4.5.1). Difficulties were experienced during recruitment, as each setting had to provide a minimum of ten children who gave consent. If some settings only had 13/14 children on roll to begin with, then it was difficult to gain consent for all of these children. Such a setting was therefore excluded. To increase the number of settings in the study, and to facilitate their availability, thus increasing the generalisability of the study, the data was collected from December to July. Section 4.5.1 above contains a more detailed description of this element of the study. Potential threats to external validity of the study might include interaction of selection of the participants and the treatment/intervention, interaction of history and the treatment and any reactive effects of the children.

Potential Threats to External Validity

Firstly, the interaction of selection of participants and the treatment can threaten external validity. For example, if the whole sample had been recruited from the city-centre of Oxford, it would not be possible to generalise at any level to other parts of the county, and any impact could have been as a result of where the children came from. However, children were recruited from city centre locations, rural settings and urban settings, and from a wide variety of ethnic backgrounds, so that this sample could be representative of children in Oxfordshire county (Bryman, 2008). For example, the sample had of a majority of White British children (61.54%) with the 2011 census for the area having 83.91% and the sample contained 1.28% of Indian

children, with the census data containing 1.68% (See Chapter Five, Section 5.3). The population covered in the census data included all children from the ages of 0-4 years (Table 4.21). The sample in the current study included only children with a mean age of 47.11 months. This renders the sample comparable to the data for Oxfordshire.

Table 4.21 Ethnicity in Oxfordshire

Broad Group	Detailed Group	%
White	English/Welsh/Scottish/Northern Irish/British	77.71
	Irish	0.29
	Gypsy or Irish Traveller	0.17
	Other White	5.74
Mixed/Multiple Ethnic group	White and Black-Caribbean	1.50
	White and Black-African	0.93
	White and Asian	2.34
	Other Mixed	1.49
Asian/Asian British	Indian	1.60
	Pakistani	2.20
	Bangladeshi	0.72
	Chinese	0.46
	Other Asian	1.33
Black/African/Caribbean/Black-British	African	1.98
	Caribbean	0.28
	Other Black	0.49
Other Ethnic Group	Arab	0.30
	Any other ethnic group	0.38

Source: (Office for National Statistics, 2011)

Secondly, interaction of history and treatment can have an impact on the external validity of the study. It might be argued that, if this experimental research was implemented at another time of the school year, different results could have been found. However, the data collection was conducted consecutively and spanned over a total of four terms from winter to summer. This broad time-range would have ruled out any seasonal factors associated with the children or with the settings.

Finally, the reactive effects of the children can threaten the external validity of a study. Perhaps the children were aware of their being part of research and reacted to it accordingly. As group-time in nurseries is commonplace and a pre-requisite, it is unlikely that the children would have reacted differently to this group session over

another. Also, as the researcher had familiarised herself with the setting in advance of the study, the children viewed her as a member of staff, which normalised the group-time.

4.6.8 Phase Three – January–September 2013

The intervention was delivered to the first settings during the first school term of 2013 (January–April) and lasted nine out of ten weeks, due to the availability of settings.

The Treatment

Let's Talk

The intervention was delivered to the children in the treatment group twice weekly in groups of four/five children. Each session was based on thematic units appropriate to the children's environment, interests and the EYFS learning goals. The storybook was introduced in the first session in the week and a dialogic discussion took place between the researcher and the children and between the children themselves. Session Two consisted of a planned pretend play episode based on the story that was introduced in Session One. Each week, a new storybook was introduced, but the theme changed only fortnightly. A more detailed description of the intervention is contained in Chapter Three and an example of a session is contained in Appendix 2.

Duration of Intervention

The intervention in this study lasted nine weeks, due to availability of the settings. Interventions of this length can yield medium to large effect sizes (Schickedanz & McGee, 2010). Many other studies have shown that the length of the intervention has little influence on the literacy outcomes of children (Zevenbergen *et al.*, 2003). There is a more detailed discussion of the duration of the intervention in Chapter Three.

There is a risk that children/participants who know that they are involved in an intervention may respond to it more readily. However, in this study, the children in

the control group received as much interaction with the researcher as those in the treatment group, as the time for each group was strictly adhered to. So the risk of the Hawthorne effect was reduced (Gomm, 2008).

The Control Group Sessions

The children in the control group completed age-appropriate early numeracy activities, such as *Shape Snap* and *The Game of Ladybirds*, counting rhymes and group games. The control groups also consisted of four/five children. The same number of sessions per week were delivered to the control group, and these occurred on the same days on which the intervention was delivered. The treatment group received 18 sessions of approximately 20-25 minutes each and the control group received the same.

Researcher Role

Gomm (2008) argues that the key to a true experiment is replicability. It is a means of increasing the generalisability of the work by allowing the research to be carried out more systematically, thus creating a more true experiment. In this study, each intervention and control group session began the same way, with the researcher leading informal chat with the children. There is a description of the intervention script in Appendix 2. The puppet was introduced in the intervention session in the same way each week and the same language was used to introduce the book and frame the sessions. All sessions have been recorded, to ensure comparability between settings. After each session, the researcher listened to the session recording and made notes on the planning documents of any extra questions asked etc. These were then included in the matched session in the next setting. The intervention is well documented to allow for replicability of methods and implementation.

Latter Stage of Phase Three

When the intervention had been delivered, a post-test of all children was carried out on all measures (Section 4.6.4).

4.7 Ethical Considerations

This study obtained its ethical clearance from the University of Oxford Central University Research Ethics Committee (CUREC) (Appendix 8) and followed guidelines from the British Educational Research Association (BERA) and the British Psychological Society (BPS). Guillemin and Gillam (2008) claim that often:

"there is no direct or necessary relationship between ethics committee approval of a research project and what actually happens when the research is undertaken" (Guillemin & Gillam, 2004).

As a result, the micro-ethics, or the ethical issues, which arise as research is undertaken, have to be managed. It is, however, useful to have ethical codes to refer to, to ensure that the young participants' interests are protected as much as possible. Nutbrown (2011) maintains that researchers have a duty to scrutinise their research designs as much as possible, to really care for the participants (Nutbrown, 2011).

Reflexivity played a large part in this study. The procedural ethics of CUREC, BERA and BPS did not provide prescribed solutions to various challenges which arose, but allowed the researcher to sensitise appropriately. There seems to be some current political emphasis being placed upon the evidence, which RCTs generate in educational research, with funding allocations such as the *Education Endowment Fund* focusing solely on this type of research methodology. Tension does arise when the participants in such research projects are children in the early years, as perhaps their views and position within the research process are not acknowledged (R. Levy & Thompson, 2013). For example, it could be suggested that the lottery of Randomised Controlled Trials results in the children who are allocated to the control group somehow missing out. Attempts were made to overcome this in the current study, with the non-treatment group children not being allocated to a waiting control group and these control group children receiving fun numeracy activities and interaction with the researcher.

Many setting managers sought the individual children's results. However, as the consent signed by parents permitted only the researcher to see the results, this had to be refused. The establishment of a good working relationship between the researcher and the manager was necessary as it allowed the researcher to gain access to the settings.

4.7.1 Negotiating Access

The points of contact in each setting were initially found through a combination of Internet searches and the use of the official data from Oxfordshire County Council. Information leaflets were prepared; these were accompanied by an information letter introducing the study and then sent to gatekeepers by post. Evidence of an enhanced Disclosure and Barring Service clearance of the researcher was provided. These initial letters were followed up with a brief email, up to a week after the information packs were sent. This helped to keep momentum in the recruitment process. In this email, the preschool supervisors were invited once again to take part in the study and times were suggested for a follow-up telephone-call. Some settings replied to say they were not interested at this stage or could not accommodate the study; some others agreed to discuss the study further. This phone-call enabled the researcher to outline the study and any questions from the setting were discussed.

Meetings were organised between the researcher and the setting staff; this enabled the researcher to check the setting's suitability for the intervention itself, e.g. an enclosed space was required. Also, it enabled the researcher to meet the children and spend time familiarising herself with them. At all times, information was provided via email to the setting about what was discussed at each stage of the recruitment process.

If the setting was agreeable, start times for pre-testing were agreed and the facilities required for this were agreed. It was of paramount importance that the setting

supervisor was satisfied that 1) the children would enjoy the research process and 2) the researcher had the expertise and experience to work with the children.

Consent

Written informed parental consent was obtained on an opt-in basis for the children in both the control group and the treatment group (Appendix 4).

Morrow (2008) sees children as social actors who are competent research participants with communication skills. Children are:

"a social group that is often constrained by adult structures" (Morrow, 2008)

Phelan and Kinsella (2013) maintain that it is extremely important to ask the child's permission to work with them before interacting with him/her in research (Phelan & Kinsella, 2013). In the current study, explanations about what the child would be required to do was provided before each play and storybook session, and before each testing session. The researcher would have needed to spend more time explaining the process to any child with additional needs. It was also important to make it clear that the children were not being required by the parent or the teacher to participate, even though they had given written consent on the child's behalf. Ethics was revisited as the rapport built, and each time the child was called on by the researcher, his/her assent was sought, by the researcher saying "Would you like to come to group now?", and before testing "would you like to play some fun games?" It was important to assess the power relationship between the researcher and the children and how the researcher felt about the importance of children's views and actions (Nutbrown, 2011). Children are increasingly being viewed as independent social actors in educational research (R. Levy & Thompson, 2013). Their voices are being heard with the advent of research methodologies such as participatory research (Clark & Moss, 2001; Jesuvadian & Wright, 2011) and the mosaic approach (Clark, 2004). Indeed, some researchers view children as co-researchers, empowering them to make decisions pertaining to many elements of the research

process itself (Hill, Davies, Prout, & Al., 2004; Lundy, McEvoy, & Byrne, 2011; Pahl & Allan, 2011). Child-friendly approaches to the data collection, such as the use of puppets (discussed in Section 2.4.2 of this thesis) are beneficial to the research process and often have the effect of eliciting data in an age-appropriate manner. Although, this was not possible in the current study, as an RCT was carried out, every attempt was made to listen to the children's views about the process and these were respected. This continued as the writing-up process progressed, as the findings needed to represent how the child actually felt and acted in each session.

All data remains anonymous and confidential and will be viewed only by the researcher and research supervisors. The data is kept in a password-protected filing system on the researcher's computer and any paper-based data will be kept in a locked filing cabinet. This confidential data will be kept for as long as the researcher deems necessary, thus allowing for post-doctoral publications. Each child was allocated an ID number; the ID numbers – and not the children's names – have been stored electronically (Appendix 9). The testing was completed in a professional manner at all times. The children were treated with the utmost respect and the researcher ensured that the children did not test longer than they felt comfortable doing so.

4.8 Methodological Limitations

Let's Talk is a researcher-designed and delivered intervention. It was important to ensure that researcher bias was reduced as much as possible. Fidelity of delivery of the intervention was observed. To this end, a detailed manual was developed with clear learning objectives and plans for each session (Appendix 2). The researcher took care to remain loyal to this. Even though 10% of the narrative tests administered were blind-marked to reduce observer error, it could be argued that, as the researcher was familiar with the children at post-test, a Hawthorne effect could have occurred, which influenced the children's outcomes.

The smaller sample size was a limitation of this study also. As the randomisation required a minimum of ten children in each setting, this made it more difficult to recruit, as only larger settings could be included. This reduced the number of settings, and, in turn, the number of children ultimately recruited. However, as Section 4.5.1 showed, the power calculations which were conducted illustrated that this sample size could produce an appropriate effect size.

Another, more practical, limitation was the fact that the researcher was conducting this fieldwork in isolation and without the support of a team. This meant that the number of settings, and their geographical location, was limited. However, attempts were made to include settings in as varied geographical locations as possible.

There were structural limitations associated with the settings themselves also. This intervention needed ten weeks to run. Fixed term-times meant that the research timetable was restricted and constrained by this. It was important to avail of the longest terms in the school calendar and begin the intervention as soon as possible when recruitment was completed. Also, the settings often were restricted in the space and time they had available. On some occasions, the room was needed for other activities and there were competing events within the settings; this meant that the researcher had to be flexible and leave time available at the end of the intervention to make up for any lost sessions. The settings, particularly any that are funded by the Local Authority, only operate for approximately three hours in the morning and three more in the afternoon, with different children attending each session. This meant that, if a setting had many children in the morning, and very few in the afternoon, the researcher was limited as to how many groups she could run.

Lastly, as the researcher had met the children in the week leading up to the commencement of the pre-testing, the children would have been relatively familiar with her. To examine the effectiveness of the intervention only, it was necessary to control the experiment to some degree, to limit noise and establish a reliable set of results based solely on any impact on the oral language ability of the children.

4.9 Chapter Summary

This chapter has described the methodological procedures used for conducting a Randomised Controlled Trial of a researcher-developed programme, which targeted three to four year-old children's oral language skills. It provided a rationale for the choice of the experimental research design. It detailed the sampling and recruitment strategies, and the limitations that arose from them. The Chapter also provided information regarding the sample which was recruited and the characteristics of the settings where the study took place. It included each of the three phases of the research procedure, including a description of the pilot work that was carried out. The chapter also discussed the instruments used and their relative reliability. It also addressed the ethical considerations of such a study and what efforts were made to address any changes in the ethical environment. Lastly, it discussed some of the limitations of the methodology chosen.

CHAPTER FIVE – ANALYSIS AND FINDINGS

5.1 Introduction

This study investigated the effectiveness of a researcher-developed intervention – *Let's Talk*. It targeted young children's oral language skills, specifically vocabulary (productive and receptive) and narrative (story-retelling). There were two types of group, the children who received the intervention were in the treatment group and the children who did not, and who received numeracy activities, were in the control group. Chapter Three of this thesis described the intervention in detail.

Ninety-four three- and four-year-old children from four preschools were tested at pre-test on a battery of assessments suitable for preschool children. Most of these assessments measured various aspects of the children's oral language; **Productive Vocabulary, Receptive Vocabulary, Verbal Comprehension** and **Narrative Ability**. Data was collected on all of these assessments at post-test for 93 children, approximately one week after the intervention finished.

Attrition was very low, with only one child not being tested fully at post-test, as the family had moved away from the area. The children were randomised into the control and treatment (intervention) groups, within the settings, using a random number generator www.random.org, selecting the children for the treatment group first. Table 5.1 contains a summary of the sample and the numbers of children in each group.

Table 5.1 Number of Children Recruited to Study

Setting	Treatment Group	Control Group	Total N
1	24	19	43
2	5	7	12
3	13	7	20
4	10	9	19
TOTAL	52	42	94

5.2 Analytical Strategy

The Analytical Strategy is summarised in Figure 5.1:

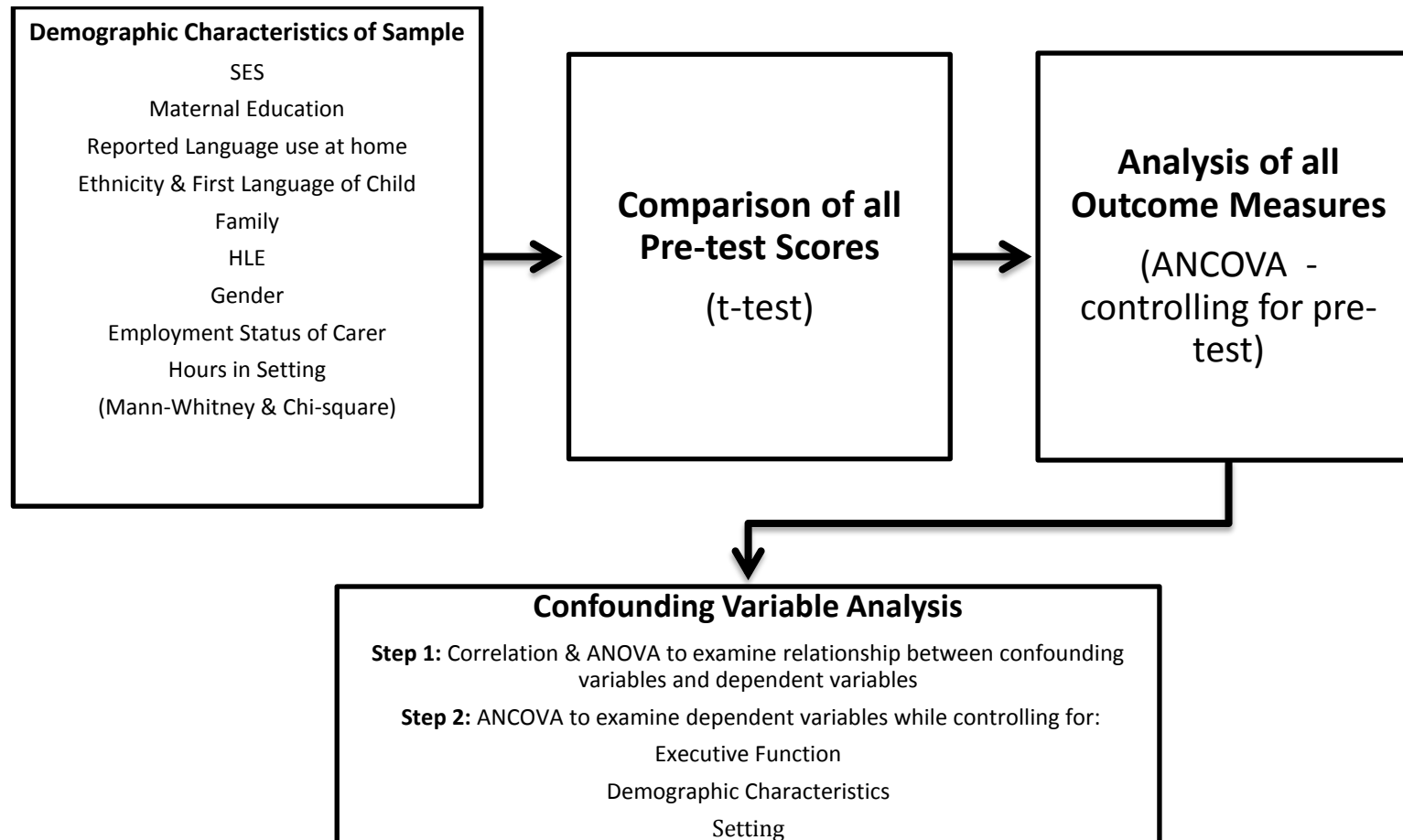


Figure 5.1 Flowchart of Analysis

Firstly, demographic characteristics of the sample were examined, to establish the social and familial context in which the study took place. The reported first language use of the children in the home was examined through information collected from the parents/parents via the medium of questionnaires. This included reported information on the Home Learning Environment of the children. Chi-Square tests were carried out to examine any differences between the groups in these categorical variables. Where the cell counts were less than five cases, Fisher's Exact Statistic is reported. Mann-Whitney tests were carried out on any ordinal data.

Secondly, independent samples t-tests were carried out on all scores at pre-test, to check whether there were any differences between the treatment and control groups' baseline scores and whether randomisation was successful.

Thirdly, Analysis of Covariance (ANCOVA) was carried out, to determine if there were any differences between the treatment group and the control group on several oral language variables, while controlling for pre-test scores. The productive vocabulary outcomes were comprised of BAS³⁴ II *Naming Vocabulary* t-score³⁵ and a raw score from a *Researcher-Designed Vocabulary Test*. Receptive vocabulary scores were comprised of BPVS³⁶ standardised scores. Verbal Comprehension was represented by the *Verbal Comprehension* t-score produced by BAS II. *Verbal Ability* comprised a composite score of *Naming Vocabulary and Verbal Comprehension* on BAS II. Narrative Ability was measured by *Bus Story Information* and *Bus Story Mean Length of Utterance* scores and *Test of Narrative Retell* score at post-test. A summary of the variables and their measures is detailed in Table 5.2.

³⁴ British Ability Scales

³⁵ BAS II total t-score is a total normalised score with a mean of 50 and a standard deviation of 10.

³⁶ British Picture Vocabulary Scales

Table 5.2 Variables and Corresponding Instruments for Main Study

Variable		Measure
Non-Verbal Outcomes		Block Building & Picture Similarities - British Ability Scales (BAS) II (Elliott <i>et al.</i> , 1997)
Verbal Comprehension		Verbal Comprehension (BAS II)
Verbal Ability		Verbal Comprehension + Naming Vocabulary (BAS II)
Vocabulary	Productive Vocabulary	Naming Vocabulary (BAS II)
		Researcher-Designed Vocabulary Test
	Receptive Vocabulary	British Picture Vocabulary Scales II (Dunn, Dunn, Whetton, & Burley, 1997)
Narrative Ability		Bus Story Test (Renfrew, 2001)
		Test of Narrative Retell (T. D. Spencer & Petersen, 2010)
Executive Function		Dimensional Change Card Sort Task (Zelazo, 2006)

5.2.1 Why use Analysis of Covariance?

Analysis of Covariance is useful in assessing the effect of an experiment (A. Field, 2009). It works by comparing unexplained variance in the data with the variance which can be explained by the intervention. In the current study, it was possible that differences at pre-test, albeit occurring by chance, could affect or confound the outcome scores of the children. In order to eliminate the possibility of the pre-test scores, or pre-existing differences between the groups, confounding the results, they were controlled for, and entered into the analysis for each outcome variable in an Analysis of Covariance (ANCOVA). If it is possible to explain the unexplained variances by reference to another variable, then perhaps it is possible to get a more accurate measurement of the effectiveness of the intervention. By focusing on the shared variance of the dependent variable and a covariate, rather than the shared variance of the group variable and the covariate, the intervention can be more accurately measured, providing the randomisation was successful at baseline (A. Field, 2009; Miller & Chapman, 2001; Wilcox, Gray, Guimond, & Lafferty, 2011). Figure 5.2 illustrates this. If the randomisation was successful, and there was no imbalance at baseline, then ANCOVA has been shown to be 30% more precise than

the *change score* method of repeated measures (Fitzmaurice, Laird, & Ware, 2004; Kisbu-Sakarya, MacKinnon, & Aiken, 2012; Oakes & Feldman, 2001). The benefit of adjusting for pre-test scores is that it ensures that any post-test differences are as a result of the intervention and not a residual effect of random pre-test differences (Miller & Chapman, 2001).

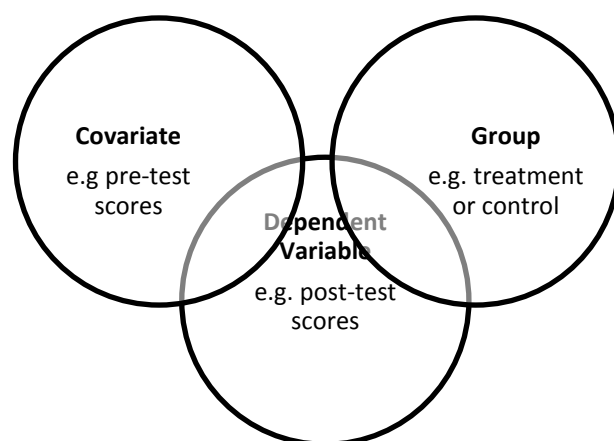


Figure 5.2 Analysis of Covariance (adapted from Miller and Chapman, 2001)

More specifically, in the current study, the research questions were such that the differences in post-test means were the focus, rather than an increase over time (Kisbu-Sakarya *et al.*, 2012). In this study's analysis, the independent variable was: the grouping variable, i.e. whether the children were in the treatment group or the control group; the dependent variable was the outcome score on each of the assessments; and the covariates were the scores at pre-test (Field, 2009).

5.2.2 Executive Function as Covariate

Narrative ability, and the ability to remember a story, could be related to the Working Memory of a child (Montgomery *et al.*, 2009). Working Memory and Executive Function are highly correlated; the scores from a *Dimension Change Card Sort* (DCCS) task were controlled for in an ANCOVA, to establish whether Executive Function could explain any of the variance in the narrative outcomes at post-test (Montgomery *et al.*, 2009). There was no statistically significant difference between the groups at pre-test on DCCS (Table 5.27). Results from correlations showed only a

relationship between the *Dimension Card Change Sort* (DCCS) task and *Test of Narrative Retell* and *Bus Story Information Score*, so the DCCS was controlled for in an ANCOVA for these two narrative scores only.

5.2.3 Demographic Characteristics as Covariates

Petscher and Schatschneider argue that, when there is a strong correlation between the covariate and the outcome or dependent variable, then ANCOVA will increase the power of that test (Petscher & Schatschneider, 2011). The demographic characteristics of the sample were tested, to check correlations to the dependent variables. The characteristics were:

- Family, i.e. whether the child had siblings or not, age of the child and age of the parent;
- Ethnicity and first language of child and parent;
- Employment status of parent;
- Social Advantage/Disadvantage, as measured by the proxy variables outlined in Section 5.3.1;
- Maternal Education;
- Hours spent in the early years setting;
- Reported First Language Use at Home, and
- Home Learning Environment (HLE).

Correlations were run on all continuous and dichotomous demographic characteristics and outcome variables. If the demographic characteristic was not continuous data, e.g. a child's ethnicity, a Univariate Analysis of Variance was run. All variables were tested, to check whether there were statistical differences between them at pre-test, i.e. ANOVA if the data was normally distributed and continuous, and Mann-Whitney and Chi-square if it was not. The resulting model of ANCOVA is summarised in Table 5.3. It was surprising to find that there was no correlation between HLE and any of the oral language outcomes. Neither was there a significant correlation between the children's total reported first language use at home by the parent and any of the oral language outcomes. However, perhaps the

fact that there was a correlation between the variables of children's and parent's first language and many of the outcomes can explain some of the variance. This will be investigated in Section 5.4.9.

Table 5.3 Grouping of Variables for ANCOVA Analyses

Outcome Variable	Independent Variable	Covariate	Demographic Variables (Factors/Covariates)
Researcher Designed Vocabulary Test	Intervention/Control Group	Pre-test scores	Gender Siblings Parent ethnicity Child first language Parent first language
Naming Vocabulary	Intervention/Control Group	Pre-test scores	Age of child at pre-test Child ethnicity Parent ethnicity Child first language Parent first language Hours in setting
British Picture Vocabulary Scales	Intervention/Control Group	Pre-test scores	Parent ethnicity Parent employed SES
Mean Length of Utterance	Intervention/Control Group	Pre-test scores	Siblings Hours in setting SES
Bus Story Information score	Intervention/Control Group	Pre-test scores	Parent employed SES
Test Narrative Retell	Intervention/Control Group	Pre-test scores	Parent employed SES
Verbal Ability	Intervention/Control Group	Pre-test scores	Child ethnicity Parent ethnicity Child first language Parent first language
Verbal Comprehension	Intervention/Control Group	Pre-test scores	Child Ethnicity Parent ethnicity Child First Language Parent First Language

*The variables: Age of Parent, Marital status, Employment Status of Parent, Education of Parent, HLE and Total Reported First Language Use at Home did not have a statistically significant relationship with any of the outcome variables, so were not included in the analysis.

5.2.4 Effect Sizes

Effect sizes are reported in this thesis as partial eta squared (partial η^2). Cohen (1988) has given guidelines for interpreting partial eta squared in comparison to Cohen's d (standard deviation units) (Cohen, 1988). Table 5.4 summarises this.

Table 5.4 Effect Sizes

Size	Eta squared (% of variance explained)	Cohen's d (standard deviation units)
Small	.01 or 1 %	.2
Medium	.06 or 6%	.5
Large	.138 or 13.8%	.8

(Cohen, 1988: 22)

Finally, all analysis was carried out using SPSS 21.

5.3 The Sample

Details of the recruitment procedures used in the study are contained in Chapter Four, Section 4.5.1. The sample consisted of 94 children, 37 males and 57 females. Their ages ranged from 37 months (3:1 years) to 55 months (4:7 years) ($M = 47.60$, $SD = 5.11$ years) in the treatment group, and from 38 months (3:2 years) to 53 months (4:5 years) ($M = 46.50$, $SD = 4.25$) in the control group. There were 16 males and 36 females in the treatment group, and 21 males and 21 females in the control group. As there was a statistically significant correlation to *Researcher-Designed Vocabulary Test* (RDVT) only, the analysis will explore whether the high proportion of girls in the treatment group can explain any of the variance in the RDVT scores (Section 5.4.9).

5.3.1 Demographic Characteristics

Family

Seventy-eight out of 94 questionnaires were returned (83%). Of the questionnaires returned, three fathers completed them, and 75 mothers. The person who completed the questionnaire was treated as the 'parent' of the child for the remaining questions. So when, for example, information about the highest level of education achieved by the parent was sought, it was predominantly the mothers who answered this ($n = 75$). As the evidence from the literature currently pertains to a relationship between mother's education and children's academic achievement,

the fathers were excluded when analyses were run later on (Anders et al., 2011; Sektnan, McClelland, Acock, & Morrison, 2010).

Thirty-four (65.4%) children in the treatment group had siblings, while 27 (64.3%) in the control group had siblings. Chi-square tests showed that there was no statistically significant difference between the two groups as regards the presence of siblings $\chi^2 (2) = 2.548, p=.28$. Fifteen of the children in the treatment group who had siblings had female siblings and 19 had male siblings. The majority in both groups had one sibling (Table 5.5).

Table 5.5 Siblings in the Families

Child has siblings			Child has female siblings			Child has male siblings		
Yes	TG	34 65.4%	Yes	TG	15 35.6%	Yes	TG	19 46.3%
	CG	27 64.3%		CG	15 40.5%		CG	15 40.5%
No	TG	7 13.5%	No	TG	26 63.4%	No	TG	22 53.7%
	CG	10 23.8%		CG	22 59.5%		CG	22 59.5%
Total		78	Total		78	Total		78
Missing		16	Missing		16	Missing		16
N		94	N		94	N		94

TG=Treatment group, CG=Control Group

Table 5.6 Number of Siblings

Number of Siblings		
1	TG	22 (53.7%)
	CG	17 (45.9%)
2	TG	10 (24.4%)
	CG	5 (13.5%)
3	TG	2 (4.9%)
	CG	4 (10.8%)
5	TG	0 (0%)
	CG	1 (2.7%)
Total		78
Missing		16
N		94

TG=Treatment group, CG=Control Group

The majority of parents in both groups were married. Twenty parents/parents in both the treatment and control groups described themselves as married ($n=40$).

There was no statistically significant difference between the treatment and control groups, in terms of the marital status of parents $\chi^2 (4) = 4.948, p=.26$ (Table 5.7).

Table 5.7 Marital Status of Parents

Marital Status of Parents			
Married	TG	20 (48.8%)	
	CG	20 (55.6%)	
Single	TG	11 (26.8%)	
	CG	6 (16.7%)	
Divorced	TG	0 (0.0%)	
	CG	3 (8.3%)	
Widowed	TG	1 (2.4%)	
	CG	0 (0.0%)	
Cohabiting	TG	9 (22.0%)	
	CG	7 (19.4%)	
Total		77	
Missing		17	
N		94	

Twenty-seven parents in the treatment group were 30-39 years old (Table 5.8).

There were 16 parents in both the 30-39 and 20-29 age-ranges in the control group.

There was no statistically significant difference between the two groups in the age of the parents $\chi^2 (4) = 6.112, p=.12$.

Table 5.8 Age of Parents

Age of Parents			
20-29 years	TG	10 (24.4%)	
	CG	16 (43.2%)	
30-39 years	TG	27 (65.9%)	
	CG	16 (43.2%)	
40-49 years	TG	4 (9.8%)	
	CG	5 (13.5%)	
Total		77	
Missing		17	
N		94	

TG=Treatment group, CG=Control Group

Type of Accommodation

Data was obtained, through questionnaires, about the type of accommodation in which the child resided. The majority of families in both groups resided in a house. A majority in each group did not own their home (Table 5.9). There was no statistically significant difference between the groups on this variable $\chi^2 (2) = .75, p=.39$. If the accommodation was rented, it was shared comparably between council properties,

housing association properties and the private rented sector. There was no statistically significant difference between the groups as regards the type of rental property in which they resided $\chi^2 (3) = 1.088, p=.78$. The data is summarised in Tables 5.9-5.11.

Table 5.9 Type of Accommodation of Families

Type of Accommodation of Families			
House	TG	29 (70.7%)	
	CG	24 (66.7%)	
Flat	TG	10 (24.4%)	
	CG	11 (30.6%)	
Other	TG	2 (4.9%)	
	CG	1 (2.8%)	
Total		78	
Missing		16	
N		94	

TG=Treatment group, CG=Control Group

Table 5.10 Own or Rent Accommodation

Own or Rent Accommodation			
Rent	TG	31 (75.6%)	
	CG	24 (66.7%)	
Own	TG	10 (24.4%)	
	CG	12 (33.3%)	
Total		78	
Missing		16	
N		94	

TG=Treatment group, CG=Control Group

Table 5.11 If Rented, Type of Rental Property

If Rented, Type of Rental Property			
Council Property	TG	11 (26.8%)	
	CG	11 (30.6%)	
Housing Association	TG	9 (22.0%)	
	CG	5 (13.9%)	
Private Rented Sector	TG	10 (24.4%)	
	CG	8 (22.2%)	
n/a (not rented)	TG	11 (26.8%)	
	CG	12 (33.3%)	
Total		78	
Missing		16	
N		94	

TG=Treatment group, CG=Control Group

Ethnicity and First Language

The majority of children in the sample were White-British ($n=48$); 23 children in the treatment group and 25 in the control group. There was no statistically significant difference between the groups in terms of the children's ethnicity $\chi^2(8) = 8.729$, $p=.33$. The data is summarised in Table 5.12. The remaining children were split between Asian-British, Asian-Other, Black-British, Black-African, Indian, Pakistani and Mixed-Race. Table 5.12 gives the details.

The ethnicity of the children's parents seemed to mirror this, with the majority once again occupying the White-British category in both groups (25 in the treatment group and 23 parents in the control group [$n=48$]). Two further ethnicities were selected by two parents, i.e. Black-Caribbean ($n=1$ in the treatment group) and White-Irish ($n=1$ in the control group) (Table 5.12). Once again, there was no statistically significant difference between the groups $\chi^2(10) = 8.020$, $p=.73$.

Table 5.12 Ethnicity of Child and Parent

Ethnicity of Child			Ethnicity of Parent		
White-British	TG	23 (56.1%)	White-British	TG	25 (61.0%)
	CG	25 (67.6%)		CG	23 (62.2%)
White-Other	TG	6 (14.6%)	White-Other	TG	7 (17.1%)
	CG	3 (8.1%)		CG	4 (10.8%)
White-Irish	TG	0 (0.0%)	White-Irish	TG	0 (0.0%)
	CG	0 (0.0%)		CG	1 (2.7%)
Asian-British	TG	1 (2.4%)	Asian-British	TG	1 (2.4%)
	CG	0 (0.0%)		CG	0 (0.0%)
Asian-Other	TG	2 (4.9%)	Asian-Other	TG	1 (2.4%)
	CG	1 (2.7%)		CG	1 (2.7%)
Black-British	TG	0 (0.0%)	Black-British	TG	0 (0.0%)
	CG	4 (10.8%)		CG	1 (2.7%)
Black-Caribbean	TG	0 (0.0%)	Black-Caribbean	TG	1 (2.4%)
	CG	0 (0.0%)		CG	0 (0.0%)
Black-African	TG	2 (4.9%)	Black-African	TG	2 (4.9%)
	CG	1 (2.7%)		CG	5 (13.5%)
Indian	TG	1 (2.4%)	Indian	TG	2 (4.9%)
	CG	0 (0.0%)		CG	0 (0.0%)
Pakistani	TG	1 (2.4%)	Pakistani	TG	1 (2.4%)
	CG	1 (2.7%)		CG	1 (2.7%)
Mixed-Race	TG	5 (12.2%)	Mixed-Race	TG	1 (2.4%)
	CG	2 (5.4%)		CG	1 (2.7%)
Total		78	Total		77
Missing		16	Missing		17
N		94	N		94

TG=Treatment group, CG=Control Group

English was predominantly the first language of parents in both the treatment ($n=27$) and control groups ($n=25$). A sizeable proportion of each group did, however, state that English was not their first language ($n=14$ in the treatment group and $n=12$ in the control group). Chi-square tests showed that there was no statistically significant difference between the groups in terms of the first/home language spoken by the parent $\chi^2 (1) = .026, p=.87$.

Also, there was no statistically significant difference between the control and treatment groups, in terms of first/home language of the child $\chi^2 (1) = 3.21, p=.07$.

A list of all of the languages, named as first/home languages other than English, are contained in Table 5.15. The control and treatment groups did have both a wide variety of ethnicities and a high proportion of children and parents with English as an Additional Language, and this may have had an impact on the children's levels of oral language in English. This will be investigated in Section 5.4.9.

Table 5.13 English First Language of Parent

English First Language of Parent			
Yes	TG	27 (65.9%)	
	CG	25 (67.6%)	
No	TG	14 (34.1%)	
	CG	12 (32.4%)	
Total		78	
Missing		16	
N		94	

TG=Treatment group, CG=Control Group

Table 5.14 English First Language of Child

English First Language of Child			
Yes	TG	30 (73.2%)	
	CG	33 (89.2%)	
No	TG	11 (26.8%)	
	CG	4 (10.8%)	
Total		78	
Missing		16	
N		94	

TG=Treatment group, CG=Control Group

Table 5.15 Other First Languages Spoken by Parent and Child

Other First Languages Spoken by Parent and Child		
Albanian	Jola	Slovakian
Bengali	Macedonian	Spanish
Filipino	Polish	Swahili
French Lingala	Portuguese	Turkish
German	Punjabi	Urdu
Igbo	Pushtu	Yoruba Nigerian

Employment Status of Parents/Parents

The Employment Status of the parent and their partner was revealed through the questionnaires.

Twenty-seven parents³⁷ (65.9%) of children in the treatment group were employed (Table 5.16), compared to 19 (51.4%) in the control group, and there was no statistically significant difference between the groups $\chi^2 (1) = 1.691$, $p=.19$. Of those parents who were employed in each group, the majority were employed part-time ($n=18$ (43.9%) in the treatment group and $n=11$ (29.7%) in the control group. A higher proportion of parents in the control group were not employed ($n=19$, (51.0%) than those in the treatment group ($n=11$ (26.8%) (Table 5.16). However, Chi-square tests showed that there was no statistically significant difference between the parents in the two groups in terms of their employment status $\chi^2 (5) = 6.157$, $p=.22$. There was also no difference between the occupational classes (of those who worked) in the treatment and control groups $\chi^2 (8) = 6.385$, $p=.64$.

Table 5.16 Parent in Employment

Parent in Employment			
Yes	TG	27 (65.9%)	
	CG	19 (51.4%)	
No	TG	14 (34.1%)	
	CG	18 (48.6%)	
Total		78	
Missing		16	
N		94	

³⁷ Even though it was the children who were members of the treatment and control groups, for convenience and readability, rather than referring to 'the parent of the child' each time, the parents will be regarded as being in the treatment or control groups,.

Table 5.17 Employment Status of Parent

Employment Status of Parent		
Employed Full-time	TG	8 (19.5%)
	CG	6 (16.2%)
Studying or Training Full-time	TG	1 (2.4%)
	CG	0 (0.0%)
Looking after Children Full-time	TG	1 (2.4%)
	CG	0 (0.0%)
Employed Part-time	TG	18 (43.9%)
	CG	11 (29.7%)
Employed Part-time and Studying	TG	2 (4.9%)
	CG	1 (2.7%)
Not Employed	TG	11 (26.8%)
	CG	19 (51.4%)
Total		78
Missing		16
N		94

Table 5.18 Occupational Class of Parent

Occupational Class of Parent		
Managers/Directors and Senior Officials	TG	0 (0.0%)
	CG	1 (2.4%)
Professional Occupations	TG	8 (15.7%)
	CG	4 (9.5%)
Associate Professional and Technical Occupations	TG	2 (3.9%)
	CG	2 (4.8%)
Small Employers and Own Account Workers	TG	2 (3.9%)
	CG	2 (4.8%)
Lower Supervisory and Technical Occupations	TG	2 (3.9%)
	CG	2 (4.8%)
Semi-routine Occupations	TG	5 (9.8%)
	CG	2 (4.8%)
Routine Occupations	TG	6 (11.8%)
	CG	6 (14.3%)
Not Employed	TG	14 (27.5%)
	CG	18 (42.9%)
Missing		17
N		93

There was no statistically significant difference between the groups in terms of whether their parent's partners were employed $\chi^2 (2) = 1.171, p=.61$. Twenty-nine parents' partners in the treatment group were employed; 25 in the control group (Table 5.19). The majority of parents' partners in both groups were employed full-time (Table 5.20). Also, the type of work in which the partners were predominantly engaged could be classed as routine occupations and occupying the Lower

Supervisory and Technical occupation classifications. These categories were derived from The Office for National Statistics categories of employment (www.ons.gov.uk). The jobs ranged from assembly line worker to chef, to cleaner, to hospital porter. These are listed in Appendix 11.

Table 5.19 Parent's Partner in Employment

Parent's Partner in Employment			
Yes	TG		29 (70.7%)
	CG		25 (69.4%)
No	TG		2 (4.9%)
	CG		4 (11.1%)
n/a	TG		10 (24.4%)
	CG		7 (19.4%)
Total			77
Missing			17
N			94

TG=Treatment group, CG=Control Group

Table 5.20 Employment Status of Partner

Employment Status of Partner			
Employed Full-time	TG		25(61.0%)
	CG		20 (54.1%)
Employed Full-time and Studying	TG		1 (2.4%)
	CG		0 (0.0%)
Studying or Training Full-time	TG		0 (0.0%)
	CG		1 (2.7%)
Looking after Children and Home Full-time	TG		0 (0.0%)
	CG		1 (2.7%)
Employed Part-time	TG		3 (7.3%)
	CG		3 (8.1%)
Not Employed or Single	TG		12 (29.3%)
	CG		12 (32.4%)
Total			78
Missing			16
N			94

Social Advantage/Disadvantage

Social advantage/disadvantage was calculated using the proxy variables of:

- The parent's employment status;
- The parent's professional class, e.g. Professional occupations, Associate Professional and Technical occupations, and so on;
- The parent's partner's employment status;

- Highest level of education achieved by the parent;
- Whether the family was in receipt of income support, housing benefit and council tax benefit.

These variables were chosen, as they have been used for many years in wide-ranging studies measuring socio-economic status (Davies *et al.*, 2004; Hoff, 2013; Jordan & Snow, 2000; Pungello *et al.*, 2009). Internal consistency for socio-economic status had a Cronbach's alpha coefficient of .61 (Appendix 12). The scores were added together and this gave a total for social advantage/socio-economic status (SES). The higher the score on this variable, the higher the SES will be. The range of scores on this variable was from 5-34 points.

The Total SES data was trichotomised by SPSS³⁸ into categories of low, middle and high socio-economic groupings, to give an indication of the overall trend of SES in the sample. This enabled the researcher to view higher, middle and lower socio-economic groupings for the sample. The three categories were generated, based on the range of scores on Total SES. The lower category of socio-economic status was ≤ 16.00 points, medium socio-economic status was 17.00-24.00 points and higher socio-economic status was 25.00+ points. Table 5.21 illustrates the breakdown of the groupings for the total sample. However, any analysis was carried out using the total raw score of SES.

Table 5.21 Total SES for Family

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 ≤ 16.00	27	28.7	37.0	37.0
	2 17.00 - 24.00	24	25.5	32.9	69.9
	3 25.00+	22	23.4	30.1	100.0
	Total	73	77.7	100.0	
Missing	999	21	22.3		
Total		94	100.0		

³⁸ Statistical Package for Social Scientists

SES Groupings in Control and Treatment groups

Table 5.22 contains a breakdown of the numbers in each socio-economic grouping, for the treatment and control groups. The treatment and control groups are comparable in their socio-economic groupings. There was no statistically significant difference between the groups in the trichotomised SES variable, treatment group (Mdn = 22.00) and control group (Mdn = 18.00), $U=605.50$, $z=-.66$, ns , $r=-.08$. There was also no difference between the groups on non-trichotomised Total SES $t(71) = .61$, $p=.55$.

Table 5.22 Levels of SES for Treatment and Control Groups (Trichotomised)

Levels of SES for Treatment and Control Groups (Trichotomised)		
LOW ≤16.00	TG	13 (34.2%)
	CG	14 (40.0%)
MIDDLE 17.00 – 24.00	TG	14 (36.8%)
	CG	10 (28.6%)
HIGH 25.00+	TG	11 (28.9%)
	CG	11 (31.4%)
Total		73
Missing		21
N		94

TG=Treatment group, CG=Control Group

Maternal Education

As the majority of the sample who completed the questionnaires were the children's mothers ($n=75$), and maternal education has long been associated with children's academic achievement, it was appropriate to examine this variable (Hartas, 2011, 2012). The mothers of the children in the treatment group had more GCSE qualifications than their counterparts in the control group (Table 5.23). Both groups' qualifications occupied the Vocational qualifications class or lower. Very few mothers in either group had A or AS Level qualifications. Chi-square tests showed that there was no statistically significant difference between the groups, in terms of maternal education $\chi^2(5) = 6.664$, $p=.24$. There was no correlation between maternal education and any of the dependent variables at pre- or post-test, this variable was not investigated as a covariate. It is unusual that this is the case, as the literature to date suggests the contrary. Maternal Education was measured similarly

to the *Millennium Cohort Study* (MCS). However, it did differ from the MCS in its classifications of Vocational qualifications. In MCS, vocational qualifications are further divided into individual categories, e.g. NVQ1, NVQ2, and so on. In the current study they were left as one category. It may be that the more general classifications of vocational qualifications in the current study resulted in either confusion on the part of the participants in answering the item, or lack of detail in the analysis of it. This may have resulted in an unreliable item, which did not correlate to the children's outcomes.

Table 5.23 Highest Level of Education Achieved by Parent

Highest Level of Education Achieved by Parent		
No Formal Qualification	TG	2 (5.0%)
	CG	1 (2.7%)
GCSE	TG	16 (40.0%)
	CG	6 (16.2%)
Vocational Qualification	TG	8 (20.0%)
	CG	10 (27.0%)
A or AS Level	TG	2 (5.0%)
	CG	5 (13.5%)
Diploma or Higher/Further Education equivalent	TG	5 (12.5%)
	CG	6 (16.2%)
Bachelors or Higher Degree	TG	7 (17.5%)
	CG	9 (24.3%)
Total		77
Missing		17
N		94

TG=Treatment group, CG=Control Group

First Language Use at Home (as Reported by Parents)

Several questions in the questionnaire related to the reported use of the first language of the child. The parents were asked:

- How frequently the child can understand instructions, (never, sometimes, often);
- How frequently the parent understands the child, (rarely, sometimes, mostly);
- How frequently the family understands the child, (rarely, sometimes, mostly);
- How frequently the child talks to his/her:
 - Teacher (never, sometimes, often)

- Parents/parents (never, sometimes, often)
- Friends, (never, sometimes, often)
- Other adults (never, sometimes, often).

The Cronbach's alpha coefficient for these questions was .70 (Appendix 13). The data was trichotomised to examine the trend of first language use at home. A total score for first language use was computed, and this was used to create the three categories, low, middle and high, using the items listed above. The lowest category was any participant who scored ≤ 21 points, middle level of first language use at home was 22-23 points and high was measured at 24+ points.

Mann-Whitney test results reveal that there was no statistically significant difference between the two groups in terms of reported first language use at home in the trichotomised first language use at home variable, treatment group (Mdn = 22.00) and control group (Mdn = 23.00), $U=518.50$, $z=-1.85$, *ns*, $r=-0.22$. No parent in either group reported that their child had a high use of first language at home (Table 5.24). This may have had an impact on the oral language scores which the children obtained after the intervention. The raw score of the total reported first language use at home was used in any further analysis. There was a statistically significant difference between the treatment and control groups' raw score in reported first language use, $t(72) = 2.06$, $p < .05$. However, as there was no correlation between the raw total reported first language use score and any of the dependent variables, it will not be considered further.

Table 5.24 Total Reported First Language Use at Home (Trichotomised)

Total Reported First Language Use at Home (Trichotomised)		
LOW <=21.00	TG	18 (45.0%)
	CG	9 (26.5%)
MIDDLE 22.00 – 23.00	TG	22 (55.0%)
	CG	25 (73.5%)
HIGH 24+	TG	0 (0.0%)
	CG	0 (0.0%)
Total		74
Missing		20
N		94

TG=Treatment group, CG=Control Group

Factors which Affect Children's Language Development (*as Reported by Parents*)

A Likert Scale in the questionnaire allowed the parents to rate the importance of various factors which can facilitate language development. The parents were asked to rate the importance of each item in the development of language in their child as either: not important, important or very important. The items included:

- Toys
- Parental time
- Experience in early years settings
- Friendships
- Day trips
- Positive parenting practices
- Holidays
- Books.

Parental time was regarded as being very important by 68 of the 78 parents who responded to that item (Table 5.25 & 5.26). Parents rated time spent with family as more important than time spent in early years settings. Also, the presence of books was ranked higher by parents than early years experience, in terms of language development. Toys were regarded by parents as being as important as day trips. Mann-Whitney test results showed that there was no statistically significant difference between the groups on any of these factors (Appendix 14).

Table 5.25 Factors that are Important to Language Development

Item	Not important	Important	Very Important	Total	Missing	N
Parental Time	-	10	68	78	16	94
Books	2	10	65	77	17	94
Positive Parenting Practices	3	14	61	78	16	94
Friendships	1	16	60	77	17	94
Early Years Experience	-	22	55	77	17	94
Holidays	11	39	28	78	16	94
Toys	5	45	26	76	18	94
Day Trips	9	44	23	77	17	94

T=Valid N, M=Missing

Table 5.26 Factors that are Important to Language Development by Group

n=94	Treatment			Control		
	Not important	Important	Very Important	Not important	Important	Very Important
Parental Time	0	5	36	0	5	32
T=78, M=16	0.0%	12.2%	87.8%	0.0%	13.5%	86.5%
Books	1	7	32	1	3	33
T=77, M=17	2.5%	17.5%	80.0%	2.7%	8.1%	89.2%
Positive Parenting Practices	2	8	31	1	6	30
T=78, M=16	4.9%	19.5%	75.6%	2.7%	16.2%	81.1%
Friendships	1	8	31	0	8	29
T=77, M=17	2.5%	20.0%	77.5%	0.0%	21.6%	37.7%
Early Years Experience	0	13	28	0	9	27
T=77, M=17	0.0%	31.7%	68.3%	0.0%	25.0%	75.0%
Holidays	7	20	14	4	19	14
T=78, M=16	17.1%	48.8%	34.1%	10.8%	10.8%	37.8%
Toys	2	25	13	3	20	13
T=76, M=18	5.0%	62.5%	32.5%	8.3%	55.65	36.1%
Day Trips	5	24	11	4	20	12
T=76, M=18	12.5%	60.0%	27.5%	11.1%	55.6%	33.3%

T=Valid N, M=Missing

The sample rated the role of books in language development as very important. Rating books as important to language development might mean parents/parents would value reading to their child, as was measured by the Home Learning Environment (HLE). There was a strong positive correlation between the importance of books and reading to one's child (Appendix 15). The higher the frequency of

reading to the child, the higher the presence of books at home, $r^2 = .32$, $p < .005$. This explains 10.24% of the variance. One could speculate that a higher number of books at home might mean that the child is brought to the library more frequently. However, there was a very low correlation between going to the library and the importance of books, $r^2 .06$, $p = .57$, so this was not the case in this sample.

The Home Learning Environment

The Home Learning Environment (HLE) can serve to enhance vocabulary and letter knowledge (Foy & Mann, 2003). Anders and colleagues found that, controlling for child and family factors at preschool age, a high HLE strongly predicts high attainment in reading at age 10 (Anders et al., 2011; Sylva et al., 2004b). To measure the potential for learning experiences at home in the treatment group, the HLE instrument was included in the questionnaire for parents. (Foster *et al.*, 2005). The HLE measures seven variables:

1. reading to the child, i.e. the frequency of a family member reading to the child during the prior week using a four-point scale (from *not at all*, to *every day*);
2. enrichment experiences, e.g. library visits (Cronbach's alpha estimate 0.68) (Foster *et al.*, 2005);
3. home learning activities (measured on a seven-point scale, from *occasionally*, to *seven times a week*), e.g. teaching the child numbers,
4. teaching the child sport/dance/physical activity;
5. activities which promote language and reading-readiness skills e.g. playing games with letters (Cronbach's alpha estimate 0.66) (Foster *et al.*, 2005);
6. teaching the child a song/poem, and;
7. teaching the child the alphabet (Foster *et al.*, 2005).

Even though we know that the number of books present in the home can have an impact on children's literacy outcomes (D. K. Dickinson & Porche, 2011; Pelatti et al., 2014), this is not included in the original HLE instrument. This instrument was used

in the original EPPE study (2004) and was found to be a predictor of literacy outcomes (Sylva *et al.*, 2004). Therefore, an informed choice, based on the evidence from the EPPE study, was made to include this instrument, without the calculation of the number of books the child owns. This gives a potential total score of 49 points. Two of the items (how frequently the parent/parent reads to the child and how frequently the child is taken to the library) were recoded to achieve this, as they only contained four and five points respectively on the Likert Scale (Melhuish *et al.*, 2008). The item 'Reading to child' was recoded thus: 1=1, 2=2, 3=4, 4=5, 5=7 and the item indicating 'trips to the library' was recoded thus: 1=3, 2=5, 3=6, 4=7. A new variable was computed, which calculated the child's total Home Learning Environment score, a higher score indicating a higher quality of the learning environment at home (Melhuish *et al.*, 2008). There was no statistically significant difference between the treatment group ($M=26.35$, SD 8.87) and the control group ($M=26.29$, $SD=9.37$) on the recoded Home Learning Environment, $t(69) = .03$, $p=.98$. There was also no statistically significant difference between the treatment group ($M=22.89$, SD 8.25) and the control group ($M=22.71$, SD 8.88) on the non-recoded Home Learning Environment, $t(69) = .09$, $p=.93$. There was no relationship between the HLE and the child's language outcomes at post-test; it will not, therefore, be considered further in the analysis in this thesis.

5.4 Preliminary Analysis

This was an experimental research design. Data was collected at pre- and post-test, and outcome scores were examined, while controlling for pre-test scores. To investigate the effect of the intervention on the oral language skills of the children in the treatment group, an Analysis of Covariance (ANCOVA) was used. In order to ensure balance in the covariate of pre-test scores (Section 5.4.1), the pre-test scores were compared.

5.4.1 Comparing Groups at Pre-test

Independent samples t-tests were carried out, to compare the children's outcomes at pre-test and establish any baseline differences. If the treatment group and

control group differed on the dependent variables at pre-test, then it might have affected their scores at post-test. Results showed that there was no statistically significant difference between the treatment and control groups at baseline, suggesting that the randomisation within each setting was successful (Table 5.27).

As *Verbal Comprehension* at pre-test was not normally distributed, Mann Whitney tests were carried out, to establish whether there were any statistically significant differences between the treatment and control groups. Results showed there were no statistically significant differences between the two groups (Table 5.28).

The fact that there were no statistically significant differences between the intervention and control groups at pre-test established that the children were indeed randomly assigned to group. Thus, the main analysis was carried out.

Table 5.27 Independent Samples t-test for Pre-test Scores

Variable	t	Sig 2 tail	df	Group	Mean (SD)
Picture Similarities	-.13	.90	92	TG	47.06 (6.49)
				CG	47.24 (6.64)
Block Building	.66	.51	91	TG	40.4 (27.87)
				CG	41.3 (18.90)
Naming Vocabulary	1.41	.16	92	TG	47.12 (11.26)
				CG	43.62 (12.83)
Total t score	.39	.70	92	TG	175.58 (24.87)
				CG	173.50 (26.76)
General Conceptual Ability	.42	.67	92	TG	90.29 (11.75)
				CG	89.21 (12.76)
Researcher Designed Vocab Test	1.31	.19	91	TG	8.18 (2.41)
				CG	7.45 (2.92)
BPVS standardised score	.53	.60	91	TG	90.15 (12.53)
				CG	88.76 (12.74)
DCCS (Executive Function)	.93	.35	91	TG	17.17 (7.11)
				CG	15.61 (9.05)
Verbal Ability Cluster score	.30	.77	90	TG	89.84 (18.13)
				CG	88.83 (13.17)
Bus Story information	1.17	.24	91	TG	9.31 (5.49)
				CG	8.02 (4.89)
Bus MLU	1.19	.24	91	TG	5.75 (2.30)
				CG	5.18 (2.24)
TNR	.98	.33	90	TG	9.40 (4.55)
				CG	8.53 (3.84)

Table 5.28 Mann Whitney Test for Verbal Comprehension at Pre-test

	Verbal Comprehension pre-test tscore
Mann-Whitney U	1053.50
Z	-.29
Asymp. Sig. (2-tailed)	.77

5.4.2 Checking Assumptions

Before an Analysis of Covariance (ANCOVA) can be carried out, several assumptions regarding the data that has been collected should be checked. These are *independence of covariate and treatment effect, homogeneity of regression slopes, normality, linearity and homogeneity of variance* (A. Field, 2009; Petscher & Schatschneider, 2011). Each of these will be dealt with in turn.

Independence of the Covariate and Treatment Effect

As stated above, ANCOVA is used when aiming to reduce within-group variance, i.e. the children differing within the intervention and control groups. This is done by using the covariate to explain some of the error variance within the groups. In order to ensure this, the independence of the covariate from the treatment effect must be tested. So the groups should not differ on the covariate, i.e. pre-test scores. There were no statistically significant differences in the baseline scores of the children in the treatment group compared with those in the control group (Table 5.27).

Homogeneity of Regression Slopes

When an ANCOVA is conducted, it is assumed that the relationship between the covariate and the dependent variable is the same for both the treatment group and the control group. If this relationship is not the same for all groups, then the regression model is not a good fit for the data, as it does not represent all groups accurately.

Table 5.29 Testing for Homogeneity of Regression Slopes

Dependent Variable	df	f	sig
Naming Vocabulary	1,89	.73	.40
Researcher Designed Vocabulary Test	1, 88	3.86	.05
British Picture Vocabulary Scales	1, 88	2.13	.15
Bus Story Information	1, 88	.75	.40
Bus Story MLU	1, 88	.04	.84
TNR	1, 88	.22	.64
Verbal Comprehension	1, 89	.12	.73
Verbal Ability	1, 86	10.21	<.01

The homogeneity of regression slopes was violated for the *Verbal Ability* score when controlling for pre-test scores. Any results in favour of the intervention on this variable should, therefore, be viewed with caution, $F(1, 86) = 10.21$, $p < .05$, partial eta squared $< .01$.

Normality

Treatment group

Normality of the distribution of scores for each group is another of the assumptions for ANCOVA (Field, 2009). Frequency distributions with outputs represented on histograms, which included the normal distribution curve, were carried out on both the intervention and control groups separately for each outcome variable (Appendix 16 & 17). Some of the outcome variables' histograms required further investigation, as they showed that there was a possibility of the data not being normally distributed. For example, the outcome variables of *Verbal Comprehension* at pre-test, and *Researcher Designed Vocabulary Test* at post-test, showed a negative skewness in the data (Appendix 17). *Block Building* at post-test (BAS II), *Bus Story* Information score at pre-test and post-test showed a positive skewness (Appendix 18). To investigate the normality of this data further, P-plots were run. The P-plots for *Researcher Designed Vocabulary Test* and *Bus Story* information score at post-test, approached normality.

However, the P-plots for *Verbal Comprehension* at pre-test, *Block building* at post-test, and *Bus Story* at pre-test, still showed the data as not normal. So for those variables – *Block Building* at post-test, *Verbal Comprehension* at pre-test, and *Bus*

Story at pre-test, a Kolmogorov Smirnov test was run. This test can split the file by group (treatment and control) and assess normality. The test is suitable, as the sample size is not too big ($n=94$) (A. Field, 2009). The results are displayed in Appendix 18. Results showed that *Block Building* at post-test was not significant for either the treatment or control groups, so it was once again showing that the data was not normal. *Verbal Comprehension* and *Bus Story* at pre-test also had non-significance, for the treatment group. Attempts were then made to transform the variable. The transformation by square root did not work for *Block Building* at post-test, as the Kolmogorov Smirnov test results once again show (Appendix 18).

Also, transformation did not normalise the data for *Verbal Comprehension* at pre-test for the treatment group. However, even though it is not a perfectly shaped bell curve, it is approaching normality, so parametric tests could be used on this newly transformed variable (Appendix 18).

Control group

Frequency distributions with the normal distribution curve were investigated for the control group. Most outcome variables were normal (Appendix 16). *Block Building* at post-test, *Verbal Comprehension* at post-test and *Naming Vocabulary* at post-test (BAS II), were not normally distributed. The pre- and post-test results for *Bus Story* Information Score did not appear to be normal either. P-plots were run to check normality for these variables. The P-plots for *Bus Story* Information score at pre-test approached normality. However, the P-plots for *Bus Story* Information score at post-test, *Block Building* at post-test and *Verbal Comprehension* at post-test showed that they were still not normal.

Kolmogorov Smirnov was therefore run, to check for normality. The results are shown in Appendix 19. Results show that, for *Block Building* at post-test and *Bus Story Information* score at post-test, the control group's scores are not normal. Attempts were made to transform the variables. They still remained not normal, so,

where possible, non-parametric alternative tests would have to be used for these variables.

However, in the case of the analysis in this study, there is no non-parametric alternative test available for the ANCOVA, and this particular test is quite robust (Field, 2009). A decision was made, therefore, to run the ANCOVA and regard any statistically significant results with caution. Table 5.30 summarises the variables which remained not normal for the control and treatment groups. Any results in favour of the intervention should be viewed with caution.

Table 5.30 Variables Not Normal after Recoding

Control Group	Treatment Group
Block Building post-test score	Verbal Comprehension pre-test score
Bus Story Information post-test score	Bus Story Information pre-test score

Linearity

Scatterplots were produced for all outcome variables to establish linearity between the pre- and post-tests. These are in Appendix 20. All the distributions appeared to be linear for each group.

Homogeneity of Variance

The homogeneity of variance ensures that the spread of scores around the mean at each time-point for each treatment group are not vastly different from each other. Levene's Test on SPSS 21 can check this assumption by carrying out a one-way ANOVA on the difference between each score and the mean of the group from which it came. The homogeneity of variances was not violated on any of the dependent variables (Appendix 21).

5.5 Main Analysis

5.5.1 Research Question 1

Will an intervention involving planned pretend play and group shared storybook reading have an effect on the narrative (story-retelling) of three to five year old children in a treatment group when compared to the children in a control group who complete numeracy activities?

Narrative Ability

Children's narrative ability, namely their *Mean Length of Utterance*, was better at post-test in the treatment group than in the control group, while controlling for pre-test scores, with a medium effect size³⁹. The statistically significant difference in the children's *Mean Length of Utterance* MLU on *Bus Story Test* was evident in the mean scores, with the treatment group scoring more (7.00 points) than the control group (5.89 points); $F(1, 89) = 4.04, p < .05$, and with a medium effect size of partial $\eta^2 = .04$ (Table 5.33).

However, the treatment group children's grasp of story grammar, as measured by the *Test of Narrative Retell* (TNR) and *Bus Story Information* score was not statistically significantly different from the control group's at post-test. Results showed that there was no effect of the intervention on the *Bus Story Information* score when the pre-test scores were controlled for; $F(1, 89) = 2.27, p = .14$, partial $\eta^2 = .03$ (Table 5.31). When the pre-test scores were controlled for in *Test of Narrative Retell*, there was also no significant effect of the intervention $F(1, 88) = 2.98, p = .09$, partial $\eta^2 = .03$ (Table 5.32).

The adjusted mean scores (Tables 5.31-5.33) show that the treatment group had higher scores on all three narrative measures at post-test, with MLU being statistically significant.

³⁹ Effect sizes measured as partial eta squared; 0-.04 – small to medium, .04-.06 medium to large & .06-1.0+ large

Table 5.31 ANCOVA for Bus Story Information Score with Pre-test as Covariate

Group	Bus Story Information Score				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	12.57	12.06	6.43	51	
Control	9.95	10.59	6.95	41	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	2094.56	1	2094.56	97.81*	.52
Group	48.56	1	48.56	2.27**	.03
Error	1905.86	89			

* $p < .005$, ** ns , $R^2 = .54$ (Adjusted $R^2 = .53$)

Table 5.32 ANCOVA for TNR with Pre-test as Covariate

Group	Test of Narrative Retell				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	11.27	11.05	5.22	51	
Control	9.38	9.66	4.17	41	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	772.49	1	772.49	53.65*	.38
Group	42.87	1	42.87	2.98**	.03
Error	1267.05	88	14.40		

* $p < .005$, ** ns , $R^2 = .40$ (Adjusted $R^2 = .39$)

Table 5.33 ANCOVA for Bus Story MLU with Pre-test as Covariate

Group	MLU				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	7.00	6.81	2.59	51	
Control	5.89	6.12	2.40	41	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	334.51	1	334.51	127.73*	.60
Group	10.57	1	10.57	4.04***	.05
Error	233.09	89	2.62		

* $p < .005$, ** ns , *** $p < .05$, $R^2 = .61$. (Adjusted $R^2 = .60$.)

Executive Function

The scores from the *Dimension Change Card Sort* task were controlled for, to establish whether Executive Function could explain any of the variance on the narrative tests. There was only a correlation between *Test of Narrative Retell* and *Bus Story Information* score and the Executive Function task, so these were included in the model (Section 5.2.2) (Montgomery *et al.*, 2009). When an Analysis of Covariance was carried out on the *Bus Story Information* score, controlling for

Executive Function and pre-test scores, there was no effect of the intervention; $F(1, 88) = 2.04$, $p = .16$, partial $\eta^2 < .01$. There was also no effect of the intervention when Executive Function was controlled for on the *Test of Narrative Retell*, $F(1, 88) = .276$, $p = .10$, partial $\eta^2 = .03$.

Controlling for random differences in Executive Function at pre-test meant that there was no effect of the intervention on the children's narrative ability. As there was no statistically significant relationship between Executive function and the group, we can assume that randomisation was successful and that Executive Function could not predict narrative outcomes.

Table 5.34 ANCOVA for Bus Story Information Score with Executive Function as Covariate

Group	Bus Story Information Score				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	12.57	12.03	6.43	51	
Control	9.95	10.63	6.95	41	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	1950.10	1	1950.10	91.26*	.51
DCCS	25.33	1	25.33	1.19**	.01
Group	43.633	1	43.63	2.04**	.02
Error	1880.53	88	21.37		

* $p < .005$, ** ns , $R^2 = .55$ (Adjusted $R^2 = .53$)

Table 5.35 ANCOVA for TNR with Executive Function as Covariate

Group	Test of Narrative Retell				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	11.27	11.03	5.22	51	
Control	9.38	9.69	4.17	40	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	731.52	1	731.52	51.10*	.37
DCCS	19.03	1	19.03	1.33**	.02
Group	39.37	1	39.37	2.76**	.03
Error	1248.01	87	14.35		

* $p < .005$, ** ns , $R^2 = .41$ (Adjusted $R^2 = .39$)

5.5.2 Research Question 2

Will an intervention involving planned pretend play and group shared storybook reading have an effect on the vocabulary (receptive and productive) of three to five year old children in the treatment group when compared to the children in a control group who complete numeracy activities?

Receptive Vocabulary

There was a statistically significant difference between the groups in receptive vocabulary, with children in the treatment group doing better than those in the control group, with a large effect size. Mean scores show a positive effect of the intervention, with the treatment group having a mean score of 93.53 points and the control group scoring 89.53 points; $F(1, 89) = 5.90$, $p < .05$, with a large effect size of partial $\eta^2 = .06$. There was also a significant relationship between the covariate and British Picture Vocabulary Scales (BPVS) (Table 5.36). When the BPVS pre-test score was controlled for, there was a significant effect of the intervention on the post-test scores of the children.

Table 5.36 ANCOVA for BPVS with Pre-test as Covariate

Group	BPVS				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	94.02	93.53	10.20	51	
Control	88.93	89.53	12.87	41	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	6355.97	1	6355.97	103.42*	.54
Group	362.76	1	362.76	5.90***	.06
Error	5469.79	89	61.46		

* $p < .005$, ** ns , *** $p < .05$, $R^2 = .56$ (Adjusted $R^2 = .55$)

Productive Vocabulary

There was a statistically significant difference between the groups when the pre-test score of the *Researcher Designed Vocabulary Test* was controlled for; $F(1, 89) = 7.04, p < .05$, with a large effect size of partial $\eta^2 = .07$ (Table 5.37).

Table 5.37 ANCOVA for RDVT with Pre-test as Covariate

Group	RDVT				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	9.84	9.65	2.76	50	
Control	8.14	8.37	2.71	42	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	209.72	1	209.72	40.21*	.31
Group	36.70	1	36.70	7.04***	.07
Error	464.14	89	5.22		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .37$ (Adjusted $R^2 = .36$)

However, there was no significant effect of the intervention on *Naming Vocabulary* while controlling for pre-test scores; $F(1, 90) = .88, p = .35$, partial $\eta^2 = .01$.

Table 5.38 ANCOVA for Naming Vocabulary with Pre-test as Covariate

Group	Naming Vocabulary				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	51.14	49.68	12.94	51	
Control	46.29	48.06	14.88	42	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	11430.43	1	11430.43	171.00*	.66
Group	58.95	1	58.95	.88**	.01
Error	6016.18	90	66.85		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .67$ (Adjusted $R^2 = .66$)

There was, therefore, an effect of the intervention on receptive vocabulary and on productive vocabulary, as reported by the *Researcher-Designed Vocabulary Test*. This also strengthens the case that the teaching of the target vocabulary was effective in the intervention. It is difficult to have an effect on standardised vocabulary scores, and furthermore, the use of researcher-designed vocabulary tests is becoming more common in intervention research (M.D. Coyne et al., 2004). However, as there was a strong positive correlation between the standardised

receptive and productive vocabulary measures in this study, $r = .57$, $p < .0005$ (one-tailed) (Appendix 22), it can be argued that the intervention had a large positive effect on the vocabulary of the children in the treatment group.

5.5.3 Research Question 3

Will an intervention involving planned pretend play and group shared storybook reading have an effect on the Verbal Ability of three to five year old children in the treatment group when compared to the children in a control group who complete numeracy activities?

There was a significant effect of the intervention on children's *Verbal Ability* scores while controlling for their pre-test scores, $F(1, 87) = 3.83$, $p < .05$, partial $\eta^2 = .04$. On examination of the adjusted mean scores, results in favour of the intervention are evident. The medium effect size of partial $\eta^2 = .04$ supports this. However, there was a violation of the homogeneity of regression slopes $F(1, 86) = 10.21$, $p < .005$, caution in interpretation of this effect is, therefore, advisable.

Table 5.39 ANCOVA for Verbal Ability with Pre-test as Covariate

Group	Verbal Ability				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	97.88	97.41	14.79	49	
Control	91.76	92.31	16.16	41	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	7813.27	1	7813.27	51.75*	.37
Group	578.13	1	528.13	3.83***	.04
Error	13135.56	87	150.98		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .40$ (Adjusted $R^2 = .38$)

5.5.4 Research Question 4

Will an intervention involving planned pretend play and group shared storybook reading have an effect on the Verbal Comprehension of three to five year old children in the treatment group when compared to the children in a control group who complete numeracy activities?

There was no effect of the intervention on the children's verbal comprehension when pre-test scores were controlled for, $F(1, 89) = .233$, $p = .13$, partial $\eta^2 = .03$ (Table 5.40). As there were doubts about the normality of the variable (Section 5.4.2), it is possible that results in favour of the intervention might be evident, but this is not being identified by ANCOVA.

Table 5.40 ANCOVA for Verbal Comprehension with Pre-test as Covariate

Group	Verbal Comprehension				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	43.75	43.87	10.10	51	
Control	41.55	41.40	10.49	42	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	4514.06	1	4154.06	68.55*	.43
Group	141.12	1	141.12	2.33**	.03
Error	5454.03	90	60.60		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .44$ (Adjusted $R^2 = .43$)

5.5.5 Research Question 5

Will an intervention involving planned pretend play and group shared storybook reading have an effect on the non-verbal outcomes of three to five year old children in the treatment group when compared to the children in a control group who complete numeracy activities?

There was no effect of the intervention on *Block Building* when controlling for pre-test scores, $F(1, 90) = 1.67$, $p = .20$, partial $\eta^2 = .02$. Similarly, there was no effect of the intervention on *Picture Similarities* when controlling for pre-tests, $F(1, 89) = .09$,

$p=.77$, partial $\eta^2 < .01$. The intervention was not targeting non-verbal outcomes, it is not at all surprising, therefore, that these results were found.

Table 5.41 ANCOVA for Block Building with Pre-test as Covariate

Group	Block Building				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	43.02	43.28	7.40	51	
Control	41.71	41.40	11.44	42	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	3699.35	1	3699.35	75.43***	.46
Group	81.69	1	81.69	1.67**	.02
Error	4414.20	90	49.05		

* $p<.005$, ** ns , *** $p<.05$ $R^2 = .46$ (Adjusted $R^2 = .45$)

Table 5.42 ANCOVA for Picture Similarities with Pre-test as Covariate

Group	Picture Similarities				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	47.88	47.92	8.77	51	
Control	48.48	48.43	8.32	42	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	700.40	1	700.40	10.54*	.12
Group	5.99	1	5.99	.09**	<.01
Error	5983.37	90	66.48		

* $p<.005$, ** ns , *** $p<.05$ $R^2 = .11$ (Adjusted $R^2 = .09$)

5.5.6 Research Question 6

Will the intervention effect vary according to the demographic characteristics and first language use at home for each outcome?

The relationships between the covariates and the dependent variable were tested. This is described in Section 5.2.3. Only those which were significant were entered in the analysis for each outcome. A summary of the findings on Research Question Six is presented first, to aid readability.

Summary of Findings on Research Question 6

Having a large family has been shown to have an impact on children's literacy (Melhuish *et al.*, 2008). The majority of children in the sample had siblings, $n=34$ (65.4%) in the treatment group and $n=27$ (64.3%) in the control group. Whether the child had siblings or not explained some of the variance in productive vocabulary

scores, as measured by the *Researcher-Designed Vocabulary Test* (RDVT), with a medium effect size of .04.

The RDVT differs from the other vocabulary measures, in that it tests target words only, but it does somewhat resemble the *Naming Vocabulary* test. Both of these tests measure the child's ability to produce vocabulary. The fact that there was an effect on the RDVT, with siblings as a fixed factor, might suggest that this assessment is more sensitive to changes in the covariate, but might not suggest that siblings could explain much of the variance.

Surprisingly, there was no relationship between the variable 'Total First Language use at Home' and *Naming Vocabulary*, BPVS or RDVT. It is surprising, as the home is where the child spends most of his/her time, and where the potential for learning words is at its highest. However, whether the child had interaction at home and/or spoke at home a lot, had no impact on the variance in his/her vocabulary scores. It could not explain any of the variance on the narrative measures either. This is at odds with much of the literature that has gone before which has argued that the home is where the child is learning language more readily (Tizard & Hughes, 2009; Wells, 2009). It could be argued that perhaps the combination of the questions in the 'first language use at home' item was not a sufficiently accurate measure.

Firstly, there was a statistically significant difference between the treatment and control groups' raw scores on this variable. Perhaps this has then affected the results of the correlations. Secondly, the information on this variable was self-reported; therefore a social desirability bias could have skewed the parents' responses. Thirdly, perhaps there being a varied range of different first languages spoken in the home was at odds with the children's scores on English language assessments. Perhaps, the levels of home talk were indeed high in the home language, but an anomaly arose when it was the L2 that was assessed. What is important, is that the analytical limitations of this variable, and indeed the scope of this study are acknowledged and caution is observed when interpreting and reporting this

information in the future, as it would not be advisable to discourage parents' interaction with their children, as we know this has a measurable positive affect on children's vocabulary outcomes.

Previous studies have shown a correlation between the Home Learning Environment of the child and their achievement in literacy (Hartas, 2011; Melhuish *et al.*, 2008; Rodriguez & Tamis-LeMonda, 2011). The children's HLE had no impact on the variance in the scores on BPVS or RDVT. Furthermore, there was no relationship between the standardised *Naming Vocabulary* and HLE. For narrative skills, there were no main effects for TNR, *Bus Story Test Information Score* or MLU.

The language which is spoken at home to the child, and among the family, could have an effect on the language abilities of that child and how they perform after the intervention (Hartas, 2011). There was no correlation between the three narrative measures and the first language of the parent. There were no differences at pre-test between the two groups on this factor, so perhaps the randomisation was particularly successful (Section 5.4.1).

However, the first language of the parent resulted in a main effect on RDVT, with a very large effect size of .09. The ethnicity of the parent also explained some of the variances on the children's vocabulary scores, i.e. the children's BPVS scores, with a very large effect size of .09. This is in keeping with Sylva *et al* (2014) and Collins *et al*, (2013), who showed effects of ethnicity much later in a child's life (Collins, Collins, & Butt, 2013; Sylva, Melhuish, Sammons, Siraj, & Taggart, 2014). Ethnicity of the parent did not explain any of the variance on RDVT. The parent's ethnicity also had a main effect, which approached significance, on the verbal comprehension of the children at post-test, with a large effect size of .06.

Controlling for the first language of the child resulted in no effect of the intervention on the narrative outcomes of the children. There was an effect on RDVT when the first language of the child was controlled for, with a large effect size .08. As there

was no difference between the groups at pre-test on the RDVT, it can be assumed that the effects, when the language of the child was controlled for, were due to the children's involvement in the intervention.

There were more girls ($n=57$) than boys ($n=37$) in the sample. Even though the test of independence at baseline did not show a statistically significant difference between the groups on gender, nonetheless, when gender was added as a fixed factor, it had an effect on the variance in the scores on RDVT.

A detailed account of the above results is presented next.

Narrative Ability

Bus Story Information Score and SES

There was no effect of the intervention when SES and pre-test scores were controlled for on *Bus Story Information score* (IS); $F(1, 68) = 1.67$, $p = .20$, partial $\eta^2 = .02$. There was no statistically significant relationship between SES and IS $F(1, 68) = 1.51$, $p = .22$, partial $\eta^2 = .02$. The SES of the children's family could not explain any of the variance on *Bus Story Information* scores at post-test.

Table 5.43 ANCOVA for Bus Story Information Score Controlling for SES

Group	Bus Information				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	12.06	11.62	6.84	38	
Control	9.74	10.34	6.70	34	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	1800.21	1	1800.21	102.83*	.61
Total SES	26.36	1	26.36	1.51**	.02
Group	29.29	1	29.29	1.67**	.02
Error	1190.45	68	17.51		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .64$ (Adjusted $R^2 = .63$.)

Test of Narrative Retell and SES

There was no effect of the intervention on *Test of Narrative Retell* (TNR) when SES was controlled for, along with pre-test scores; $F(1, 67) = .73$, $p = .40$ partial $\eta^2 = .01$.

There was also no statistically significant relationship between SES and TNR; $F(1, 68) = 3.70$, $p = .06$ partial $\eta^2 = .05$.

Table 5.44 ANCOVA for TNR Controlling for SES

Group	TNR				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	10.84	10.74	5.44	38	
Control	9.88	10.00	4.14	33	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	650.49	1	650.49	49.19*	.42
Total SES	48.83	1	48.83	3.70**	.05
Group	9.69	1	9.69	.73**	.01
Error	886.10	67	13.23		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .47$ (Adjusted $R^2 = .44$)

Mean Length of Utterance and SES

There was no effect of the intervention on *Mean Length of Utterance* (MLU) when SES was added to the model, $F(1, 68) = 3.42$, $p = .07$ partial $\eta^2 = .05$ and there was no statistically significant relationship between MLU and SES $F(1, 68) = 1.15$, $p = .29$ partial $\eta^2 = .02$.

Table 5.45 ANCOVA for MLU Controlling for SES

Group	MLU				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	6.54	6.42	2.65	38	
Control	5.70	5.83	2.17	34	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	267.21	1	267.21	150.04*	.69
Total SES	2.04	1	2.04	1.15**	.02
Group	6.10	1	6.10	3.42**	.05
Error	121.10	68	1.78		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .72$ (Adjusted $R^2 = .71$)

Mean Length of Utterance and Siblings

There was an effect of the intervention which approached significance when an ANCOVA was carried out on *Mean Length of Utterance*, controlling for pre-test scores, and entering 'whether the children had siblings or not' as a fixed factor; $F(1, 85) = .34$, $p = .56$, with a very small effect size of partial $\eta^2 < .01$. There was no interaction effect of group and siblings; $F(1, 85) = 1.96$, $p = .14$. There was, however,

a statistically significant relationship between siblings and the *Mean Length of Utterance* $F(1, 85) = 4.51, p < .05$, partial $\eta^2 = .10$ (Table 5.46). The presence of siblings is having an impact on the variance in outcome scores in MLU, which approaches significance, when whether the child had siblings or not was added as a factor.

Table 5.46 ANCOVA for MLU Controlling for Siblings

Group		MLU			
	Adjusted Mean		n		
Treatment	6.77		51		
Control	6.53		41		
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	322.77	1	322.77	135.75*	.62
Group	.81	1	.81	.34****	<.01
Siblings	21.44	2	10.72	4.51***	.10
Group*Siblings	9.31	2	4.66	1.96**	.04
Error	202.11	85	2.38		

* $p < .005$, ** ns , *** $p < .05$, ****approaching significance, $R^2 = .66$ (Adjusted $R^2 = .64$)

Section Summary

Controlling for the demographic covariates which had a relationship with the narrative measures could not explain any of the variance, except *Mean Length of Utterance* with siblings as a fixed factor, which approached significance, but had a very small effect size.

Vocabulary

Receptive Vocabulary – British Picture Vocabulary Scales and Parent’s Ethnicity

There was a large effect of the intervention on receptive vocabulary (BPVS) when the parent’s ethnicity was added to the model and pre-test scores were controlled for; $F(1, 59) = 5.47, p < .05$, partial $\eta^2 = .09$. There was also a significant relationship between the parent’s ethnicity and the BPVS scores at post-test $F(1, 59) = 2.59, p < .05$ partial $\eta^2 = .31$. There was no interaction of group and parents ethnicity $F(1, 59) = 1.54, p = .19$. The parent’s ethnicity is predicting the receptive vocabulary outcomes of the children and the effect of the intervention is very strong when it is controlled for. There was no correlation between home language and receptive vocabulary (Section 5.2.3), therefore this was not included in an ANCOVA.

Table 5.47 ANCOVA for BPVS Controlling for Parent's Ethnicity

Group		BPVS			
	Adjusted Mean		n		
Treatment	91.86		41		
Control	83.26		36		
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	2897.52	1	2897.52	53.83*	.48
Group	294.22	1	294.22	5.47***	.09
Parent's Ethnicity	1395.52	10	139.55	2.59***	.31
Group*Parent's ethnicity	415.35	5	83.07	1.54**	.12
Error	3175.67	59	53.83		

*p<.005, **ns, ***p<.05 $R^2 = .72$ (Adjusted $R^2 = .64$)

Productive Vocabulary – Researcher-Designed Vocabulary Test (RDVT) and Gender

There was a large effect of the intervention on *Researcher Designed Vocabulary Test* (RDVT) when the gender of the children was added as a fixed factor and pre-test scores were controlled for; $F(1, 87) = 5.50$, $p < .05$, partial $\eta^2 = .06$. There was no interaction effect of gender and the group, $F(1, 87) = .15$, $p = .70$ (Table 5.48). The randomisation was successful at pre-test, as the outcomes did not vary across gender at post-test.

Table 5.48 ANCOVA for RDVT⁴⁰ Controlling for Gender

Group		RDVT			
	Adjusted Mean		n		
Treatment	9.54		50		
Control	8.37		42		
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	201.85	1	201.85	38.92*	.31
Group	28.53	1	28.53	5.50***	.06
Gender	12.09	1	12.09	2.33**	.03
Group*Gender	.79	1	.79	.15**	.00
Error	451.26	87	5.19		

*p<.005, **ns, ***p<.05 $R^2 = .39$ (Adjusted $R^2 = .36$)

RDVT and Siblings

There was also an effect of the intervention when 'whether the child had siblings or not' was added as a fixed factor and pre-test scores were controlled for on RDVT; $F(1, 85) = 3.87$, $p \leq .05$, partial $\eta^2 = .04$. There was no interaction effect for siblings

⁴⁰ Researcher-Designed Vocabulary Test

and group $F(1, 87) = .32, p = .73$ and there was a statistically significant relationship between siblings and RDVT, $F(1, 85) = 4.49, p < .05$, partial $\eta^2 = .10$. The strong RDVT results of the intervention are not varying across the groups regardless of whether the children had siblings or not.

Table 5.49 ANCOVA for RDVT Controlling for Siblings

Group		RDVT			
	Adjusted Mean		n		
Treatment	9.95		50		
Control	8.79		42		
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	193.96	1	193.96	39.65*	.32
Group	18.91	1	18.91	3.87***	.04
Siblings	43.88	2	43.88	4.49***	1.0
Group*Siblings	3.12	2	1.56	.32**	.01
Error	415.79	85	4.89		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .44$ (Adjusted $R^2 = .40$)

RDVT and Parent's First Language

There was an effect of the intervention on RDVT when 'whether the parent's first language was English' was added as a fixed factor and controlling for pre-test scores, $F(1, 72) = 7.14, p < .05$, partial $\eta^2 = .09$. There was no interaction effect between group and the language of the parent $F(1, 72) = .49, p = .49$ and there was a significant relationship between RDVT and the language of the parent $F(1, 72) = 9.32, p < .005$, partial $\eta^2 = .12$.

Table 5.50 ANCOVA for RDVT controlling for Parent's First Language

Group		RDVT			
	Adjusted Mean		n		
Treatment	9.13		40		
Control	7.77		37		
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	166.35	1	166.35	37.10*	.34
Group	31.99	1	31.99	7.14***	.09
Parent's First Language	41.77	1	41.77	9.32***	.12
Group*Parent's First Language	2.18	1	2.18	.49**	.01
Error	322.82	72	4.48		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .48$ (Adjusted $R^2 = .45$)

RDVT and Child's First Language

There was an effect of the intervention on RDVT when 'whether the child's first language was English or not' was added as a fixed factor, while controlling for pre-test scores $F(1, 72) = 6.56, p < .05$, partial $\eta^2 = .08$. There was no interaction effect between group and child's first language $F(1, 72) = .24, p = .63$ and there was a statistically significant relationship between a child's first language and RDVT $F(1, 72) = 7.95, p < .05$, partial $\eta^2 = .10$. As one might expect, whether the children had English as a first language is related to their productive vocabulary scores. Whether the children had English as their first language or not, did not vary across the groups, thus randomisation was successful.

Table 5.51 ANCOVA for RDVT Controlling for Child's First Language

Group	RDVT				
	Adjusted Mean	n			
Treatment	8.96	40			
Control	7.21	37			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	160.27	1	160.27	35.05*	.33
Group	29.98	1	29.98	6.56***	.08
Child's First Language	36.34	1	36.34	7.95***	1.0
Group*Child's First Language	1.10	1	1.10	.24**	.00
Error	329.22	72	4.57		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .47$ (Adjusted $R^2 = .44$)

RDVT and Parent's Ethnicity

There was no effect of the intervention when the parent's ethnicity was added as a fixed factor on RDVT and pre-test scores were controlled for $F(1, 59) = 1.10, p = .31$ partial $\eta^2 = .02$. There was a significant relationship, however, between the RDVT and the parent's ethnicity $F(1, 59) = 2.43, p < .05$ partial $\eta^2 = .30$. There was no interaction effect of the parent's ethnicity and group $F(1, 59) = 1.27, p = .30$, so there was equivalence across groups in this factor.

Table 5.52 ANCOVA for RDVT Controlling for Parent's Ethnicity

Group	RDVT				
	Adjusted Mean	n			
Treatment	9.49	40			
Control	7.22	37			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	158.18	1	158.18	38.21*	.39
Group	4.38	1	4.38	1.10**	.02
Parent's Ethnicity	100.67	10	10.10	2.43***	.29
Group*Parent's ethnicity	26.23	5	5.25	1.27**	.10
Error	6505.00	59	4.14		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .61$ (Adjusted $R^2 = .50$)

Naming Vocabulary and Age of Child

There was no effect of the intervention on *Naming Vocabulary* when the age of the children was controlled for along with pre-test scores, $F(1, 89) = 1.44$, $p = .23$, partial $\eta^2 = .02$. There was a significant relationship between *Naming Vocabulary* and age of children at pre-test $F(1, 87) = 4.15$, $p < .05$ partial $\eta^2 = .05$ (Table 5.53). As the sample was focused on a narrow age-range, it was unlikely that controlling for it would produce an effect of the intervention. However, it was surprising that there was an interaction effect of age with the outcome, considering *Naming Vocabulary* is a norm-referenced, standardised test and the instructions for administration regarding age were strictly adhered to.

Table 5.53 ANCOVA for Naming Vocabulary Controlling for Age of Child

Group	Naming Vocabulary				
	Observed Mean	Adjusted Mean	SD	n	
Treatment	51.14	49.87	12.94	51	
Control	46.29	47.83	14.88	42	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	10692.49	1	10692.49	165.55*	.65
Age of child	267.80	1	267.80	4.15***	.05
Group	92.94	1	92.94	1.44**	.02
Error	5748.38	69	64.59		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .68$ (Adjusted $R^2 = .67$)

Hours Spent in Early Years Setting

There was no significant effect of the intervention on *Naming Vocabulary* when number of hours in the setting and pre-test scores were controlled for ($F(1, 74) = .57$,

$p=.46$, partial $\eta^2=.01$. There was no relationship between hours in the setting and *Naming Vocabulary*, $F(1, 74) = 2.98$, $p=.09$ partial $\eta^2=.04$.

Table 5.54 ANCOVA for Naming Vocabulary Controlling for Hours in Early Years

Setting

Group	Naming Vocabulary				
	Observed Mean	Adjusted Mean	SD	n	
Treatment		48.56	13.57	41	
Control		47.11	14.49	37	
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	6793.64	1	8793.64	123.69*	.63
Hours in Setting	211.93	1	211.93	2.98**	.04
Group	40.19	1	40.19	.57**	.01
Error	5260.98	74	71.09		

* $p<.005$, ** ns , *** $p<.05$ $R^2 = .66$ (Adjusted $R^2 = .64$)

Naming Vocabulary and Parent's First Language

When the first language of the parent was added as a fixed factor to ANCOVA, while controlling for pre-test scores on *Naming Vocabulary* (NV), there was no effect of the intervention, $F(1, 73) = .52$, $p=.48$, partial $\eta^2=.01$. There was no interaction effect of group and language of parent $F(1, 73) = .15$, $p=.70$ and there was no relationship between language of parent and NV $F(1, 73) = 1.85$, $p=.18$, partial $\eta^2=.03$.

Table 5.55 ANCOVA for Naming Vocabulary Controlling for Parent's First Language

Group	Naming Vocabulary				
	Adjusted Mean	n			
Treatment	48.09	41			
Control	46.61	37			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	8145.57	1	8145.57	111.57*	.60
Group	37.63	1	37.63	.52**	.01
Parent's First Language	135.30	1	135.30	1.85**	.03
Group*Parent's First Language	10.71	1	10.71	.15**	.00
Error	5329.87	73	73.01		

* $p<.005$, ** ns , *** $p<.05$ $R^2 = .65$ (Adjusted $R^2 = .63$)

Naming Vocabulary and Child's First Language

There was no effect of the intervention on *Naming Vocabulary* when first language of the child was added as a fixed factor and pre-tests scores were controlled $F(1, 73) = .80, p = .38$, partial $\eta^2 = .01$. There was no interaction effect between group and first language of child, $F(1, 73) = .18, p = .68$, and there was no significant relationship between NV and first language of the child $F(1, 73) = 1.45, p = .23$, partial $\eta^2 = .02$. It is unusual that there was an effect of the intervention on RDVT and not on NV when the language of the child was controlled for; moreover, that there was no relationship between the NV outcome and this factor.

Table 5.56 ANCOVA for Naming Vocabulary Controlling for Child's First Language

Group	Naming Vocabulary				
	Adjusted Mean	n			
Treatment	47.89	41			
Control	45.40	37			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	7408.26	1	7408.26	100.79*	.58
Group	58.44	1	58.44	.79**	.01
Child's First Language	106.79	1	106.79	1.45**	.02
Group*Child's First Language	13.05	1	13.05	.18**	<.01
Error	5365.88	73	73.51		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .65$ (Adjusted $R^2 = .63$)

Naming Vocabulary and Parent's and Child's Ethnicity

There was no effect of the intervention on the *Naming Vocabulary* scores of the children at post-test, when child's or parent's ethnicity was added as a fixed factor, while controlling for pre-test, (child) $F(1, 62) = .07, p = .79$ partial $\eta^2 < .01$ or the parent $F(1, 60) = .72, p = .40$ partial $\eta^2 = .01$ (Tables 5.57 & 5.58). Neither had interaction effects with the group (child) $F(1, 60) = .08$, or $p = 1.00$, (parent): $F(1, 60) = .39, p = .85$. There was no relationship between the child's ethnicity and the outcome variable $F(1, 62) = .87, p = .55$ partial $\eta^2 = .10$ or the parent's ethnicity $F(1, 60) = .97, p = .48$ partial $\eta^2 = .14$.

Table 5.57 ANCOVA for Naming Vocabulary Controlling for Parent's Ethnicity

Group	Naming Vocabulary				
	Adjusted Mean	n			
Treatment	48.72	41			
Control	46.68	37			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	5819.41	1	5819.41	76.15*	.60
Group	55.31	1	55.31	.72**	.01
Parent's ethnicity	742.63	1	74.26	.97**	.14
Group*Parent's ethnicity	149.58	5	29.92	.39**	.03
Error	4585.20	60	76.42		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .70$ (Adjusted $R^2 = .61$)

Table 5.58 ANCOVA for Naming Vocabulary Controlling for Child's Ethnicity

Group	Naming Vocabulary				
	Adjusted Mean	n			
Treatment	48.23	41			
Control	46.20	37			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	6335.92	1	6335.92	80.18*	.56
Group	5.54	1	5.54	.07**	<.01
Child's ethnicity	550.52	8	68.82	.87**	.10
Group*Child's ethnicity	30.99	5	6.20	.08**	.01
Error	4899.18	62	79.02		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .68$ (Adjusted $R^2 = .60$)

In summary, when controlling for gender, siblings, the first language of the child and first language of the parent and the parent's ethnicity, the intervention had an effect on RDVT, with large effect sizes. The children's receptive vocabulary also maintained the effect of the intervention when the parent's ethnicity was controlled for. The child's *Naming Vocabulary* still had no effects of the intervention, even when the demographic characteristics were controlled for.

Verbal Comprehension

Verbal Comprehension and Parent's First Language

There was no effect of the intervention on *Verbal Comprehension* when first language of the parent was added as a fixed factor and pre-test scores were controlled for $F(1, 73) = 1.00$, $p = .32$ partial $\eta^2 = .01$. There was a relationship between first language of parent and *Verbal Comprehension* $F(1, 73) = 5.68$, $p = .02$

partial $\eta^2 = .07$ and there was no effect between group and first language of parent $F(1, 73) = .03, p = .85$.

Table 5.59 ANCOVA for Verbal Comprehension Controlling for Parent's First Language

Group	Verbal Comprehension				
	Adjusted Mean	n			
Treatment	41.97	41			
Control	40.04	37			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	2329.00	1	2329.00	36.80*	.36
Group	63.02	1	63.02	1.00**	.01
Parent's First Language	359.52	1	359.52	5.68***	.07
Group*Parent's First Language	2.17	1	2.17	.03**	<.01
Error	4620.39	73	63.29		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .45$ (Adjusted $R^2 = .42$)

Verbal Comprehension and Child's First Language

There was no effect of the intervention on Verbal Comprehension when child's first language was added as a covariate $F(1, 73) = 2.21, p = .14$, partial $\eta^2 = .03$. There was no statistically significant interaction of group and first language of the child $F(1, 73) = .25, p = .62$, partial $\eta^2 < .01$.

Table 5.60 ANCOVA for Verbal Comprehension Controlling for Child's First Language

Group	Verbal Comprehension				
	Adjusted Mean	n			
Treatment	41.58	41			
Control	37.81	37			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	2094.58	1	2094.58	33.11*	.31
Group	140.28	1	140.28	2.22**	.03
Child's First Language	359.64	1	359.64	5.69***	.07
Group*Child's First Language	16.09	1	16.09	.25**	<.01
Error	4618.21	73	63.26		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .45$ (Adjusted $R^2 = .42$)

Verbal Comprehension and Parent's Ethnicity

There was an effect of the intervention on *Verbal Comprehension* which approached significance, when parent's ethnicity was added to the model and the pre-test scores were controlled for $F(1, 60) = 3.49, p = .07$ partial $\eta^2 = .06$. There was a significant

relationship between ethnicity and *Verbal Comprehension* $F(1, 60) = 2.07, p < .04$ partial $\eta^2 = .26$. There was no interaction effect between group and parent's ethnicity $F(1, 60) = 1.58, p = .18$ (Table 5.61).

Table 5.61 ANCOVA for Verbal Comprehension Controlling for Parent's Ethnicity

Group	Verbal Comprehension				
	Adjusted Mean	n			
Treatment	44.64	41			
Control	39.81	37			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	2285.68	1	2285.68	39.93*	.40
Group	199.69	1	199.69	3.49****	.06
Parent's ethnicity	1185.69	10	118.57	2.07***	.26
Group*Parent's ethnicity	452.28	5	90.46	1.58**	.12
Error	3434.45	60	57.24		

* $p < .005$, ** ns , *** $p < .05$, ****approaching significance $R^2 = .69$ (Adjusted $R^2 = .48$)

The child's parent's ethnicity, when added to the model, had statistically significant effects on the children's verbal comprehension after the intervention.

Verbal Comprehension and Child's Ethnicity

There was no effect of the intervention on the child's verbal comprehension when their ethnicity was controlled for, $F(1, 62) = 1.32, p = .25, \eta^2 = .02$. There was a significant relationship between the child's ethnicity and the Verbal Comprehension score $F(1, 62) = 2.47, p < .05$, partial $\eta^2 = .24$.

Table 5.62 ANCOVA for Verbal Comprehension Controlling for Child's Ethnicity

Group	Verbal Comprehension				
	Adjusted Mean	n			
Treatment	42.27	41			
Control	39.07	37			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	2254.63	1	2254.63	38.28*	.38
Group	77.99	1	77.99	1.32**	.02
Child's ethnicity	1162.73	8	145.34	2.47***	.24
Group*Child's ethnicity	184.882	5	36.98	.63**	.05
Error	145073.00	62	58.90		

* $p < .005$, ** ns , *** $p < .05$, ****approaching significance $R^2 = .57$ (Adjusted $R^2 = .46$)

Verbal Ability***Verbal Ability and Parent's First Language***

There was no effect of the intervention on Verbal Ability when the first language of the parent was controlled for $F(1, 70) = 2.10$, $p = .15$, partial $\eta^2 = .03$. There was also no interaction effect of group and first language of parent; $F(1, 70) = .02$, $p = .89$, partial $\eta^2 = <.01$.

Table 5.63 ANCOVA for Verbal Ability Controlling for Parent's First Language

Group		Verbal Ability			
	Adjusted Mean	n			
Treatment	95.13	39			
Control	90.49	36			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	4253.64	1	4253.64	26.00*	.27
Group	341.54	1	341.54	2.10**	.03
Parent's First Language	279.08	1	279.08	1.71**	.02
Group*Parent's First Language	3.46	1	3.46	.02**	<.01
Error	11450.49	70	163.58		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .35$ (Adjusted $R^2 = .31$)

Verbal Ability and Child's First Language

As *Verbal Ability* is a composite score of *Verbal Comprehension* and *Naming Vocabulary*, and neither was statistically significant at $p < .05$ range, it was unlikely that a statistically significant effect would be found. It was not statistically significant, therefore, there was no effect of the intervention, when child's first language was controlled for. There was no relationship between *Verbal Ability* and the first language of the child $F(1, 70) = .46$, $p = .50$ partial $\eta^2 = .01$ and no effect of the intervention $F(1, 70) = 1.40$, $p = .24$ partial $\eta^2 = .02$. There was no interaction effect between group and first language of child either $F(1, 70) = .03$, $p = .87$.

Table 5.64 ANCOVA for Verbal Ability Controlling for Child's First Language

Group	Verbal Ability				
	Adjusted Mean	n			
Treatment	95.20	39			
Control	89.76	36			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	4251.63	1	4251.63	25.54*	.27
Group	232.91	1	232.91	1.40**	.02
Child's First Language	76.71	1	76.71	.46**	.01
Group*Child's First Language	4.39	1	4.39	.03**	<.01
Error	11655.30	70	166.50		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .34$ (Adjusted $R^2 = .30$)

Verbal Ability and Parent's Ethnicity

There was no effect of the intervention when the parent's ethnicity was added as a fixed factor and the pre-test scores were controlled for $F(1, 58) = 2.88$, $p = 1.00$, partial $\eta^2 = .05$. There was no interaction effect of group and parent's ethnicity $F(1, 58) = 1.03$, $p = .40$ and there was no statistically significant relationship between parent's ethnicity and group $F(1, 58) = .71$, $p = .71$, partial $\eta^2 = .11$.

Table 5.65 ANCOVA for Verbal Ability Controlling for Parent's Ethnicity

Group	Verbal Ability				
	Adjusted Mean	n			
Treatment	95.35	39			
Control	85.82	36			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	2661.50	1	2661.50	15.76*	.21
Group	486.43	1	486.43	2.88**	.05
Parent's ethnicity	1204.98	10	120.50	.71**	.11
Group*Parent's ethnicity	695.86	4	173.97	1.03**	.07
Error	9796.90	58	168.91		

* $p < .005$, ** ns , *** $p < .05$ $R^2 = .44$ (Adjusted $R^2 = .29$)

Verbal Ability and Child's Ethnicity

There was no effect of the intervention on Verbal Ability after child's ethnicity was controlled for $F(1, 59) = 1.60$, $p = .21$, partial $\eta^2 = .03$. There was also no significant relationship between child's ethnicity and group $F(1, 59) = .29$, $p = .92$, partial $\eta^2 = .02$.

Table 5.66 ANCOVA for Verbal Ability Controlling for Child's Ethnicity

Group	Verbal Ability				
	Adjusted Mean	n			
Treatment	94.01	39			
Control	86.73	36			
Source	Sum of Squares	df	Mean Squares	F	Partial η^2
Pre-test	2356.19	1	2356.19	13.01*	.18
Group	290.19	1	290.19	1.60**	.03
Child's ethnicity	787.90	8	98.49	.54**	.07
Group*Child's ethnicity	263.23	5	52.65	.29**	.02
Error	10689.47	59	181.18		

*p<.005, **ns, ***p<.05 $R^2 = .44$ (Adjusted $R^2 = .29$)

There was no effect of the intervention on the children's Verbal Ability scores after controlling for the demographic characteristics of the children.

5.5.7 A Setting Effect?

It could be suggested that a difference between the settings could have been affecting the effects of the intervention. However, even though a One-way ANOVA (Table 5.67) has shown that there were no differences between the settings, any interactions between group and setting were investigated for all outcomes in an ANCOVA.

Table 5.67 One-way ANOVA for Differences between Settings

Dependent Variable	df	F	Sig.
Researcher Designed Vocab Test post-test score	92	1.15	.33
Verbal Comprehension post-test tscore	92	2.35	.08
Naming Vocabulary post-test tscore	92	2.04	.11
BPVS standardised score at post-test	91	2.14	.10
Bus information post test	91	1.76	.16
Bus AL5LS post test	91	.53	.66
TNR post test	91	.19	.91

There were no interaction effects for setting and group on any of the outcomes, as is summarised in Table 5.68. It can, therefore, be concluded that the setting did not have an impact on the results of the children.

Table 5.68 Interaction Effects for Groups and Setting on Dependent Variables

Dependent Variable	df	F	sig
Test of Narrative Retell	3, 82	.75	.53
Bus Story Information score	3, 83	1.16	.33
Mean Length of Utterance	1, 83	.69	.56
British Picture Vocabulary Scales	3, 83	1.99	1.22
Researcher Designed Vocabulary Test	1, 83	.52	.67
Naming Vocabulary	3, 84	.41	.75

5.6 Chapter Summary

This chapter presented the analysis of the study.

Firstly, this included verification, data quality control and screening of the data. Assumptions for Analysis of Covariance were discussed and the analytical strategy for the study was outlined and justified.

Secondly, the demographic characteristics were examined, under the headings of family, accommodation, ethnicity and first language, employment status of parents/parents, socio-economic status of parents/parents and maternal education. These demographic characteristics were collected through questionnaires administered to parents/parents. Chi-Square and Mann Whitney tests revealed that there were no statistically significant differences between the groups on any of the variables at pre-test.

Thirdly, the child's reported first language use at home was collected through the questionnaires which were disseminated to parents/parents. This information is reported by parents/parents and gives an insight into the children's backgrounds and may have been related to their language outcomes. Once again, Mann-Whitney tests were used to investigate the presence of any differences between the two groups; there were no statistically significant differences between the groups.

Fourthly, the children's Home Learning Environment (HLE) was examined.

Independent samples t-test results indicated that there was no significant difference between the groups on this instrument at pre-test. Previous research has found that a child's HLE predicts his/her academic achievement (Melhuish *et al.*, 2008). There was no relationship between the HLE and the dependent variables, so this was not examined by ANCOVA.

Fifthly, Analyses of Covariance were carried out on all the variables controlling for pre-test scores. Results showed that there was an effect of the intervention on the *Mean Length of Utterance* of the children, after controlling for pre-test scores.

When Executive Function was considered, there was no effect of the intervention on the children's storytelling ability, as measured by both the *Test of Narrative Retell* (TNR) and *Bus Story Test* and there was no statistically significant relationship between Executive Function and story retelling measures.

Table 5.69 Summary of ANCOVA - Main Effects for all Narrative Measures Controlling for Pre-tests

Bus Story MLU Score				
Group	Adjusted Mean	df	F	Partial η^2
Treatment	6.81	1, 89	4.04***	.05
Control	6.12			
Test of Narrative Retell				
Treatment	11.05	1, 88	2.98**	.03
Control	9.66			
Bus Story Information Score				
Treatment	12.06	1, 89	2.27**	.03
Control	10.59			

*p<.005, **ns, ***p<.05

Results also showed that productive and receptive vocabulary was better for the treatment group after controlling for pre-test scores with large effect sizes (BPVS, .06; RDVT, .07). There was a large effect of the intervention on *Researcher-Designed Vocabulary Test* (Effect Size = .07). However, there was no effect of the intervention on the standardised measure for productive vocabulary – *Naming Vocabulary*. The results on the RDVT are encouraging, nonetheless. The results on receptive

vocabulary are particularly positive, as the measure was standardised and norm-referenced for age.

Table 5.70 Summary of ANCOVA - Main Effects for Vocabulary Measures Controlling for Pre-tests

Researcher-Designed Vocabulary Test				
Group	Adjusted Mean	df	F	Partial η^2
Treatment	9.65	1, 89	7.04***	.07
Control	8.37			
British Picture Vocabulary Scales				
Treatment	93.53	1, 89	5.90***	.06
Control	89.53			
Naming Vocabulary				
Treatment	49.68	1, 90	.88**	.01
Control	48.06			

*p<.005, **ns, ***p<.05

When the demographic characteristics were controlled for, there were effects on the RDVT when each gender (Table 5.71), siblings (Table 5.72), first language of parent and first language of child (Table 5.73) were added as fixed factors, with medium to large effect sizes.

Table 5.71 Summary of ANCOVA - Significant Main Effects for all Measures with Gender as a Fixed Factor

Gender					
Dependent Variable	Group	Adjusted Mean	df	F	Partial η^2
Researcher-Designed Vocabulary Test	Treatment	9.54	1, 87	5.50***	.06
	Control	8.37			

***p<.05

Table 5.72 Summary of ANCOVA - Significant Main Effects for all Measures with Siblings as a Fixed Factor

Siblings					
Dependent Variable	Group	Adjusted Mean	df	F	Partial η^2
Mean Length of Utterance	Treatment	6.77	1, 85	.34****	<.01
	Control	6.53			
Researcher-Designed Vocabulary Test	Treatment	9.95	1, 85	3.87***	.04
	Control	8.79			

*p<.005, **ns, ***p<.05

The parent's ethnicity could also explain some of the variance for receptive vocabulary, with a very large effect size of .09. The parent's ethnicity could also explain some of the variance on the verbal comprehension of the children after the intervention. However, this must be viewed with caution in light of doubts around normality.

Table 5.73 Summary of ANCOVA - Significant Main Effects for all Measures with Ethnicity and First language of Parent and Ethnicity and First Language of Child as Fixed Factors

Parent's Ethnicity					
Dependent Variable	Group	Adjusted Mean	df	F	Partial η^2
Researcher-Designed Vocabulary Test	Treatment	9.49	1, 59	1.10**	.02
	Control	7.22			
Naming Vocabulary	Treatment	48.72	1, 60	.72**	.01
	Control	46.68			
British Picture Vocabulary Scales	Treatment	91.26	1, 59	5.47***	.09
	Control	83.26			
Verbal Comprehension	Treatment	44.64	1, 60	3.49****	.06
	Control	39.81			
Child's Ethnicity					
Naming Vocabulary	Treatment	48.23	1, 62	..07**	<.01
	Control	46.20			
Verbal Comprehension	Treatment	42.27	1, 62	1.32**	.02
	Control	39.07			
Verbal Ability	Treatment	94.01	1, 59	1.60**	.03
	Control	86.72			
Parent's First Language					
Researcher-Designed Vocabulary Test	Treatment	9.13	1, 72	7.14***	.09
	Control	7.77			
Naming Vocabulary	Treatment	48.09	1, 73	.52**	.01
	Control	46.61			
Verbal Comprehension	Treatment	41.97	1, 73	1.00**	.01
	Control	40.04			
Verbal Ability	Treatment	95.13	1, 70	2.10**	.03
	Control	90.49			
Child's First Language					
Researcher-Designed Vocabulary Test	Treatment	9.13	1, 72	7.14***	.09
	Control	7.77			
Naming Vocabulary	Treatment	47.89	1, 73	.79**	.01
	Control	45.40			
Verbal Comprehension	Treatment	41.58	1, 73	2.22**	.03
	Control	37.81			
Verbal Ability	Treatment	95.20	1, 70	1.40**	.02
	Control	89.76			

*p<.005, **ns, ***p<.05

The children's SES could not explain any of the variance on the Narrative Measures when it was controlled for. This surprising finding will be discussed fully in the next chapter.

Table 5.74 Summary of ANCOVA - Significant Main Effects for Narrative Measures Controlling for SES

SES					
Dependent Variable	Group	Adjusted Mean	df	F	Partial η^2
Mean Length of Utterance	Treatment	6.42	1, 68	3.42**	.05
	Control	5.83			
Bus Story Information Score	Treatment	11.62	1, 68	1.67**	.02
	Control	10.34			
Test of Narrative Retell	Treatment	10.74	1, 67	.73**	.01
	Control	10.00			

*p<.005, **ns, ***p<.05

The findings of this study will be discussed in the next chapter.

CHAPTER SIX – DISCUSSION & CONCLUSION

6.1 Introduction

Young children in the UK increasingly move from preschool to primary school with insufficient oral language skills – 7% of English five year olds (40,000 children) in 2007 had significant difficulties with speech and/or language (Bercow, 2008; Lindsay et al., 2010, 2007). Although narrative and vocabulary development can increase exponentially between the ages of three and five years (Bowyer-Crane et al., 2008; Fricke et al., 2013), this age group has not been as widely supported by oral language policy as children who are under three years, who are supported by *Early Language Development Programme* (ICAN, 2012).

Against this background, there is clearly a need for a body of *experimental* research, testing the effectiveness of interventions incorporating age-appropriate oral language strategies which support children's oral language development in the Early Years (Howes *et al.* 2008; Bond & Wasik 2009; Nutbrown 2012).

Education policy in the UK – at both National and Local Authority levels – has addressed the challenge of oral language development only to a relatively limited extent, and to a limited population. For example, the extra support offered under the *Early Language Development Programme* (2012) targets only children under three years of age, and only in disadvantaged areas.

It is clear that policy-makers need input from current research, if they are to make appropriate, evidence-based decisions. In addition, the evidence produced by such research allows policy-makers to provide practitioners with up-to-date guidance, on-going support and mentoring, in order to deliver the language component of the *Early Years Foundation Stage*.

The current study addresses this two-pronged need by developing and testing the effectiveness of an intervention which combined shared storybook reading and planned pretend play. The aim was to support narrative (story-retelling) and vocabulary development in the critical years, just before children enter primary school.

The intervention is based on the social interactionist model devised by Vygotsky (1978). With this model as the foundation for its components, the intervention supports the child's interaction with peers, with the adult, and indeed with the intervention material itself. In addition, the process of developing the intervention was informed by Rogoff's theory of learning environments; addressing the personal, interpersonal and community layers of the children's environment. The effectiveness of the intervention was tested by the implementation of a Randomised Controlled Trial; the resulting positive effects from this RCT represent a significant contribution to the existing knowledge base in relation to children's oral language development. This Chapter will demonstrate how the findings of this research can be seen as an application of Vygotsky's model.

Finally, strengths and limitations of the study will be discussed, and the implications of the study for future research, practice, professional development and policy will be presented.

6.2 Summary and Significance of Research Findings

The aim of the current study was to deliver an intervention which would have a positive effect on children's oral language in 10 weeks.

The intervention in the study had a number of positive effects on the oral language of the treatment group.

The most important of these was a significant effect on the vocabulary of the children in the treatment group, with medium to large effect sizes. This was

evidenced by higher scores in the treatment group for receptive vocabulary, as measured by the standardised *British Picture Vocabulary Scales*, and productive vocabulary, as measured by the *Researcher-Designed Vocabulary Test*.

A further positive effect concerned the narrative skills of the children in the treatment group, when compared to the children in a control group – the MLU score was higher in the treatment group, with medium to large effect sizes. It is worth noting here that as the intervention lasted only ten weeks, it is possible that changes in development may have occurred due to the children's maturity over the course of the programme, or indeed other interactions and activities within the settings they attend. It is possible that other previously developed interventions that may have had similar levels of intensity could also result in similar outcomes (D. K. Dickinson et al., 2010).

An interesting set of findings related to the children's family background. Firstly, the first/home language of the child was related to the productive language scores, thus confirming previous research (Hartas, 2011); similarly, the results confirmed that the first/home language of the parent could explain some of the variance in productive language; finally, whether the child had siblings or not could explain some of the variance in the RDVT scores of the children (Sylva, Melhuish, Sammons, Siraj, & Taggart, 2014).

An important, albeit surprising, finding was that the research results showed no relationship between social disadvantage and *Mean Length of Utterance*. Furthermore, it was also found that there was no demonstrated relationship between Executive Function and the children's narrative outcomes.

Other interesting outcomes were that maternal education did *not* explain any of the variance in the children's scores, that Home Learning Environment did not explain any of the variance in the children's scores, and there was no relationship between children's first language use at home, as reported by their parents, and any of the outcomes.

Finally, scores on the non-verbal outcomes of *Block Building* and *Picture Similarities* at post-test were not different for the treatment and control groups.

Several of these findings are significant, from the standpoint of both further research and practice.

First, the effect on narrative skills is significant for research purposes, as little experimental research has been conducted on narrative interventions to date. This is applicable to experimental research which, examines MLU only and not other aspects of narrative development, such as personal story generation or story grammar.

Second, the large effect on the researcher-designed vocabulary test strengthens the case for the use of this type of test for measuring the effects of an intervention targeted at productive vocabulary. Although, once again, it should be reiterated that this test would need further development to increase the strength of this finding, as it did not include items that were not directly related to the storybooks. So the results of this test are open to other interpretation.

Third, the fact that an age-appropriate executive function test was used in the study, in the absence of a pre-existing working memory test, and was shown not to be linked to narrative skills, highlights the need to develop a pure working memory test for children under the age of five – in other words we should not continue to rely on executive function as a proxy for working memory.

Fourth, the link demonstrated between first language and productive vocabulary is significant for early-years practice in highlighting the need for supporting children with English as an Additional Language. There was no correlation between home language and receptive vocabulary (Section 5.2.3), therefore this was not included in an ANCOVA.

Fifth, since the Study has shown a link between the parents' first language and the children's English Language outcomes, it highlights the need for the close involvement of parents in language interventions.

6.3 Narrative Ability and Pretend Play

The potential for the development of narrative in children is maximised between the ages of three and four years (Baldock, 2006; McPherson, 2002; Stadler & Ward, 2005; Uccelli et al., 1999). However, while the research literature thus far has alluded to the positive impact which pretend play can have on language development in general, there has been a paucity of experimental research on its impact on narrative development, in particular. Results in the current, experimental study show that the intervention, with its combined components of storybook reading and planned pretend play, had a positive effect on the Mean Length of Utterance of the children.

Vygotsky's social interactionist model is at the core of these combined components. For example, the children's interaction with each other, the adult and the resources in this intervention, provided a strong foundation on which to build their narrative skills (Vygotsky, 1933, 1978, 1986). The social interactionist perspective in the intervention co-existed with a social pragmatic approach to language development; the latter facilitated developmental transactions between the children and each other, the adult and the intervention, as before (Grassmann & Tomasello, 2010; Tomasello, 2001). The combination of these two theoretical perspectives resulted in a positive effect on children's Mean Length of Utterance.

6.3.1 Adult-Child Interaction during Play

The adult had a role to play in maintaining and, at times, initiating the children's engagement with the play episode. Historically, an adult's input to a child's narrative ability has been found to strengthen the latter's narrative skills (Baldock, 2006; Fivush, 1991; Peterson & McCabe, 1994; Stadler & Ward, 2005).

The findings in this study support the findings of the researchers above. In the intervention, the adult facilitated the elicitation of the narrative statements in each session, through the provision of visual prompts and the encouragement of retelling of elements of the story. The children also described their part of the story to the puppet and revised and recreated the sequence of events in the pretend play. The combination of both adult-elicitation and child-initiation during the sequencing part of the intervention and the pretend play sessions are likely to have helped the children to practise remembering and speaking about the stories which were read to them each week (Epstein & Phillips, 2009). Furthermore, when the researcher was in-role, she scaffolded the children in developing their pretend play sessions. She helped the children to execute the play session by playing alongside them, and encouraged discussion about their role each week during the review part of the play session. This supportive and facilitative stance of the researcher more than likely helped the children to practise and rehearse talk, which had a positive effect on their narrative capabilities, specifically Mean Length Utterance.

6.3.2 Peer-Peer Interaction during Play

The children's engagement with the play episodes was also enabled through the use of small groups in the intervention. Children can have optimal learning opportunities when they are in small groups of three to five children (Harris *et al.*, 2011). The children in this intervention had opportunities to engage in dialogic discussion with each other and to practise retelling their part of the story in a small group setting. The opportunities for what Mercer (Mercer & Littleton, 2007) terms *interthinking* among the children were increased in this small group setting. The children exercised cumulative talk, building on each other's contributions to the story during the sequencing activities. This combination of cumulative talk, collaboration of ideas, mutual engagement and verbal exchanges in small groups is also likely to have helped the children to increase their competence in Mean Length Utterance.

Furthermore, the socio-dramatic play/drama in education in small groups during the intervention sessions helped the children to gain confidence. Although this was not

assessed formally in the current study, anecdotal evidence from the session recordings, and oral feedback from the settings' practitioners, suggests that the children seemed to grow in confidence over the course of the dramatic interaction with each other – and indeed with the researcher when she was in-role. This apparent growth in confidence could have allowed the children to express themselves more readily, which, in turn, increased their *Mean Length of Utterance* (MLU). In addition, playing a role as another character in the pretend play provided the children with opportunities to express themselves more freely. The anonymity associated with playing such a role could have increased the children's willingness to talk. It could be suggested that this role-play may have then increased their MLU; it would be interesting to investigate this further by way of a follow-up study.

6.3.3 Child-Resource Interaction during Play

The use of research-based play preferences of children to inform the themes of the intervention had a positive effect on the overall engagement of the children with the play episodes. The play sessions in each week of the intervention facilitated talk that was based on child-friendly themes, thus rendering the intervention a good fit with the children's current interests. This, in turn, it could be suggested, had a positive effect on their Mean Length Utterance (Gmitrova *et al.*, 2009). It could also have improved the children's overall engagement with the pretend play sessions, once again increasing their propensity to utter more words.

6.3.4 Narrative and Play – Summary

The results of this experimental study build upon studies such as Lillard and colleagues (2013), who highlighted the lack of experimental studies with robust methodologies, and the work of Spencer and Slocum on story retelling (Bergen, 2013; Lillard *et al.*, 2013; T. D. Spencer & Slocum, 2010). In particular, it answers the call by Lillard and colleagues for more Randomised Control Trials (RCTs), which examine interventions to support narrative development. This study, although modest by comparison to some of the RCTs described by Lillard and colleagues, used an RCT and randomly assigned the sample to a treatment or control condition.

One should be cautious of linking only the pretend play directly to the narrative scores of the children, as the direct link between the two was not measured in the current study. However, it would be reasonable to suggest that the pretend play, combined with the storybook reading session, had an effect on the children's narrative *Mean Length of Utterance*. One could also surmise that the adult's presence in-role, along with the children being in small groups working on themes which were age-appropriate to them, facilitated many opportunities to talk in a collaborative and supportive environment, thus supporting the children's *Mean Length of Utterance*.

6.4 Narrative Ability and Group Shared Storybook Reading

While there is a large body of evidence which supports storybook reading as a means of supporting *vocabulary development* (discussed in detail in Chapter 2 and briefly in Section 6.4), the empirical evidence to support storybook reading as a means of supporting *narrative ability*, is lacking.

6.4.1 Child-Resource Interaction during Group Shared Storybook Reading

The children's interest in the storybook was heightened when 'Tobi' the puppet was present. The use of the puppet during the storybook sessions helped the children to engage with the book. This heightened engagement with the story helped the children to maintain interest and, in turn, helped them to focus on the different events in the story. Such dialogic discussion can help children to focus on the story and offer contributions to the discussion. The introduction of the puppet, games and music surrounding the storybooks, can also help children to engage more deeply with the story. Finally, it can provide them with opportunities to talk more informally, both to each other and to the researcher.

6.4.2 Peer-Peer Interaction during Group Shared Storybook Reading

The opportunities for peer-to-peer interaction are less during storybook reading, as the interaction predominantly takes place between the child and the storybook, and/or the adult. Nonetheless, peer-to-peer interaction was still evident in the current study during the storybook sessions; for example, children exchanged

dialogue when they played storybook-focused games. In addition, dialogic discussion took place between the children about the storybooks' content, characters and events before, during and after reading. The puppet was central to this discussion, as it posed questions which encouraged the children to explain events in the story to each other, predict what might happen next, and, offer definitions to each other of new words which arose in the story. All of this encouraged the children to talk, thus providing opportunities for development of their MLU.

6.4.3 Adult-Child Interaction during Group Shared Storybook Reading

The interaction of the researcher during the shared storybook reading sessions typically involved a combination of co-constructive and performance-oriented delivery of the storybook. The co-constructive style includes much discussion of the book before, during and after reading; whereas performance-oriented delivery tends to focus essentially on performing the book. The two styles were combined for the storybook reading sessions in the current study and this, coupled with the puppet's interaction with the children, could have helped to maintain the children's interest in the group shared reading and encouraged them to talk.

6.4.4 Executive Function

It is thought that executive function, which is highly correlated to working memory (Müller, Kerns, & Konkin, 2012), is related to the ability to retell a story. Most working memory tests target children who are above five years old, so an executive function test was used for the younger children in this study instead. In the current study, the children's executive function did not explain any of the variance in the children's story re-telling on the *Test of Narrative Ability* and the *Bus Story Test*. This is in agreement with Lillard and colleagues, in their meta-analysis of pretend play, who did not find any conclusive, consistent evidence that executive function and narrative ability are correlated (Lillard *et al.*, 2013). There is evidence to suggest that working memory *is* developing in children under five years. Perhaps a working memory test, specifically aimed at this age group, might have explained some of the variance on the narrative outcome scores in the current study, more so than an

executive function test. Therefore, it could be considered when developing narrative interventions in the future (Haden *et al.*, 2011).

6.4.5 Effects of the Intervention on Mean Length of Utterance

An interesting finding gained from this research was the lack of a significant effect of the intervention on story retelling. It did, however, have a strong effect on MLU. On closer examination of the literature, there is evidence to support these findings, as Wilcox and colleagues (2011) found similar positive effects on MLU in their study of the effectiveness of the TELL⁴¹ curriculum with children who had speech and language impairments. They found effects for the MLU of the children and not the Information scores on the *Bus Story Test*. They attribute the success of the intervention on MLU, which also included shared storybook reading, to the children having an increased number of descriptors and grammatical components in their conversations, after the intervention. The nature of the activities in the current intervention are in keeping with this, as many opportunities for acquiring new vocabulary were provided and, in turn, the opportunity arose to practise these new words repeatedly in an age-appropriate context (Wilcox *et al.*, 2011).

The results in this study showed that the combination of the two components, i.e. storybook reading and pretend play, had an effect on the narrative scores of the children and that the study addressed the following aims of the study:

1. to enable children to explore child-friendly themes through their talk in pretend play;
2. to enable children to plan and review their play;
3. to promote children's retelling of narratives which draw on language patterns of stories;
4. to facilitate children's enjoyment of listening to, and use of, spoken language, and turn to it in their play and learning; and
5. to encourage children to listen and respond orally to story.

⁴¹ Teaching Early Literacy and Language

6.5 Vocabulary and Group Shared Storybook Reading

The evidence of the benefits of storybook reading on vocabulary development are well-documented (Aram, 2006; Bowyer-Crane et al., 2008; M.D. Coyne et al., 2004; Munro, Lee, & Baker, 2008; Roskos & Burstein, 2011; Sénéchal, 1997; Zevenbergen et al., 2003). Storybook reading has often been combined with a phonological awareness component in an intervention. Schickedanz and McGee (2010) revisited a meta-analysis, which had been carried out by the National Early Literacy Panel in 2008 on the effects of shared reading on vocabulary. The results in the current study support the findings of Schickedanz and McGee, who found that group shared storybook reading has beneficial effects on younger children's vocabulary development.

In addition, Schickedanz and McGee found that the success of the shared reading could be affected by who was reading the story to the children (Schickedanz & McGee, 2010). In the current study, the researcher read the stories, but she also used a puppet, which helped to engage the children with the storybook. The presence of the puppet helped to focus the children on the target words, particularly when the puppet indicated that it did not know what a certain word meant. Some research has found that shared reading has more of an effect on children's productive vocabulary than their receptive vocabulary (see Schickedanz and McGee, 2010 & Mol, Bus de Jong, 2009). The same was found in this study, but only to a marginal degree (Chapter Five).

The group shared storybook reading provided opportunities for conversation, as was found in Bierman *et al.*, (2008). The dialogic discussion, with questions posed and answered by the puppet, coupled with the opportunity for use of the target words, may have helped the children to support their vocabulary competence (Bierman *et al.*, 2008). The opportunity to be introduced to the words in different contexts of pretend play and shared reading promoted children's development of mind maps for the new words. This, in turn, increased their use and understanding of the new words, which was also found by Roskos and Burstein (2011). The use of the book as

a stimulus for pretend play and conversations in the next session could have helped the children to remember and reproduce the target vocabulary, as was found by Colmar (2013).

The current study is in line with the literature, which has suggested shared reading combined with another medium of instruction, i.e. pretend play can improve children's vocabulary (Harris *et al.*, 2011). It goes further than other studies such as Dockrell *et al* (2010), which researched the impact of pretend play and storybook reading on children with English as an Additional Language (Dockrell *et al.*, 2010). This intervention was offered to all children in each setting, as long as they were aged under five years and not yet in Reception Year, whereas Dockrell *et al* focused only on children with English as an Additional Language. It also builds on the smaller study by Conner (2014), which focused only on younger children aged two years.

The intervention aimed to support children's use of new vocabulary in play and conversation. Learning vocabulary is extremely difficult for young children. Even with rich instruction, it is difficult for them to learn adjectives and adverbs, which are more abstract than nouns (Elley, 1989). This can explain why the results of standardised assessments do not always yield large effect sizes (National Early Literacy Panel, 2008). Research often employs the use of researcher-designed vocabulary tests (Beck & McKeown, 2007). The use of these tests has been the subject of some debate in recent years (M.D. Coyne *et al.*, 2004). It is often viewed as "teaching to the test", in other words, not totally objective.

However, in the case of the current study, as the target vocabulary was *contextually* based, i.e. it was taken from the storybooks used in the intervention, it was deemed appropriate to test the vocabulary which was being targeted, and indeed the effectiveness of the teaching of it, alongside standardised norm-referenced vocabulary assessments. A significant difference between the groups on the *Researcher Designed Vocabulary Test* (RDVT) was found, with a large effect size of .07. This statistically significant result did not continue in the standardised test:

Naming Vocabulary. On close examination of the mean values for the treatment and control groups, and as there was no significant difference between the groups at pre-test, it is reasonable to suggest that the treatment group's *Naming Vocabulary* mean scores were higher (51.14 points, *ns*) than the control group's (46.29 points, *ns*), though not statistically significant. Finally, as receptive and productive vocabulary were strongly positively correlated in this study, it is reasonable to suggest that the intervention had an effect on the vocabulary of the children in the treatment group.

It is clear that the inclusion of a storybook reading component in the intervention had a significant role to play in supporting children's vocabulary. However, the combination of this with a second component, i.e. pretend play would have allowed the children to use and practise any new words, which had been initially identified during the storybook session, in an age-appropriate context.

6.6 Vocabulary and Pretend Play

Pretend play has the potential to improve the vocabulary of young children by providing them with opportunities to use decontextualised language, and language which might be associated with a role other than their own (McKeown & Beck, 2009). In the current study, the storybook was used as a stimulus and the children used the plot and characters to underpin a pretend play episode. The short time lapse between the revision of the story in the pretend play session and the actual enactment of the play episode itself, afforded the children the opportunity to hold the target words in their working memory just long enough to be able to transfer them to the pretend play. In the play episode, then, these words were used and reinforced, thus allowing their transfer to the children's long-term memory (Samuelson, 2002; Smith, 2000).

6.6.1 The Zone of Proximal (*Vocabulary*) Development

Vygotsky argued that a child's learning occurs in conjunction with a more experienced peer/adult. The adult navigates the child through what Vygotsky called

his Zone of Proximal Development (Vygotsky, 1978). The adult assesses the stage at which the child is and what support they require in order to advance. Vygotsky claimed that this action is mediated by language, whereby the adult tunes their language to the level of the child. There is a joint construction of meaning, a so-called *co-construction*, as the child interacts with another to learn about the world, and, in turn, develop language (Sheil *et al.*, 2012; Wood & Attfield, 2005).

The potentially positive effects of the input of the adult in the pretend play in the current study are in line with previous studies (Gmitrova, 2013; Levy *et al.*, 1992; Roskos & Burstein, 2011). The children's Zone of Proximal (*Vocabulary*) Development was supported through the use of this type of play. The adult in the intervention helped to sustain the play episodes, thus increasing the chances for more talk, and more opportunities for the use of the target words. The adult and the child working collaboratively on a pretend play session, as happened in this study, was an effective way of exploiting the Zone of Proximal Development in language (Weisberg *et al.*, 2013).

For example, the researcher in the current study was a narrator, a suggester of ideas and a reflector when the session was over. She was responsible for gaining, and sometimes holding, the children's interest in the play, and she could be the focus within their Zones of Proximal Development. She could model the pragmatics of language to the children during the play and use the new words in a grammatically, pragmatically and semantically appropriate manner. This modelling of the language may have helped the children to understand and use the target words.

6.6.2 Summary

The intervention had medium to large effects on both children's productive (on a Researcher-Designed Vocabulary Test) and receptive vocabulary. Effects of the intervention on narrative were also visible, specifically on the *Mean Length of Utterance* of the children.

It is reasonable to query whether something other than the intervention was having an effect on the children's scores at post-test, for example, the children's own demographic characteristics. Although this was unlikely, as the sample was randomly assigned to group, it was nonetheless worthy of investigation, in order to refute or strengthen the results of the study.

6.7 Child's Background Characteristics

A child's home and familial environment can play a large part in how that child advances, both cognitively and, more specifically, in their language (Hartas, 2011). In this section, the child's demographic profile, his/her reported socio-economic status, the predominant language used for communication in the home, his/her parent's ethnicity and his/her gender, are all considered.

6.7.1 Family Demographic Profile

Following Bronfenbrenner's ecological model of child development, peers, family and cultural environment can all influence the child's development (Bronfenbrenner, 1979). Similarly, Sameroff (2003; 2009) argued that children learn and adapt and adopt language as they grow, and they cease to learn language when the people in their environment have ceased producing novel situations which stretch their capabilities. In particular, being part of a large family has been shown to have an impact on children's literacy (Melhuish *et al.*, 2008). In the case of the current study, the presence of siblings, albeit smaller in quantity, had an influence on the children's productive vocabulary, as measured by the *Researcher-Designed Vocabulary Test* (RDVT). The fact that there was an effect on the RDVT, with siblings as a fixed factor, might suggest that this assessment is more sensitive to changes in the covariate than the *Naming Vocabulary* test.

6.7.2 Social Advantage/Disadvantage

Recent studies by Dockrell *et al* (2010) and Sheridan *et al* (2011) suggest that the socio-economic group which a child occupies can have a negative impact on his/her language development (Dockrell *et al.*, 2010; Locke, Ginsborg, & Peers, 2002; McIntosh, Crosbie, Holm, Dodd, & Thomas, 2007; Sheridan, Knoche, Kupzyk,

Edwards, & Marvin, 2011). It is possible that outcome scores of children from lower socio-economic groups can be affected by lower cognitive stimulation from parents, which, in turn, is linked to a lower standard of living (McLoyd, 1998). The children in the current study were from low, middle and high socio-economic groups, as measured by a variable including the employment status of their parents/parents and receipt of income support and other proxy variables (Chapter Five). There was no effect of the intervention when socio-economic status (SES) was controlled for on MLU. Equally, there was no correlation between any of the vocabulary outcome measures and the SES of the families. The findings in this study, therefore, are in contrast to the research literature pertaining to social disadvantage carried out to date (Colmar, 2013; Henning, McIntosh, Arnott, & Dodd, 2009; Locke et al., 2002; McIntosh et al., 2007).

The measurement of SES in the current study does differ from other research. In the USA, for example, it is often the case that maternal education and family income only are used to compute SES (Pungello *et al.*, 2009). Indeed, the same indicators have been used in the UK (Hartas, 2011). It is unlikely that adding extra indicators/information would render the measurement of SES less accurate in the current study – in fact, everything else being equal, it should give a more complete picture of the SES of the families. Thus, a follow-up study which would include information on Family Income in the computation of SES would be of interest.

6.7.3 First Language Use at Home

How much children are engaged in conversation at home can have an effect on how their language first develops. It is thought that a combination of joint attention, interaction and studious attention by the child to the intentions of his/her parents, can establish the first steps of his/her language development, including vocabulary and narrative development (Bruner, 1983; David *et al.*, 2003; Grosse *et al.*, 2010; Newman *et al.*, 2006; Owens, 2012; Tomasello, 2009; Uccelli & Pan, 2013). It is surprising that no relationships were found in the current study between the vocabulary outcome variables and reported first language use at home, since the

home is where the child spends most of his/her time, and where the potential for learning words is at its highest. It is worth noting that there was a proportion of children with EAL in the sample. These children's L1 proficiency was not tested, therefore this may have affected the lack of correlation between this variable and the children's outcomes. Perhaps, if this proficiency had been controlled for, there may have been a correlation.

It is less surprising that first language use at home had no impact on the variance in the scores in the narrative measures (*Bus Story Test* IS, MLU, TNR), as the potential for story retelling might be higher in preschool, due to the specific opportunities for dialogic discussion and circle time when the child is there (Dickinson, 2011; Mol *et al.*, 2009).

6.7.4 Home Learning Environment

Very strong links have been found between the Home Learning Environment (HLE) and literacy, specifically reading at age ten years (Anders *et al.*, 2011; Sammons *et al.*, 2008). It is reasonable to assume, then, that the HLE would have an impact on the oral language ability of children. However, in the current study, the children's HLE had no impact on the variance in the scores on productive vocabulary. This was a surprising outcome. It is surprising that the children's ability to produce vocabulary was not affected by the various items on the HLE instrument, such as the frequency with which their parents/parents play literacy/ language games with them.

However, firstly, it is likely that parents are engaged in such activities when the child is aged two to three years, present in the home to a greater extent and reliant on the parent for play. Secondly, it is likely that the ethos around activities in the home is focused more on independent play when the child is of preschool age, rather than on joint games that involve the adult directly. This could also be due to the child gaining independence in their play through attendance at preschool, where there is a focus more generally on preparation for school. Thirdly, the HLE in its current format does not include the number of books owned by the child. Previous evidence suggests that this correlates strongly with children's outcomes (Roulstone *et al.*,

2011). Perhaps, in omitting this, this calls into question the validity of the instrument, despite its wide use in the many EPPE studies. Finally, the HLE instrument itself includes items that are perhaps not so directly relevant to language development e.g. numeracy activities. Furthermore, in the fast-changing technological environment, there are other activities that may now be visible in the home learning environment that are omitted from the HLE instrument, such as time spent watching TV or playing interactive language games on different technological media. Indeed, the number of books present in the home is omitted also. As we know that this can have an impact on reading, literacy levels and productive and receptive vocabulary later in a child's life (Rodriguez & Tamis-LeMonda, 2011). These nuances in the instrument itself might explain the lack of association between the HLE and the children's outcomes in this study.

For narrative ability, there were no statistically significant correlations between HLE and the narrative outcomes. Once again, this contrasts with much of the recent research on children's development (Kernan, 2012; Sammons *et al.*, 2011). It could be suggested that, as the TNR is not a standardised assessment, it could not statistically correlate with the HLE. However, the presence of two other narrative measures, which did not correlate either, refutes this. When correlations were run between any of the individual items of HLE and the narrative assessments, there were no statistically significant correlations in either the treatment or control groups (Appendix 23). Once again, it is possible that the parent is engaging in different types of activities with the child at preschool age, which are different to those listed in the HLE, thus reducing the possibility for a link between the HLE and narrative outcomes.

6.7.5 Predominant Language Spoken at Home and Ethnicity

Bruner claimed that the adult (parents and parents in the current study) plays an interactive and crucial role in a child's language development, by way of a Language Acquisition Support System (Bruner, 1983). This *scaffolding* from parents is fundamental to the child's language development, as the parent / parent can give

the child useful cues, but ones that are based on “*updateable knowledge of the child’s capabilities*” (Bruner, 1983:168). Thus, the language which is spoken at home to the child, and among the family, has an effect on the language abilities of that child (Hartas, 2011).

While there was no correlation in the current study between the three narrative measures and the first language of the parent, the first language of the parent did explain some of the variance on RDVT (a very large effect size of .09). The ethnicity of the parent did explain some of the variance on the BPVS scores at post-test, again with a very large effect size of .09. This confirms Sylva *et al* (2014) and Collins *et al*, (2013) who showed effects of ethnicity on academic outcomes in English, much later in a child’s life (Collins, Collins, & Butt, 2013; Sylva, Melhuish, Sammons, Siraj, & Taggart, 2014).

6.7.6 Maternal Education

Maternal education is a strong predictor of children’s academic achievement (Hartas, 2011, 2012). The majority of mothers in the sample in the current study had lower educational qualifications (Chapter Five, Section 5.3.1). One might therefore predict that maternal education would have a strong association with the scores of the children. However, this was not the case; maternal education was not correlated to any of the outcome measures. This is in contrast to much of the research that has been carried out to date (Bates *et al.*, 2008; Burger, 2010; Pungello *et al.*, 2009; Sektnan *et al.*, 2010). One possible explanation might be the way in which maternal education was measured in the current study. However, this level of measurement was consistent with previous studies which have measured maternal education, including the NICHD (Sektnan *et al.*, 2010). Maternal education in this study did differ from the *Millennium Cohort Study*, and *The Office for National Statistics*, in that it did not differentiate between the different National Vocational Qualification levels. The Maternal Education item in this study’s questionnaire categorised all such qualifications under one heading of *Vocational Qualification*. It

is arguable that, if all levels of vocational qualifications had been included, maternal education might have had an effect.

Secondly, there may have been an anomaly in the sample with regard to maternal education. For example, the mothers of the children in the treatment group had more GCSE qualifications than their counterparts in the control group (Table 5.23) and both groups' qualifications occupied the Vocational qualifications class or lower. Very few mothers in either group had A or AS Level qualifications. The lower levels of qualifications may have resulted in a homogenisation of the sample, which may have resulted in the statistical analysis not identifying a correlation between maternal education and the children's outcomes. Scatterplots were plotted with all of the outcomes and the Maternal Education variable in order to show the clustering of the sample around GCSE, vocational and A Level qualifications (Appendix 27).

Finally, it has been suggested by Harding and colleagues (2015) that the effects of maternal education on educational attainment, cognitive skills and academic achievement are much more nuanced than has been explained in previous studies (Harding, Morris, & Hughes, 2015). Harding and colleagues integrate bioecological, capital and developmental niche theory and suggest that each of these is intertwined in the extremely complex concept of maternal education (Appendix 26). It could be suggested that the concept of maternal education, could be subdivided into all its constituent aspects of capital and each of these examined individually in relation to children's outcomes. In the case of language, there is an argument for focusing on the investigation of a mother's human capital implicit in a higher level of education, such as a more frequent use of language or an extended vocabulary, which might influence a child's language outcomes. It would be interesting, by way of a follow-up study, to collect data of this nature and investigate the nature of its relationship to children's language outcomes.

6.7.7 Gender

When gender was controlled for, there was a main effect of the intervention on productive vocabulary (RDVT). This may have been accounted for by the higher number of girls than boys in the sample – it has been well documented that girls typically tend to have a preference for pretend play over other types of play when compared to boys (Gmitrova et al., 2009; Lillemyr, Søbstad, Marder, & Flowerday, 2011). However, even though girls may have responded to the intervention in a different way, the test of independence at baseline did not show a statistically significant difference *between* the groups on gender. What should be acknowledged here is that the effect was found on a measure that was researcher-designed. These results should be viewed with caution, as the measure was not standardised. In addition, the unusual high number of girls in the sample would mean the results could be open to other interpretation.

The analysis – and indeed the results – of the effects of the intervention described above, demonstrates an interesting application of Bronfenbrenner's Ecological Systems Theory of child development (Bronfenbrenner, 1979). With the child at the centre of this model, the social and familial background and those in it, play a significant role in his/her language skills. Interaction in this social and familial background is influencing the child's language skills, as evidenced by the effects of the intervention. It is here that an application of Vygotsky's theory of child development is evident.

Vygotsky's (1978) emphasis on interaction was central to the intervention itself. The child was interacting with the adult, the other children and the intervention material within his/her Zone of Proximal Development. He/she was co-constructing the meanings of new words and practising his/her narrative skills in an age-appropriate context. Having the opportunity to co-construct meaning, which the children had through the intervention in this study, resulted in better outcomes in vocabulary and narrative skills for the children in the treatment group.

6.8 Limitations and Strengths of the Study

As with any research design of this type, involving Randomised Control Trials, this study features a number of strengths and limitations. Various methodological challenges had to be confronted and dealt with, such as possible bias in the development and delivery of an intervention, the challenges posed by self-reporting questionnaires, and the difficulties associated with delivering an intervention within setting constraints. In addition, there were quite a substantial number of children with English as an Additional Language (EAL) in the sample. As we know that children with EAL's developmental trajectory with regard to language can be different to monolingual children, it would have been necessary to analyse these children's outcomes separately. On the other hand, RCTs also offer major strengths; for example, 1) randomisation of the children to treatment or control groups increases the reliability of research results; 2) the wide range of measures involved in the study, and 3) that the intervention is based on a strong theoretical foundation and a collation of Early Years best practice.

6.8.1 Limitations

Time and Geographical Constraints

This study was conducted by a single researcher; unfortunately, this placed constraints on the geographical locations which could be included during the data collection phase. As the sample was randomised within the setting, every group of children recruited to the treatment group had to be matched, as far as possible, by an equal number in the control group. This limited the number of settings which could be used, as, in order to maximise numbers in the sample, the researcher was obliged to focus on larger settings. However, as the power calculations showed in Chapter Four, every attempt was made to achieve as large a sample size as was necessary to achieve medium effect sizes.

A further challenge was that, in order to ensure reliable comparisons between the settings, and as the data was collected within preschools attached to some primary schools which operate to school timetabling, the researcher was limited to periods

within term-time. The length of the intervention meant that the children also had to be pre- and post-tested within the tight time frames of the term. If there had been a team of researchers collecting data, the pre- and post-testing and the intervention could have been conducted simultaneously with different groups.

Time was also limited by the natural ebb and flow of each setting's commitments to other activities. Even weather conditions limited the researcher's access to settings at times – in this case, however, any missed sessions were re-scheduled.

Bias

The intervention was developed, implemented and evaluated by the researcher. This could, in theory, increase the possibility for bias in the results due to the researcher knowing which groups the children belonged to when testing at post-test. Although 10% of the narrative assessments were blind-marked in order to check reliability, the potential for personal researcher bias is possible. In order to increase fidelity of delivery of the intervention, a manual was developed, which also would increase replicability of the study. A very strict formula was followed for opening and closing each session and a script was followed for interaction with the children. Also, although the session recordings were not analysed statistically for comparability, they were examined carefully each week, to ensure that the sessions in each settings mirrored each other. Statistical analysis of this audio data is a possibility at a later stage, in addition to using such data to inform a more detailed manual in the future.

Self-reporting

The use of self-administered questionnaires to obtain demographic characteristics of the sample could have produced a social desirability bias, i.e. over- or under-reporting of familial interaction. However, self-completed questionnaires are generally quicker to administer, more convenient for respondents, and help to increase the generalisability of the population recruited to the study.

Children with English as an Additional Language

The sample in the current study also included a substantial number of children with English as an Additional Language (EAL) (26.92% in the treatment group and 28.57% in the control group). The National Association for Language Development in the Curriculum (NALDIC) has reported that according to the Pupil Level Annual School Census data (PLASC) (DfE, 2013) the number of children with EAL has been rising steadily. For example, it reported that in 2003 the figure was 10.4% ($n=362,690$), 14.4% ($n=470,080$) in 2008 and 18.1% in 2013 ($n=612,160$). The figure in 2013 equates to 1 in 6 primary school children not having English as their first language (Clancy, 2014; NALDIC, 2015). English was predominantly the first language of parents in both the treatment ($n=27$) and control groups ($n=25$). A sizeable proportion of each group did, however, state that English was not their first language ($n=14$ (26.92%) in the treatment group and $n=12$ (28.57%) in the control group). This seems to be a higher proportion than is reported by NALDIC for primary school aged children in England. However, the NALDIC data refers to primary school aged children, so we can only assume that this number is replicated in preschool. The fact that the number has risen exponentially over the last 12 years, it could be suggested that the percentage of EAL children in schools in England is closer to 20% in 2015. The number of children with EAL in the current study is still quite high in relation to the national average for England. Also, as we know, children with EAL have a different developmental trajectory with regard to their phonological processing (Vihman, 2014) and indeed vocabulary acquisition, therefore, the proportion of children in the sample with EAL should have been removed from the analysis and their outcomes analysed separately. This level of more detailed analysis would have served the EAL children better and may, indeed, have affected the overall effects of the intervention on vocabulary, in particular.

6.8.2 Strengths

This study had several relative strengths, which outweighed the limitations outlined above. Clearly, by far the biggest overall strength of the study is that the intervention had a positive effect on children's language abilities. The success of the

intervention was, however, underpinned by a series of other strengths, which are delineated below.

Randomised Controlled Trial

As was shown in the rationale for Research Design in Chapter Four, it is generally accepted that, in modern education research, RCTs are an appropriate, reliable and scientific method of ascertaining the nature of an intervention's success or failure. Increasingly, they are seen as an important tool for producing robust evidence in the field of education, as they have been in medicine (Goldacre, 2013). Furthermore, randomising the sample within each setting, along with controlling for pre-test scores, allowed for greater reliability of the results. The study's design helped to ensure that the results could be viewed as reliable and replicable.

Theory-Based Intervention

The development process for this intervention was rigorous, it sits on a strong theoretical foundation and represents a collation of good practice. The process was transparent, followed a series of logical incremental steps, and was solidly based on Rogoff's learning environment theory. Adhering to sound intervention research principles, the literature was consulted, and the intervention devised and piloted. Piloting helped to finalise the intervention's framework and highlighted potential weaknesses. This process resulted in an innovative, engaging, easily administered, inexpensive, and practitioner-friendly intervention.

Wide Range of Measures

All but one of the measures in the study were standardised and norm-referenced for the age-range of the children in the study. When a researcher-designed measure was used, its reliability was backed up by its correlation to the other standardised productive vocabulary instrument used in the study. This all helped to increase the reliability of the results.

Return Rates of Questionnaires

A high number of questionnaires (83%) were returned in this study, which resulted in a high degree of demographic detail being obtained about the children in the

sample. Even though the sample was relatively small ($n=94$), it was nonetheless varied, crossing ethnicities, languages and socio-economic groupings. This strength, coupled with a very low attrition rate, helped to rule out any confounding variables which could otherwise have affected the children's outcome scores after the intervention, as well as providing the researcher with a robust sample.

Equivalence of Groups at Baseline

The fact that there were no significant differences between the treatment and control groups before the intervention, means that it can be argued, with reasonable confidence, that the intervention had a positive impact on the children's vocabulary and narrative skills.

6.9 Implications of Study

6.9.1 Location of Research within Literature and its Contribution to Knowledge

The unusual combination of the pedagogies of planned pretend play and shared group storybook reading places this research in two different research trajectories. Much research has taken place in both of these pedagogies separately, but less experimental research has taken place, which combines them. The experimental evidence in the current study contributes to the pre-existing oral language research base.

This study focuses directly on two specific aspects of oral language development: vocabulary and narrative development. While vocabulary has been explored frequently in the research literature, the presence of RCTs, which examine narrative development and story retelling, in particular, is less prevalent. The study therefore adds to an under-explored evidence base for interventions which target narrative development. It is here, specifically, that this study makes one of its strongest contributions to the advance of knowledge in oral language development in children in the early years.

6.9.2 Implications for Future Research

This study had favourable results with a sample of 94 children.

It would be useful to investigate the intervention's usefulness on a much larger scale; one possibility would be to recruit only from a specific socio-economic grouping, for example from a socially-disadvantaged background. A roll out of the programme to other geographical areas could serve to increase generalisability of the intervention, and may produce different effects based on the different power of the sample.

It was not possible in the current study to carry out a delayed post-test, as many of the children were moving to a Reception class in a different school and the potential for follow-up was minimised as a result. It would be useful, in a future study with a larger sample, to test the children at a delayed post-test, in order to check the maintenance of any effects. As we know from other studies, language development in the early years can predict reading comprehension at age 54 months (NICHD Early Child Care Research Network, 2005). Perhaps it would be useful to investigate if there are any effects of this oral language intervention on children's literacy levels later. This could be achieved with a larger team of researchers and may even provide evidence for strengthening the case for supporting children's oral language development in the Early Years.

The intervention in the current study was of ten weeks' duration. It could be beneficial to increase the duration, e.g. to 15 weeks, and compare the results with the children in the current study, to check for the optimum length of an intervention such as this. We do not currently have conclusive evidence to suggest the optimum duration for storybook reading interventions (Mol *et al.*, 2009). It has been suggested that shorter interventions do not maintain their effects at a delayed post-test, but equally, the effects of longer interventions can be diluted by many extenuating factors related to the rapid developmental trajectory of children at this age, the interaction with the contexts for language development and their home

lives. However, it is worth investigating any effects of the intervention if it was extended into Reception.

Another possibility for future research would be to examine more deeply the similarities between pretend play and narrative. We know that similar parts of the brain are activated when children engage in (a) narrative, and (b) pretend play, but it would be interesting to devise an intervention which presented the children only with opportunities for developing sustained pretend play, and examine whether this had any impact on their narrative or ability to retell a story, personal story generation, or fantasy narratives. This could strengthen the empirical case for promoting play, and specifically pretend play in the Early Years.

Lastly, as much research has shown, parental input in children's development is not always evident or possible. It would be important to involve parents, perhaps through training in pretend play, to practise these skills at home with their child, and compare these results with the results from this study where there was no parental involvement. Bronfenbrenner's (1979) ecological theory of child development underpins the importance of parental involvement in children's development. The family and indeed society have a definitive role to play in supporting children's language development. The involvement of parents in any future roll out seems logical in supporting the child's language development in a holistic way.

Although the range and scope of the current study was somewhat modest, the favourable results obtained for receptive vocabulary and MLU provide a platform for further research on oral language interventions. The sound methodological basis of the study, as well as its robust experimental design, is a response to the need for evidence-based language interventions for early years children.

6.9.3 Implications for Policy

A number of policy deficiencies have become clear to the researcher during the course of this study, and particularly as the intervention has been delivered.

Firstly, the role of the adult in children's language development has been much debated (Bannard et al., 2013; Baumer et al., 2005; Carpenter, Uebel, & Tomasello, 2013; Einarsdóttir, 1998; F. Field, 2010; Lillard et al., 2013; Sénéchal, 1997; Sheil et al., 2012; Siraj-Blatchford & Manni, 2008; David Whitebread, 2012; Wood, 2010). There has been an increased emphasis on terms such as child-centred and child-initiated learning, and less of a role for the adult. Their role has been increasingly one of assessor, completing profiles and developmental paperwork (Allen, 2011; Baldock, Fitzgerald, & Kay, 2013; EYFS, 2006). This could lead to the confusion of what exactly is the role of the adult. This intervention supports an active role for the practitioner in children's language development and provides some evidence of the benefits of adults approaching and engaging in children's pretend play.

Secondly, there is a gap in the provision of oral language supports to children in the early years. Although there is a public programme – the *Early Language Development Programme* – aimed at developing hubs of early language expertise, its scope is limited to children who are less than three years old, and who live in disadvantaged areas. This obviously excludes preschool children who are over three years of age – the very cohort which arguably could benefit most from intensive language support, particularly in narrative. This research provides a replicable programme which could fill this gap.

Thirdly, Government policy has placed much of its recent focus on one particular aspect of literacy, the teaching of phonics (Department for Education, 2015). This has even resulted in there being a mandatory phonics screening test for all children in Year 1 in Primary School. This current emphasis on phonics suggests that oral language has slipped down the policy agenda. It is, of course, true that the teaching of phonics can help children's reading, and help to improve children's literacy. However, oral language is also a key contributor to children's literacy development (Bowyer-Crane et al., 2008; Griffin, Hemphill, Camp, & Wolf, 2004), and can improve children's life-chances; thus, it should also be the focus of policy measures to improve literacy levels in the UK.

6.9.4 Implications for Practice

This intervention was designed with practitioners in mind. The aim was to develop a workable intervention which was inexpensive and easy to deliver, with minimal resources required. The intervention achieved this, as the resources can be changed, depending on what storybooks are available in the setting. The oral feedback from the settings was positive, and practitioners could see how the intervention could be useful to their own practice. As the children in this study spent an average of 16.6 hours per week in the setting, an intervention such as this one would be useful to practitioners. It might require some extra training, but the intervention is such that it could be adapted to suit any setting, as long as there are willing practitioners available. The training could be provided by the researcher at a low cost, as the resources within the setting could be utilised and ongoing feedback and support could be provided while the intervention is running. This could be delivered initially as a possible roll-out research study. The results of this new study could inform the intervention into the future and provide low cost support for practitioners and, in turn, the children in their settings.

The intervention also has the potential to be used as a tool for the professional development of early years practitioners. With the introduction of Early Years Teacher Status, there are opportunities now to focus on attaining a very high standard of training of practitioners (Nutbrown, 2012). Indeed, this focus on standards is specifically referred to in *Teachers' Standards (Early Years)* (National College for Teaching and Leadership, 2013), where practitioners are now required to: “*take responsibility for leading practice through appropriate professional development for self and colleagues*” (National College for Teaching and Leadership, 2013:5). This intervention provides practitioners with the material to help them achieve this. For example, as the intervention is based on child development/language development theory, training on the components of this intervention could upskill practitioners with both practical skills and the knowledge which underpins it. The pairing of abstract knowledge with the experience they may

possibly have already is beneficial to their professional development and ultimately their approach to delivering Early Years Education.

6.10 Conclusion

The key finding of this research is that the combination of shared group storybook reading and planned pretend play has a measurable positive effect on children's narrative skills and vocabulary acquisition. The findings confirm the importance of supporting children's vocabulary and narrative skills in the preschool years, by way of an intervention.

While the study did itself produce some favourable results for receptive vocabulary and MLU, a number of important lessons have emerged, for policy, for practice, and indeed for further research. Younger children's literacy levels benefit from oral language interventions, and this has a long-term impact on their lives. The findings in the current study highlight the long-term developmental importance of early input for language development, and, in turn, the impact that this input can have on literacy levels. Thus, the issue of literacy standards in children is, or should be, of national concern.

The HLE of the children in this study was not correlated with children's oral language outcomes; it would be important to explore this finding further and confirm it in future research. The relationship between the children's siblings and the first language of the parent and productive vocabulary highlights the importance of family involvement in language development. Policy-makers responsible for Early Years issues should consider measures to enhance the involvement of parents in their children's language development and support the building of relationships between professional practice in this area and the home.

Having a strong theoretical foundation, and now being supported by experimental evidence from this study, this intervention (*Let's Talk*) can be used as a Professional Development tool for supporting language development by practitioners in the Early Years in the UK in the future. It can be used to support children who are aged between three and five years and who have English as an Additional Language, alongside children who have English as their native language. It could also be useful

in working with children from areas designated as socially disadvantaged, where we know that language development in young children is lower than their more socially advantaged peers.

There is potential to investigate the links between the components of this intervention and narrative development on a larger scale in the future.

This study addressed the gap in the literature pertaining to experimental research on narrative and vocabulary development in young children. The results of this study add weight to the claim that early childhood interventions can support children's educational attainment, prior to school entry. This is its contribution to knowledge, practice and policy.

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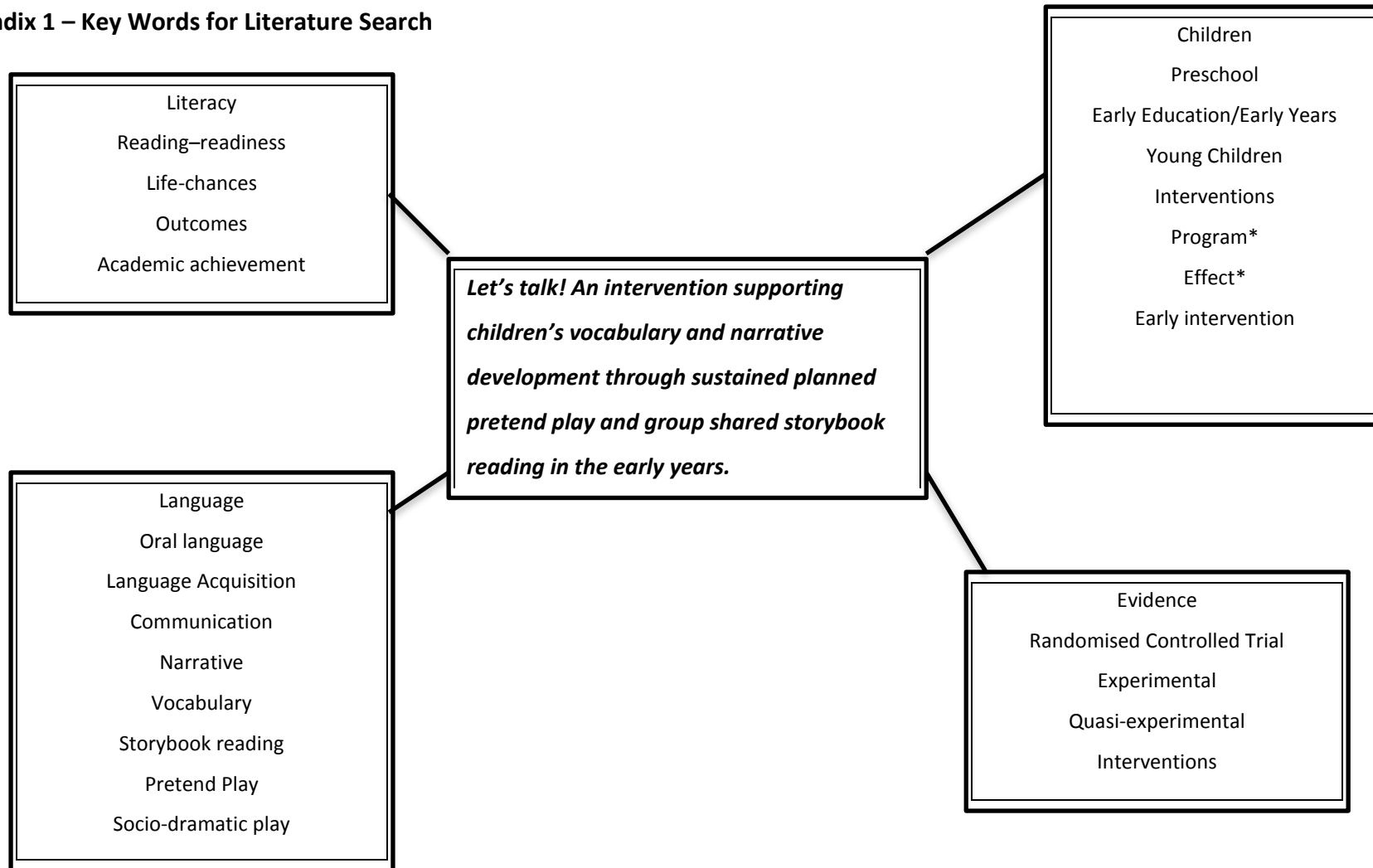
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Appendices

Appendix 1 – Key Words for Literature Search



Appendix 2 - Overview of Week 1 (Theme 1 - Household)

Week	Theme	Learning Activities Session 1 (Storybook Reading)	Learning Activities Session 2 (Pretend Play)	Link to EYFS (Communication and Language)	Resources
1	Household	Objectives for Session 1: That the child be enabled to: 1. Listen attentively 2. Make predictions about the story 3. Enjoy listening to language 4. Use spoken language 5. Express himself using new vocabulary 6. Join in with the repeated refrain 7. Sequence the story using picture cards 8. Introduced to the puppet and begin to interact with it Summary of Session: • Children discuss the book before it is read and make predictions about its content • Children listen to story and answer questions and explore new vocabulary • Children learn refrain • Puppet interacts with the children, asking questions and setting small tasks for them • Children complete a sequencing activity	Objectives for Session 2: That the child be enabled to: 1. Discuss story from Session 1 2. Draw what props would be required for play and their position 3. Use new vocabulary from storybook in play 4. Interact with the researcher-in-role 5. Discuss the play session 6. Review his/her role in play through re-examination of the plan Summary of Session: • Sequence and events in the story is recapped with children • Researcher-in-role as a character from the story who outlines a dilemma that he/she needs help with • Children discuss and plan what role they will play and what props will be required for play • Children engage in pretend play • Children review the role they and others played in the play episode	Listening and Attention: 1. Listens to others one to one or in small groups, when conversations interest them; 2. Joins in with repeated refrains and anticipates key events and phrases in rhymes and stories Speaking: 1. Beginning to use more complex sentences to link thoughts 2. Uses language to imagine and recreate roles and experiences in play situations Understanding: Beginning to understand “why” and “how” questions EYFS Early Learning Goal: Children listen attentively in a range of situations. They listen to stories, accurately anticipating key events and respond to what they hear with relevant comments, questions or actions. They give their attention to what others say and respond appropriately, while engaged in another activity.	<i>A squash and a squeeze</i>, Julia Donaldson, Axel Scheffler Sequencing cards MP3 of song Props from the house, e.g. chairs, table, jug, cups plates etc. Paper Pencils Crayons

Theme 1- Session 1

Storybook reading			
Theme	Time	Children	Resources
Household	20 minutes	5 children	<i>A squash and a squeeze</i> , Julia Donaldson, Axel Scheffler, Sequencing cards, MP3 of song
New vocabulary			
Household tablecloth, rug, jug, mantelpiece, vase* , candle, curtains, larder, teapot, cup and saucer, window Food: carrots, eggs, onions* , potatoes, garlic, salt, flour, honey, sugar, lettuce, Size: tiny, titchy, teeny, poky, weeny, enormous, gigantic, Miscellaneous: Squash, Squeeze, grumble, grouse, curious, flapped, , tickle, trod, nibble, charged, jig, shooed, shoved, huffed and puffed, frolics, wise			

*words to be tested in researcher-designed test

Part One
Warm-up - The children sit in a circle and researcher starts by saying name and shouting out word “sunshine” and waving hands. Around the circle the children do the same. Introducing the puppet In this first session the puppet will be introduced to the children for the first time. The researcher: - Brings him in an attractive box. The box contains photograph album with photos of puppet - Creates suspense about the contents of the box. - Explains that the puppet is shy until the children get to know him, so the children are encouraged to ask him questions and make him feel welcome. - Tells the children that the puppet likes to read and that he has brought a special book for the children that he would like the children to read with him and the researcher.
Puppet’s role in storybook reading The puppet has an important role in the storybook reading session in helping the children to stay focused and interacting with the children. - The puppet sits on the researcher’s knee throughout the storybook reading - The puppet can turn the pages of the book - The puppet can whisper various questions into the ear of the researcher for the researcher then to ask to the children - The puppet reacts to the story – laughing, shocked etc. - By the end of the lesson the puppet may be starting to converse directly with the children

Part Two
Before reading: - The researcher can ask questions regarding the cover of the book, - Where the story is situated, what types of animals are there, who the lady might be and why she has her hand up to her mouth, what time of year it is. - It is important to follow up the children’s answers with why and how do you know questions. - The puppet can indicate that he would like to ask a question to engage the children: Why has the hen got a worm in her mouth?
Reading the Book: Page 1 - Bring the children’s attention to the picture using the puppet - Ask children to identify the table, chairs, teapot, tablecloth, vase, plant-pot, jug in the picture Question from puppet: What age is the lady? How do you know?

Page 2 • Read the page • Create a voice for the old lady • Puppet suggests that any time the rhyme: “Wise old man, won’t you help me please? My house is a squash and a squeeze” that the children join in and sing it the same way. Practise this (using the MP3) • Puppet suggests: when the “wise old man is said” the children join in with this and say it slowly • What is wise? How do we know that the old man is wise? Is the old woman wise? What is the difference between the two?
Page 3 • Read the page • Create a voice for the wise old man • What does curious mean? • Puppet asks: What animal is left outside?
Page 4 • Read the page • What is a fireside rug? • Can you flap around the room like the hen? • What is falling on the floor?
Page 5/6 • What is in the lady’s hand? • Read the page • What does poky mean? • What does it mean that the lady has a tickle in her nose? • say rhyme (with puppet)
Page 7/8 • Read page – taking care to use the voice for the old man • Is the goat happy? Why not? • Where did the egg come from? • What are the other things up on the mantelpiece? • What does trod mean? • Why is the goat eating everything? • Puppet asks: Who came into the house first? Then who? (repetition of order of animals is important)
Page 9/10 • Read the page • Why is the goat itchy? • Who is watching through the window? • Repeat rhyme together
Page 11/12 • Read the page • What is the pig eating? Carrots, potatoes, apples, onions. • Puppet asks: What will happen next? • How many are in the house now? Who came in first? Then who? • What is a larder? What foods are in the larder? What would you like to put in the larder?
Page 13/14 • Read the page • Repeat rhyme • What does teeny mean? • What is the pig eating now? • Why are the animals sleeping?
Page 15/16 • Read the page

- Why does the lady have a stick in her hand - What is tapping out a jig? Play CD of Irish music and puppet taps out a jig – make it humorous - What will happen to the table? Why? - What does charged mean?
Page 17/18 - Read the page - Repeat rhyme - What does “tearing my hair out” mean? - What do you think will happen next?
Page 19/20 - Read pages Puppet asks what are the green things on the windows? - Who did she put out first? Then who? - Who did she have left to put out? - Why did not put the pig and the goat out the window?
Page 21/22 - Read page - What does enormous/gigantic/grumble/grouse mean? “Huffed and puffed” – what other story uses that? Puppet suggests they all huff and puff together.
Page 23/24 - What is that for? (point to broom) - Do you think the house looks different? Why? (new curtains) - Read pages Puppet dances with the children: Fiddle-de-dees
Part Three
Activity - Children put the animals (picture story cards) in the correct sequence. - Children take a picture each and tell the puppet what happened in the story on their card - Children are asked to volunteer to tell the puppet the whole story using the cards.

Theme 1- Session 2

Planned Pretend Play			
Theme	Time	Children	Resources
Household	30 minutes	5 children	<i>A squash and a squeeze</i> , Julia Donaldson, Axel Scheffler, Sequencing cards, props: Chairs, tables, cups and saucers, tea-pot, scarf for old woman/hat for wise old man
New vocabulary			
Household tablecloth rug, jug, mantelpiece, vase* , candle, curtains, larder, teapot, cup and saucer, window Food: carrots, eggs, onions* , potatoes, garlic, salt, flour, honey, sugar, lettuce, Size: tiny, titchy, teeny, poky, weeny, enormous, gigantic, Miscellaneous: Squash, Squeeze, grumble, grouse, curious, flapped, , tickle, trod, nibble, charged, jig, shooed, shoved, huffed and puffed, frolics, wise			

*words to be tested in researcher-designed test

Part One
• Before the children will have entered the room the missing necklace should be hidden somewhere in the room or suggested playing area. Warm-up: • Mirroring: children copy the researcher's movements –by using mime Revising the story • Children sit in circle and revise the story using the sequencing cards • Discuss what It might be like to be an animal in the story • Suggest that the children explore physical characterization of animal, repeat for other animals in the story • Explain to the children that you (the researcher) will be going into role. When you put on a scarf (for old woman) or hat (for wise old man) you are in role. • RIR (researcher in role) – explain to the children that since the animals came into the house, a necklace has gone missing. • It was given by old lady's grandmother. It is very old and special to her, so she is very sad that it has gone missing. She would like the children to help her find it by children becoming a character/animal and retracing the story. • RIR gives the children a clue to help them: The old woman thinks she last saw the necklace when the animals were being put out. Mature intentional play planning • Children discuss, plan and discuss what character they will play, where they will place the various pieces of furniture for the play areas. RIR during this • Prompts: What animal will you play? Where will we set up each part of the house? What do we need from the household? • The vocabulary is revised from the book helping the children to identify what props they need and whether they need to improvise any props. • The playing area is set out.
Part Two
Play episode • Play episode commences with Researcher in Role with the children guiding the episode. • Once the children, who are in role, are engaged in the play, the researcher leaves the episode. • He/she can enter back in at any stage. • Once the children have been playing for approximately 10 minutes (or when at least 3 of the animals have been put into the house), the researcher re-enters the play and suggests that they start to look for the items, if they have not been found. If the children have not managed to further the play the researcher can offer support through suggesting ideas • Researcher can guide the children towards where the items are by helping the children to figure out where to look.
Part Three
Reflection • Once the items are found, the group reconvenes to the circle • Children and researcher discuss the play session with questions from the researcher: ○ What did you enjoy most about being a...? ○ How did you help the old lady? Who was your favourite character? • Children re-examine the play session and their drawings of their plans and chat about any aspect that they can remember from the session that was different.

Appendix 3 – Power and Sample size**A Priori Sample Size****Estimation**

Enter (in yellow area) the α -error rate, the desired power (1 - β) and the anticipated effect size

α -error probability	0.05	$ z_{1-\alpha/\text{tails}} $	1.9599639
Desired Power	0.7	$ z_\beta $	0.6744897
Estimated Effect Size	0.5	n(One Group)	46
Tails	2	Total Sample Size	92

tails	α	z_{crit}
2	0.05	1.96

$$n = \frac{2 \left(|z_{1-\alpha/\text{tails}}| + |z_\beta| \right)^2}{d^2}$$

	d										
Power	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	1	1.2	1.4
0.25	*	*	*	*	*	*	*	*	*	*	*
0.5	769	193	86	49	31	22	16	13	8	6	4
0.6	980	245	109	62	40	28	20	16	10	7	5
2/3	1144	286	128	72	46	32	24	18	12	8	6
0.7	1235	309	138	78	50	35	26	20	13	9	7
0.75	1389	348	155	87	56	39	29	22	14	10	8
0.8	1570	393	175	99	63	44	33	25	16	11	9
0.85	1796	449	200	113	72	50	37	29	18	13	10
0.9	2102	526	234	132	85	59	43	33	22	15	11
0.95	2599	650	289	163	104	73	54	41	26	19	14
0.99	3675	919	409	230	147	103	75	58	37	26	19

* We are considering only values of beta greater than 0.5

A power value of 0.25 corresponds to a beta equal to 0.75

Appendix 4 – Consent forms/Letters/Information to settings and Parents**UNIVERSITY OF OXFORD
DEPARTMENT OF EDUCATION**

15 Norham Gardens, Oxford OX2 6PY
Tel: +44(0)1865 274024 Fax: +44(0)1865 274027
general.enquiries@education.ox.ac.uk www.education.ox.ac.uk

Director Professor Anne Edwards



Headteacher

Oxon.

22nd October 2012

Dear _____,

My name is Gillian Lake and I am currently reading for a Doctorate in Education at University of Oxford. As part of this, I am researching children's oral language skills. As you know, children's talk takes a leap forward between the ages of 2-4 years. I am particularly interested in measuring this progress and supporting it and I am hoping that Nursery might agree to help me carry out this research.

I have developed a fun and exciting new programme that aims to improve children's talk in a child-friendly way. The programme takes place through two twenty minute classroom-based sessions per week, one using story-book reading with a puppet and another through planned pretend play. An exemplar of a typical session is contained in the information leaflet included with this letter. The twice-weekly sessions are based on a series of topics that are interesting to young children and I would really appreciate your help in evaluating its effectiveness and enabling it to become an evidence-based oral language intervention for young children in the future.

Should you agree, I am hoping that you will permit me:

1. To obtain the consent of parents of children who are 3-4 years of age to assess their child's language skills at the beginning of the study.
2. To ask parents of the children involved to fill out a short anonymous questionnaire.
3. To randomly allocate the children for whom I received consent to a control and an treatment group.
4. To visit the school to carry out the intervention for a total of two sessions per week for children in the treatment group and offer some fun maths activities to the children in the control group as an alternative to the language programme.
5. To administer some follow-up assessments, at the end of the intervention with the children for who consent was obtained.

I have extensive experience of working with young children as I was a Primary School Teacher in Ireland for many years. I also have received ethical clearance through the

University of Oxford's ethical approval process for research and have an enhanced CRB. Furthermore, *Let's Talk* was piloted earlier this year and feedback from the children and practitioners was very positive.

If you agree to take part in the study, I am hoping that you might also distribute some information leaflets on the study to the parents of the children in this age-group? I have included these and a more detailed information leaflet for your perusal.

A summary of the successful elements of the intervention itself will be available to you afterwards, as you may wish to use it to inform your oral language planning for the children in your setting. Please do not hesitate to contact me if you have any questions regarding the study. I look forward to hearing from you and trust that this will be a worthwhile experience for all involved.

Yours sincerely

Gillian Lake

Email: gillian.lake@education.ox.ac.uk

Tel:

Letter to parents**UNIVERSITY OF OXFORD
DEPARTMENT OF EDUCATION**

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Director Professor Anne Edwards



Let's Talk!

Dear Parents/Carers,

My name is _____ and I am currently researching children's oral language skills at the University of Oxford.

Your child's school has agreed to be included in this study and I would like to invite you and your child to take part. I would be grateful if you could read the enclosed information leaflet which explains you and your child's role in the study and if you wish to participate in *Let's Talk!* please sign the form below and return it to the school by _____.

I would greatly appreciate your input and I hope that being part of it will be a worthwhile experience for both you and your child. If you have any questions please do not hesitate to contact me for further information.

@education.ox.ac.uk

Consent Form for *Let's Talk!* (Please tick)

- ☐ I have read and understand the information leaflet on the above study.
- ☐ I have had the opportunity to ask questions and have received satisfactory replies to those questions I have posed, in addition to any requests for further details about the study.
- ☐ I understand that I may withdraw from the study at any time without giving any further explanation by letting the researcher know.
- ☐ I understand that this study has been reviewed by, and received clearance through, the University of Oxford Central University Research Ethics Committee.
- ☐ I understand how to contact the researcher/supervisors if I have any concerns.
- ☐ I give permission for my child to take part in the above study.
- ☐ I wish to take part in the above study.

Name of child: _____ Date of Birth of child: _____

Name of parent/carer: _____

Signature of parent/carer: _____ Date: _____

Name of researcher: _____

Information Leaflet (settings)

Let's Talk!

I am looking for your help in examining children's oral language skills in the Early Years. This programme is the first of its kind so your contribution would be invaluable.



Further information on the study can be found in this leaflet and should you agree, I hope that being part of this study will be both a worthwhile and enjoyable experience for you and the children in your school.

Contact Details:

If you would like any more information about the study please do not hesitate to contact:

Researcher: Gillian Lake
Email: gillian.lake@education.ox.ac.uk
Tel: 07789 295665

Supervisors:
Dr. Maria Evangelou
Email: maria.evangelou@education.ox.ac.uk
Professor Kathy Sylva
Email: kathy.sylva@education.ox.ac.uk

Chair of Ethics committee (DREC)
Dr. Lars-Eric Malmberg
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Let's Talk!

Supporting children's vocabulary and story retelling in the early years



Let's Talk!



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Department of Education
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Let's Talk!**Background to the study**

My name is Gillian Lake and I am currently reading for a Doctorate in Education at University of Oxford. As part of this, I am researching children's oral language skills.

As you know, children's talk takes a leap forward between the ages of 2-4 years. I am particularly interested in supporting this progress and I am asking for your help to do so.

The Programme

I have developed an exciting new programme that aims to improve children's talk in a child-friendly way. The programme will take place through two sessions per week in the classroom. The twice-weekly sessions will be based on a series of topics that are interesting to young children.

Exemplar:

Session 1: A puppet arrives with me in a brightly-coloured box with a special gift for the children: a book. The puppet (operated by me) wishes the children to read it with me and we chat about and enjoy the book with musical interludes and fun.

Session 2: The story is recapped in a circle using picture cards. I invite the children to come into the world of make-believe of the book and we engage in planning and executing a pretend play.

It is directly targeted at supporting the vocabulary and story retelling skills of the children who take part.

Why choose our school?

I randomly chose your school for *Let's Talk* because it is a modern, outward looking school with a high emphasis on maximising every child's potential. As the school is situated within the Oxfordshire area, it fits the purpose of the study well.

What part will our school play in *Let's Talk*?

I am asking that you will inform parents of 3-4 year old children in your setting about *Let's Talk* and give them an information leaflet and a consent form.

Unless the parents choose not to participate in the study, I am hoping that, with their permission you will allow me to administer some language assessments with their children aged 3-4 years. Then I am hoping you will agree to let me visit the school to carry out the programme for a total of two sessions per week with a randomly selected experimental group. If the children have not been randomly selected into the programme, then they will complete some Mathematics activities as an alternative. Following this, I am hoping you will also allow me to measure the children's progress after the intervention using the same tests as before.

Ethics

This study has received ethical clearance from University of Oxford Central University Research Ethics Committee.

What will happen to the data collected?

All information collected will be kept anonymous and confidential, password protected and will only be referred to by my supervisors and me. I will make sure that no child's name, or indeed the school's name will be mentioned in this study.

What will our school gain from *Let's Talk*?

As the effects of the combination of storybook reading and pretend play have not been investigated like this before, this study will provide strong evidence of oral language development in children. The successful elements of this evidence-based intervention can then be used when planning language activities in the future. Also, the children will be engaging in fun-filled activities whilst learning at the same time.



Information Leaflets (parents)

Let's Talk!

Dear Parents/Guardians,

I am looking for your help in examining children's oral language skills in the Early Years. This programme is the first of its kind so your contribution would be invaluable.

Further information on the study can be found in this leaflet and should you agree, I hope that being part of this study will be both a worthwhile experience for you and your child.



Contact Details:

If you would like any more information about the study please do not hesitate to contact:

Researcher: Gillian Lake
Email: gillian.lake@education.ox.ac.uk
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Supervisors:
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Let's Talk!

Supporting children's vocabulary and story retelling in the early years



Let's Talk!



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Department of Education
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Let's Talk!**Background to the study**

My name is Gillian Lake and I am currently researching children's oral language skills at the University of Oxford.

As you know, children's talk takes a leap forward between the ages of 2-4 years. I am particularly interested in supporting this progress and I am asking for your help to do so.

I have developed an exciting new programme that aims to improve children's talk in a child-friendly way. I seek, in this study, to check what impact it might have on children's language skills.

The Programme

The programme takes place through two sessions per week in the classroom. The twice-weekly sessions are based on a series of topics that are interesting to young children.

Example of a typical week in the programme:

Session 1: A puppet arrives with me in a brightly-coloured box with a special gift for the children: a book. The puppet (operated by me) wishes the children to read it with me and we chat about and enjoy the book with musical interludes and fun.

Session 2: The story is recapped in a circle using picture cards. I invite the children to come into the world of make-believe of the book and we engage in

planning and executing a pretend play.

It is directly targeted at supporting the vocabulary and story retelling skills of the children who take part.

Questions you may want to ask:**Why choose my child's preschool?**

I chose this preschool for *Let's Talk* because it is a modern, outward looking setting that is dedicated to maximising every child's potential, so it is an ideal environment in which to carry out the study.

What will I have to do in *Let's Talk*?

I am hoping that you will help me to measure the effectiveness of the programme.

Step 1. Should you agree, I hope to work with your child for approximately half-an-hour during school hours to measure their progress in vocabulary and story retelling.

Step 2. With your consent, your child may be randomly selected to enter the programme. If they are selected, I am hoping that you will be happy for me to work with your child twice a week, in a small group, for approximately twenty minutes each time, during school hours. I also hope you will allow me to audio-record their responses in the play sessions. If they are not randomly selected to be part of this programme, they will instead complete some fun-filled Mathematics activities with me twice-weekly.

Step 3. Then, with your permission, I will measure your child's progress in vocabulary and story-retelling again at the end of the programme.

Step 4. In order to get an overall picture of whether the programme is targeting children accurately, I am hoping that you will also complete a short anonymous questionnaire.

Do I have to take part?

No, participation is entirely voluntary and you are free to withdraw at any time without giving any further explanation and by letting me know about your decision.

What will happen to the data collected?

All information collected will be kept anonymous and confidential, password protected and will only be referred to by my supervisors and me. I will make sure that no child's name, or indeed the preschool's name will be mentioned in this study.

Ethics

This study has received ethical clearance from University of Oxford Central University Research Ethics Committee.



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Appendix 5 – Score sheets**Concepts about Print**

ID:	
Date:	
Score:	

Key: **S** = Say**R** = Read Text**P** = Point

- Say: "I am going to read you this story but I want you to help me"

Item	Page(s)	Action	Say	Score
1	cover	S*	Show me the front of this book 1 point for correct	
2	2/3	S then R	I'll read this story. You help me. Show me where to start reading. Where do I begin to read? 1 for print / 0 for picture	
3	4/5	S	Show me where to start. 1 top left	
4	4/5	S	Which way do I go? 1 for L to R	
5	4/5	S	Where do I go after that? 1 for return sweep to L	
6	4/5	S then R	Point to it while I read it. 1 for exact matching	
7	6	R then S	Show me the first part of the story. Show me the last part. 1 point for both (if correct in any sense)	*
8	7	S	Show me the bottom of the picture.	*
9	8/9	S then R	Where do I begin? Which way do I go? Where do I go after that? 1 for I or for turning the book around	
10	10/11	S then R	What's wrong with this? Read bottom line first 1 for comment on line order	*
11	12/13	S	<i>Where do I start reading?</i> 1 for left page indication	
12	12/13	S / P / R	What's wrong on this page? (Point to the page number 12 not text) 1 point for comment on either error	
13	13	S / P / R	What's wrong on this page? (Point to the page number 13 not the text) 1 point for any 1 error noticed	
14	14/15	S then R	What's wrong with the writing on this page? 1 point for any 1 error noticed	
15	14/15	S then P	<i>What's this for? (?)</i> 1 point explanation or name	*
16	16/17	R / S / P	<i>What's this for? (.)</i> 1 point explanation or name	*
17	16/17	S then P	<i>What's this for? (,)</i> 1 point explanation or name	*
18	16/17	S then P	<i>What's this for? (" ")</i> 1 point explanation or name	*
19	16/17	S then P	Find a little letter like this (T, t/ B,b) 1 point if both found	*
20	18/19	R then S	Show me was. Show me no. 1 point for both	*
21	20	S	This story says: The stone rolled down the hill; I want you to push the cards across the story like this until all you can see is 1 letter. Now show me 2 letters. 1 point of both correct	*
22	20	S	Show me just one word. Now show me two words. 1 point of both correct	*
23	20	S	Show me the first letter of a word. Show me the last letter of a word. 1 point of both correct	*
24	20	S	Show me a capital letter. 1 point if correct	*

Instructions

- Score items 3-5 if all movements are demonstrated in one response.
- Do not administer items 12, 13 at 4 years of age.
- If the child can read administer the items with an * on the score column only and allow the child to read you the whole booklet.
- Ask the *items as you reach each page.
- Praise the child at the end!
- Children can score a maximum of 21.

Vocabulary Test, Gillian Lake

Child ID:.....			Date:.....	Score:.....
Vocabulary				
1	Vase		Name that word 1. Show the picture of the word on ppt 2. Say: <i>Can you tell me what this is?</i> <u>OR</u> <i>what is this?</i> 3. One point per correct answer ** Acceptable alternative answers are in parenthesis after each word	
2	onion			
3	Violets (flowers)			
4	Fabric			
5	Rowboat (boat)			
6	harbour			
7	Signpost			
8	Roundabout			
9	sandwich			
10	Slice (pizza)			
11	Dessert (ice-cream)			
12	Pineapple			
13	Basket			
14	shopkeeper			
15	Purse			
16	Escalator (moving stairs)			
17	Uniform (clothes)			
18	Postcard (post)			
19	Dentist			
20	patient			
TOTAL				

BAS II – Verbal Comprehension**Chronological age:.....School:.....Date:..... Score:.....**

Teddy Bear What is this? Yes, it's a teddy bear. Have a good look at it.

	Item	Current Response	Score 0-1
SP 2:6 – 3:11	1	Show me teddy's eyes.	
	2	Show me teddy's legs.	
	3	Show me teddy's arms.	
	4	Show me teddy's ears.	
	5	Show me teddy's mouth.	

Toys Look at these toys.

	6	Give me the horse.	
	7	Give me the car.	
	8	Give me the watch.	
	9	Put the horse in the box.	
SP 4:0 – 7:11	10	Give me the one that shows the time.	
	11	Give me the one we draw with.	
2:6 – 3:11 ?	12	Give me all the animals.	

Inset tray Look at all these: Bridge, house, etc Show me the car. Stand it up.

	13	Put a tree behind your back.	
	14	Make the van move to me.	
	15	Make a child stand on the bridge.	
	16	Put the car under the bridge.	
	17	After I put down the tree, pick up the car.	
	18	Make the two children face each other.	
	19	Put the tree that is little next to the house that is big.	
	20	Before you give me the van give me the little house.	
	21	Put a house on each side of the car.	
	22	While you touch the van, give me the car.	
4:0 – 7:11 ?	23	Put a child between the trees.	

Coloured shapes Look at all these coloured shapes. Show me the blue shapes. Show me the square shapes.

	24	Put the circle farther away from you than the square.	
	25	Give me the shapes that are blue but not round.	
	26	Pick up the circles if they are blue and yellow.	
	27	Give me all the red shapes except the square.	
	28	Give me all the shapes that are neither yellow nor blue.	
	29	Give me not only all the red but also all the round shapes.	
4:0 – 7:11 ?	30	Give me all the shapes that are neither red nor square.	

Pictures Listen to what I say, and show me the picture in the book that goes best with the story.

	31	Kevin wanted a skateboard but got a football:	4	
	32	Where the cat was followed by the dog:	2	
	33	Lisa's father works in the garden:	4	
	34	Carol wears her coat:	2	
	35	The boy she waved to was sitting down:	3	
	36	Mother said to Khalid:	1	
	37	When Barry's dad came home and the broken chair:	4	
	38	Karen was leaving for school and it started to rain:	2	
	39	Jane's father told children never to run in the road:	2	
	40	Mother said to Ben and Rachel:	3	

? < 3 failures: Continue < 3 passes: Go back Stop: 5 consecutive failures

BAS II - Picture Similarities

ID:.....D.O.B.....Chronological age:.....School:.....Area:.....Date:.....
Score:.....

Here is a row of pictures. Which picture does this one go with? Put it under the picture it goes with.

	Item		Score0-1
SP 2:6 – 3:5/3:6-4:5	1	The card goes here because it is just like this one	
	2	The card goes here because it is just like this one	
	3	The card goes here because these are both cuddly toys	
	4	The card goes best with this picture because you wear a sock on your foot	
	5	The card goes here because both of these pictures show things that fly in the air	
	6		
	7		
	8		
	9		
	10		
	11		
	12		
	13		
	14		
	15		
	16		
	17		
	18		
	19		
	20		
	21		
	22		
	23		
	24		
	25		
	26		
	27		
	28		
	29		
	30		
	31		
	32		
	33		
? 2:6-3:5		After item 23	
? 3:6-4:5		After item 28	

<3 failures: continue to next decision point, <3 passes and age is 3:6 or more go back to previous starting point, age <3:5 stop after failing 6 out of 8 consecutive items, age >3:6 provided that at least 3 items have been passed

BAS II - Naming Vocabulary

ID:.....D.O.B.....Chronological age:.....School:.....Date:.....
Score:.....

What is this? Or what is this called?

	Item	Correct Response	Score 0-1
SP 2:6 – 4.5	1	Shoe	
	2	Chair	
	3	Bicycle	
	4	Book	
	5	Key	
	6	Spoon	
	7	Horse	
	8	Duck	
	9	Telephone	
	10	Fish	
	11	Glasses	

SP 4:6-5:11	12	Scissors	
	13	Window	
	14	Brush	
	15	Watch	
	16	Ear	
	17	Rainbow	
	18	Feather	
	19	Tent	
	20	Sink	
Decision point 2:6 – 4:5 ?		After item 16	

	21	Triangle	
	22	Shell	
	23	Chain	
	24	Jar	
	25	Switch	
	26	Igloo	
	27	Paper clip	
	28	Fountain	
	29	Measuring jug	
	30	Hourglass	

? < 3 failures: Continue, < 3 passes: Go back, 5 consecutive failures: Stop

BAS II - Block Building

ID:.....D.O.B.....Chronological age:.....School:.....Date:.....
Score:.....

We are going to be making things with these blocks. Watch me first. I'm building a tower.

Age	Item		Score 0-1
SP 2:6 – 4.5	1	Now it's your turn. Build a tower just like mine.	
	2	Now watch again while I make something with these blocks. Give child 4 blocks and say "you make another just like this"	
	3		
	4	3 blocks	
	5		
	6		
	7	4 blocks	
	8		
	9		
	10		
	11		
	12		
	13		
	14		
	15		
	16		
? 2.6-4.11		After item 8	

All blocks correctly positioned, structure stands for >3 secs, overlaps and gaps between blocks no greater than ¼ inch, structure is not reversed or rotated by >45degrees

The British Picture Vocabulary Scale

Child ID:.....

Date:.....

Score:.....

1. Say: ***"Show me.../ Can you find where is... / Point to...What number is..."***
2. Do not use articles.
3. Remember to always present all 12 items in a set once it has been started.
4. Praise at the end of each set.
5. Stop after 8 or more responses are wrong per set of items.

Set 1	Start Aged 2 1/2 - 3	Correct	Scoring
1	hand	1	
2	baby	2	
3	cat	2	
4	jumping	4	
5	bus	4	
6	drinking	3	
7	tractor	4	
8	running	1	
9	gate	3	
10	reading	2	
11	cow	1	
12	drum	3	

Set 2	Start Aged 4-5	Correct	Scoring
13	ladder	2	
14	plant	1	
15	circle	4	
16	candle	2	
17	wooden	2	
18	nest	4	
19	dancing	4	
20	tortoise	1	
21	farmer	3	
22	cobweb	3	
23	neck	3	
24	penguin	1	

Set 3	Start Aged 6-7	Correct	Scoring
25	wrapping	4	
26	fruit	1	
27	smelling	3	
28	arrow	1	
29	teacher	2	
30	full	3	
31	panda	4	
32	exercising	4	
33	coin	2	
34	claw	1	
35	measuring	2	
36	peeling	3	

Set 4	Start Aged 8-9	Correct	Scoring
37	tambourine	1	
38	castle	2	
39	lock	4	
40	telescope	3	
41	dripping	2	
42	huge	3	
43	furry	4	
44	nostril	1	
45	roots	1	
46	vegetable	3	
47	diving	2	
48	liquid	4	

Bus Story Test

Information scoring Guide

Bold Type=2 points (1point If ½ response is correct) Normal Type = 1 point

<u>Bus</u>	naughty
<u>Driver</u>	mending/fixing
<u>Bus</u>	ran away/drove off met/ran with train in tunnel
<u>train</u>	alone
<u>bus</u>	into city/street met/saw policeman blew whistle
<u>policeman</u>	said stop
<u>bus</u>	paid no attention ran on/didn't stop into country tired of/bored with road jumped over fence/gate
<u>Cow</u>	met/saw cow moo
<u>Bus</u>	not believe eyes went downhill saw water tried to stop didn't know how brake/stop fell in water splash
<u>Driver</u>	stuck in mud
<u>Crane</u>	found bus/him
<u>bus</u>	rang for crane lifted out/pulled up back on road

Information Score	Transcription	Sentence Length	Subordinate Clause
Information Total	TOTALS		
	A5LS		

TNR - Story 1

I'm going to tell you a story. Please listen carefully. When I am finished I would like you to tell me the same story. Are you ready?

Yesterday, Anna and her family were eating at a restaurant. They got hamburgers and chips because they were Anna's favourite food. When they sat down at the table, Anna's dad stole a chip from her and ate it hungrily. She was cross because he ate her food. Anna said to him, "Please don't eat my food." He said he was sorry. Then he shared some of his chips with her.

Now you tell me that story

Scoring sheet

	2 points		1 point		0
Character	Anna/any name	2	The girl	1	
Setting	Eating at a restaurant/sitting at a table	2	Eating/restaurant/table/sitting	1	
Problem	Dad stole a chip/ate her food	2	Ate stuff/took food	1	
Emotion	Cross	2	Didn't like it/cried	1	
Attempt	Asked her dad not to eat her food/said please do not eat my food	2	Said to her dad/don't eat her food	1	
Consequence	Dad said he was sorry	2	Dad sorry	1	
Ending	Shared his chips with her	2	Shared some	1	
Opening	Yesterday	2	Any day	1	
TOTAL					
Grammar					
Causal markers	1 point every time 1 used				
Temporal markers	1 point for every temporal marker				
Dialogue	1 point per speaker				
Adverbs	1 point for each adverb				
Adjectives	1 point for each adjective				
TOTAL					
OVERALL TOTAL SCORE					

Appendix 6 – TNR adaptations**Original Story 1**

Last week Morgan was sitting in the doctor's office because she was sick. Morgan's throat hurt and she had a bad cough. She was sad because she didn't like being sick. When the doctor came into the room Morgan asked "Can I please get some medicine to make me feel better?" The doctor gave her some medicine to take. Then Morgan felt better and her cough went quickly away.

Story Grammar (structure)

Opening with time YES

Character named 4 times YES

Secondary character unnamed YES

Setting include action and general location YES

Initiating event (Problem) YES

Feeling related to problem YES

Attempt by main character YES

Consequence (what results from the attempt) YES

Ending (what happens after the event) YES

Linguistic complexity

68-70 words – YES

1 instance of dialogue YES

1 temporal conjunction "then" YES

1 left branching temporal subordinate clause "after, when" YES

2 right-branching causal subordinate clauses using "because" YES

Adjective YES

1 adverb YES

Changed Story 1

Changed "throat hurt " to "throat was sore" put "quickly" after away, changed name to Hannah

Last week Hannah was sitting in the doctor's office because she was sick. Hannah's throat was sore and she had a bad cough. She was sad because she didn't like being sick. When the doctor came into the room Hannah asked "Can I please get some medicine to make me feel better?" The doctor gave her some medicine to take. Then Hannah felt better and her cough went away quickly.

Original Story 2

The other day, Miguel was running in the house because his brother was chasing him. Miguel tripped over trucks that were left on the floor. Miguel was really sad because his hands hurt. He asked his brother "Will you help me clean them up?" Then his brother helped put the trucks away. After they picked the trucks up, Miguel and his brother had fun chasing each other around the house.

Story Grammar (structure)

Opening with time YES

Character named 4 times YES

Secondary character unnamed YES

Setting include action and general location YES

Initiating event (Problem) YES

Feeling related to problem YES

Attempt by main character YES

Consequence (what results from the attempt) YES

Ending (what happens after the event) YES

Linguistic complexity

68-70 words – YES

1 instance of dialogue YES

1 temporal conjunction "then" YES

1 left branching temporal subordinate clause "after, when" YES

2 right-branching causal subordinate clauses using "because" YES

Adjective YES

1 adverb **YES**

Changed story 2

Changed “picked the trucks up” to “picked up the trucks”, added “little” deleted really changed “. Miguel was sad because his hands hurt” to “Miguel was crying because he hurt his hand”

The other day, Michael was running in the house because his brother was chasing him. Michael tripped over trucks that were left on the floor. Michael was crying because he hurt his hand. He asked his brother “Will you help me clean them up?” Then his brother helped put the trucks away. After they picked up the trucks, Michael and his brother had fun chasing each other around the house.

Appendix 7 – Questionnaire

ID:

Let's Talk!



Dear Parents/Carers:

This study is researching children's oral language skills. As you know, children's talk takes a leap forward between the ages of 2-4 years. I am particularly interested in developing this progress in this study. To aid with gaining an overall picture of your child I would greatly appreciate if you could fill out the following questionnaire. Any information you give will remain anonymous and will only be viewed by my supervisors and me. Your child's name, or indeed the name of the school he/she attends will not appear anywhere in the report.

Thank-you very much for taking the time to help out. Please return the completed questionnaire to your child's preschool teacher in the envelope provided.

Please take a moment to fill in some details about yourself and your child:

- 1.** What is your child's date of birth ? ____ / ____ / ____
- 2.** What is your child's gender? (*please circle*): Female Male
- 3.** What is your relationship to your child? (*please circle*) Mother Father
Neither (*please specify*) _____
- 4. Are you:** (*please circle*) under 20 20-29 30-39
 40-49 50-59 60+
- 5. Are you:** (*please circle*) married single divorced
 separated widowed cohabiting
- 6. Do you live in a:** (*please circle*) House Mobile home Flat Bedsit
Other _____
- 7. Do you own or rent your home?** _____
(If rented)
- 7a. Is it a:** (*please circle*) Council property Housing association property
Other _____
- 8. Do you have other children?** (*please circle*) Yes No
- 8a. If you circled yes, please specify how many other girls, how many other boys and their ages:**
Girls: Ages: Boys: Ages:

ID: _____

9. Which ethnic group do you consider your **child to belong to? (please circle)**

White-British	Black-British	Indian
White-Irish	Black-Caribbean	Pakistani
White-Other	Black African	Bangladeshi
Asian-British	Black Other	Chinese
Asian-Other	Japanese	Mixed race
Other (specify) _____		

10. Which ethnic group do you consider that **YOU belong to? (please circle)**

White-British	Black-British	Indian
White-Irish	Black-Caribbean	Pakistani
White-Other	Black African	Bangladeshi
Asian-British	Black Other	Chinese
Asian-Other	Japanese	Mixed race
Other (specify) _____		

11. Is English **your first language? (please circle) Yes No**

(if no please give details) _____

11a. Is English your **child's first language? (please circle) Yes No**

(if no please give details) _____

12. How many hours per week does your child attend this early years setting ? _____ hours**Education****13. What is the highest level of Education you have achieved? (please tick as many as apply)**

- ☐ No formal qualification
- ☐ GCSE
- ☐ Vocational qualification (NVQ etc.) (please specify) _____
- ☐ A or AS Level
- ☐ Diploma of higher/further education or equivalent
- ☐ Bachelors or higher degree

Any other qualification (please specify) _____

Employment**14. Are you employed? (please circle) Yes No***[If no, skip to question 15]***14a. If yes, are you? (please circle)**

Employed full-time	Employed part-time
Employed full-time and studying	Employed part-time and studying
Studying (or training) full time	Seeking work/unemployed
Looking after children and home full-time	
Full-time or part-time carer for another adult	Other (please specify) _____

14b. If you do part-time work, how many hours a week do you work? _____ hours

14c. What job do you do? (please tick one)

☐ Managers, directors and senior officials

☐ Professional occupations

☐ Associate professional and technical occupations

☐ Small employers and own account workers

☐ Lower supervisory and technical occupations

☐ Semi-routine occupations

☐ Routine occupations

☐ Never worked and long-term unemployed

14d. Do you supervise people? If so, how many (approx.)? _____

Please skip the following questions if this does not apply to you

15. Is your partner employed? (please circle) Yes No

(If no, jump to question 16)

15a. If yes, is he/she? (please circle)

Employed full-time	Employed part-time
Employed full-time and studying	Employed part-time and studying
Studying (or training) full time	Seeking work/ unemployed
Looking after children and home full-time	Full-time or part-time carer for another adult
Other (please specify) _____	

15b. If he/she does part-time work, how many hours a week does he/she work? _____

15c. What job does he/she do? _____

15d. Does he/she supervise people? If so, how many (approx.)? _____

16. Could you indicate which of the following you or your partner receive? (please tick as many as apply)

☐ Child benefit

☐ Working tax credit

☐ Child care tax credit

☐ Job seeker's allowance

☐ Income support

☐ Housing benefit

☐ Council tax benefit

☐ Disability allowance

☐ Carer's allowance

☐ Maternity allowance or pay

Other (please specify) _____

LLJ.

Children's language17. Can your child understand instructions such as "Find the jumper that Granny gave you"? *(please circle)*

Never

Sometimes

Often

18. Does your child stumble or get stuck on words or repeat them many times? *(please circle)*

Yes

No

19. Can you understand what he/she says? *(please circle)*

Rarely

Sometimes

Mostly

20. Can your family understand what he/she says? *(please circle)*

Rarely

Sometimes

Mostly

21. How often does your child talk to: *(please tick)*

	Never	Sometimes	Often
Parents			
Grandparents			
Friends			
Siblings			
Teacher			
Other adults			

22. Does your child sing songs (even if the words are not clear)? *(please circle)*

Never

Sometimes

Often

23. Does he/she talk but the words are in the wrong order? *(please circle)*

Never

Sometimes

Often

24. Please rate the following with regard to your child's language development: *(please tick)*

	1 not important	2 Important	3 very important
Adequate toys			
Parental/carer time			
Experience in early years setting			
Friendships			
Day Trips			
Loving environment			
Holidays			
Books			

25. Does your child ask questions? *(please circle)*

Yes

No

26. When did your child say his/her first words? _____ years _____ months

27. Does your child attend any activities outside pre-school/nursery? *(please circle)*

Yes

No

(If yes please specify)

ID: _____

Please take some time to fill out the following section:

How often do you or someone else at home....(please tick one box for each question)							
Read to your child?	Occasionally or less than once a week	Once a week		Several times a week		Once a day	More than once a day
	☐	☐		☐		☐	☐
Take your child to the library?	On special occasions	Once a month		Once a fortnight		Once a week	
	☐	☐		☐		☐	
Teach your child a sport, dance or physical activities?	Occasionally or less than once a week	1-2 days per week	3 times a week	4 times a week	5 times a week	6 times a week	7 times a week
	☐	☐	☐	☐	☐	☐	☐
Play with your child with letters at home?	Occasionally or less than once a week	1-2 days per week	3 times a week	4 times a week	5 times a week	6 times a week	7 times a week
	☐	☐	☐	☐	☐	☐	☐
Teach your child the ABC or alphabet?	Occasionally or less than once a week	1-2 days per week	3 times a week	4 times a week	5 times a week	6 times a week	7 times a week
	☐	☐	☐	☐	☐	☐	☐
Teach your child numbers?	Occasionally or less than once a week	1-2 days per week	3 times a week	4 times a week	5 times a week	6 times a week	7 times a week
	☐	☐	☐	☐	☐	☐	☐
Teach your child songs, poems or nursery rhymes?	Occasionally or less than once a week	1-2 days per week	3 times a week	4 times a week	5 times a week	6 times a week	7 times a week
	☐	☐	☐	☐	☐	☐	☐

And finally...

Thank you very much for giving up your time to do this. Please be assured that any information you provided will remain anonymous. If you would like any more information about the study, please do contact me by any of the ways listed below. Thanks again.

Gillian

E: gillian.lake@education.ox.ac.uk
T: 07789295665



University of Oxford
Department of Education
15 Norham Gardens
Oxford OX2 6PY

Appendix 8 – CUREC Approval

Original Message -----

From: [Research Office](#)

To: [Gillian Purcell](#)

Cc: [Maria Tsitiridou Evangelou](#)

Sent: Wednesday, April 25, 2012 11:06 AM

Subject: CUREC Application Approval

25/04/2012

Dear Gillian Purcell,

Application Approval

Title: "Let's talk! Improving oral language through sustained planned play and storybook reading in the early years."

The above application has been considered on behalf of the Departmental Research Ethics Committee (DREC) in accordance with the procedures laid down by the University for ethical approval of all research involving human participants.

I am pleased to inform you that, on the basis of the information provided to DREC, the proposed research has been judged as meeting appropriate ethical standards, and accordingly approval has been granted.

Should there be any subsequent changes to the project which raise ethical issues not covered in the original application you should submit details to DREC for consideration.

Good luck with your research study.

Yours sincerely,

Justina Kurkova

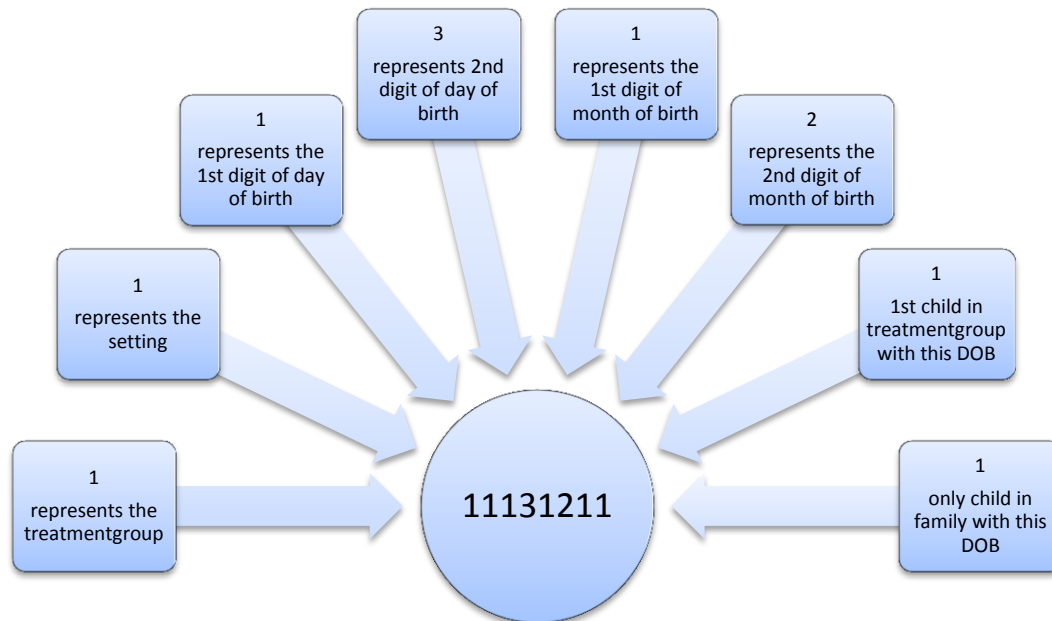
Research Office Assistant

Appendix 9 – ID Numbers

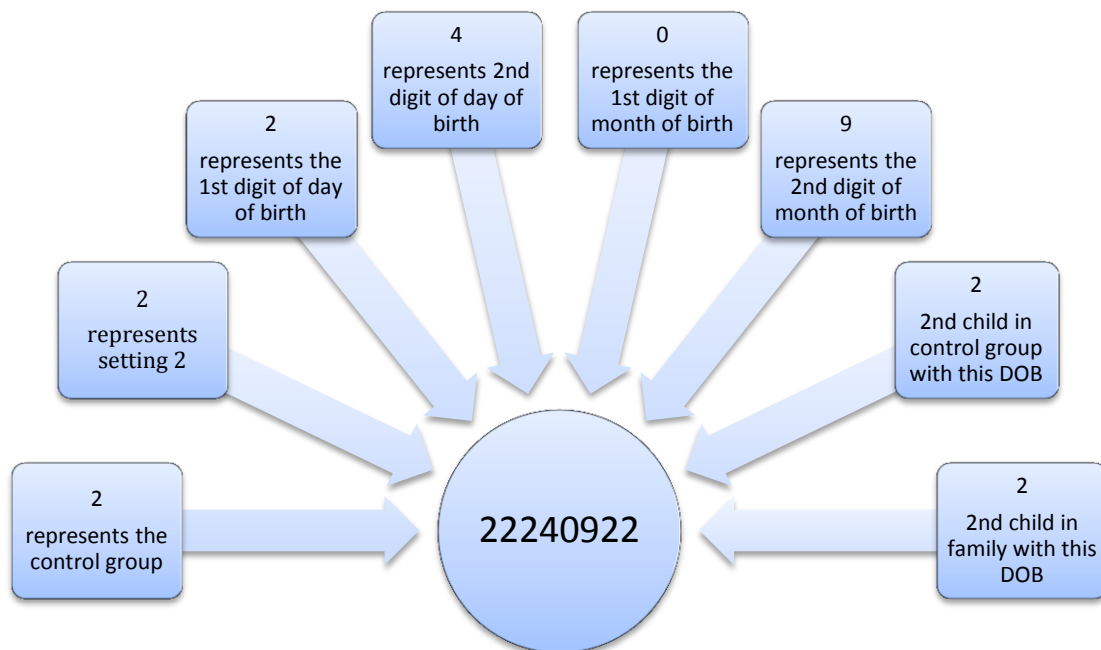
Each child was allocated an eight digit number making use of their date of birth.

Example 1:

The date of birth of the child from the treatment group in this hypothetical case is 13/12/2005.

**Example 2:**

This date of birth of this child from the control group in this hypothetical case is 24/09/2004, but she has a **twin sister**.



Appendix 10 – Comparison of Demographics – Pilot Study

Chi-Square Tests – Marital status			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.797 ^a	2	.407
Likelihood Ratio	2.558	2	.278
Linear-by-Linear Association	1.464	1	.226
N of Valid Cases	37		
a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .46.			

Chi-Square Tests – Ethnicity of child			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.278 ^a	7	.309
Likelihood Ratio	10.946	7	.141
Linear-by-Linear Association	.169	1	.681
N of Valid Cases	37		
a. 14 cells (87.5%) have expected count less than 5. The minimum expected count is .46.			

Chi-Square Tests – Ethnicity of parent			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.726 ^a	7	.458
Likelihood Ratio	9.008	7	.252
Linear-by-Linear Association	.123	1	.726
N of Valid Cases	37		
a. 14 cells (87.5%) have expected count less than 5. The minimum expected count is .46.			

Chi-Square Tests – Education of parent			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.823 ^a	3	.185
Likelihood Ratio	6.383	3	.094
Linear-by-Linear Association	.140	1	.709
N of Valid Cases	37		

Chi-Square Tests – Employment status of parent			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.218 ^a	3	.239
Likelihood Ratio	4.998	3	.172
Linear-by-Linear Association	.354	1	.552
N of Valid Cases	37		
a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .92.			
a. 6 cells (75.0%) have expected count less than 5. The minimum expected count is .92.			

Appendix 11 - Jobs of Parents' Partners

		Frequency	Percent	Valid Percent	Cum. Percent
Valid		23	24.5	24.5	24.5
	999	1	1.1	1.1	25.5
	999.0	15	16.0	16.0	41.5
	army	1	1.1	1.1	42.6
	assembly	1	1.1	1.1	43.6
	assembly worker	1	1.1	1.1	44.7
	BMW	1	1.1	1.1	45.7
	BMW line worker	1	1.1	1.1	46.8
	bus driver	1	1.1	1.1	47.9
	care manager	1	1.1	1.1	48.9
	cashier	1	1.1	1.1	50.0
	checkout	1	1.1	1.1	51.1
	chef	2	2.1	2.1	53.2
	Cleaner	1	1.1	1.1	54.3
	cook	1	1.1	1.1	55.3
	courier	1	1.1	1.1	56.4
	delivery driver	1	1.1	1.1	57.4
	Director Building Firm	1	1.1	1.1	58.5
	driver	2	2.1	2.1	60.6
	Electric	1	1.1	1.1	61.7
	estimator	1	1.1	1.1	62.8
	fish shop self employed	1	1.1	1.1	63.8
	fishmonger	1	1.1	1.1	64.9
	Healthcare Assistant	1	1.1	1.1	66.0
	manufacturing	1	1.1	1.1	67.0
	marketing	1	1.1	1.1	68.1
	n/a	2	2.1	2.1	70.2
	n/a	2	2.1	2.1	72.3
	nurse	1	1.1	1.1	73.4
	Nurse	1	1.1	1.1	74.5
	painter	1	1.1	1.1	75.5
	plumber	1	1.1	1.1	76.6
	postal van driver	1	1.1	1.1	77.7
	precision engineer	1	1.1	1.1	78.7
	professional	1	1.1	1.1	79.8
	Professional	1	1.1	1.1	80.9
	Quality control man	1	1.1	1.1	81.9
	quantity surveyor	1	1.1	1.1	83.0
	security	2	2.1	2.1	85.1
	Senior lab technician	1	1.1	1.1	86.2
	Senior porter hospital	1	1.1	1.1	87.2
	taxi	2	2.1	2.1	89.4
	teacher	1	1.1	1.1	90.4
	Techsales PM	1	1.1	1.1	91.5
	Train station bar	1	1.1	1.1	92.6
	warehouse	3	3.2	3.2	95.7
	Warehouse deliver	1	1.1	1.1	96.8
	warehouse operative	1	1.1	1.1	97.9
	Window cleaner	1	1.1	1.1	98.9
	Windscreen technician	1	1.1	1.1	100.0
	Total	94	100.0	100.0	

Appendix 12 - Reliability Statistics for SES

Reliability Statistics for SES

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.606	.810	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Reversed Employment Status of parent	15.4384	42.111	.437	.256	.521
Reversed employment status of partner	13.0411	37.346	.355	.607	.600
Reversed job of parent	15.6301	39.570	.570	.428	.455
Highest level of education achieved by parent	15.6849	60.580	.142	.195	.615
Income support	18.3836	62.406	.653	.602	.588
Housing Benefit	18.5342	61.225	.686	.735	.577
Council tax benefit	18.5205	61.392	.671	.682	.579

Appendix 13 - Cronbach's Alpha for Language**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.654	.681	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Can child understand instructions	18.8904	1.877	.463	.298	.590
Can family understand child	18.8356	1.973	.464	.454	.595
How often does the child talk to Parents/parents	18.7397	2.279	.419	.332	.630
How often does the child talk to Friends	18.8767	1.971	.385	.303	.612
How often does the child talk to Teacher	18.9315	1.954	.286	.213	.644
How often does the child talk to Other Adults	19.1233	1.665	.426	.314	.604
Can parent understand child	18.8356	2.111	.246	.329	.648
Reversed child ask questions	19.7534	2.327	.240	.314	.647

Appendix 14 – Mann Whitney Tests for Factors which are Important to Language Development (as Reported by Parents)

Test Statistics ^a								
	NB of toys	NB of Parental time	NB of Experience in early years setting	NB of Friendships	NB of Day trips	NB of Positive Parenting Paractices	NB of Holidays	NB of Books
Mann-Whitney U	711.500	748.500	688.500	729.500	676.000	715.000	704.000	674.000
Wilcoxon W	1531.500	1451.500	1549.500	1549.500	1496.000	1576.000	1565.000	1494.000
Z	-.102	-.173	-.646	-.149	-.519	-.606	-.600	-1.069
Asymp. Sig. (2-tailed)	.919	.863	.518	.882	.603	.545	.548	.285
Exact Sig. (2-tailed)	.934	1.000	.616	.899	.632	.552	.568	.339
Exact Sig. (1-tailed)	.481	.563	.347	.472	.324	.313	.298	.201
Point Probability	.053	.260	.163	.114	.048	.085	.037	.067

a. Grouping Variable: Experimental or control

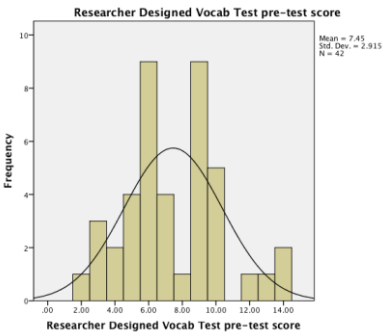
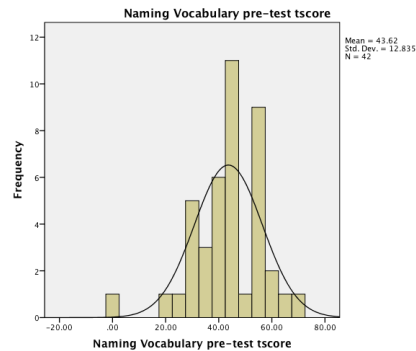
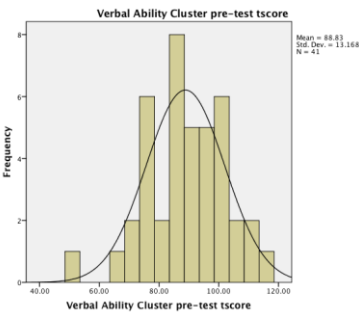
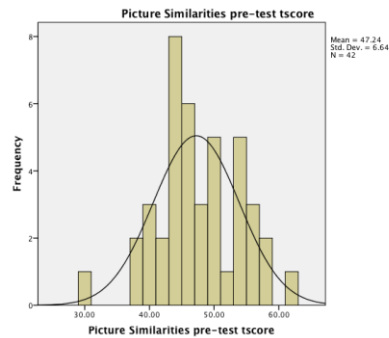
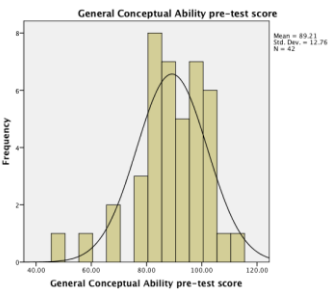
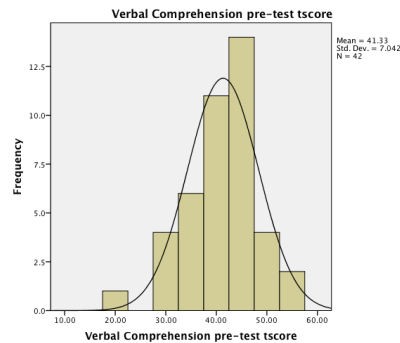
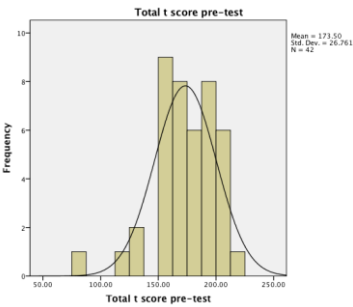
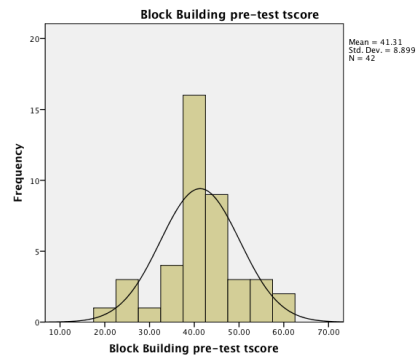
**Appendix 15 - Correlation of reading to the child and the importance of books &
Correlation of HLE frequency of trips to the library and the importance of books**

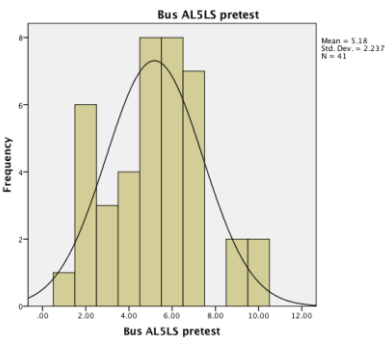
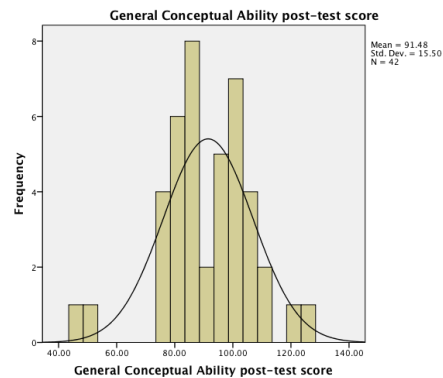
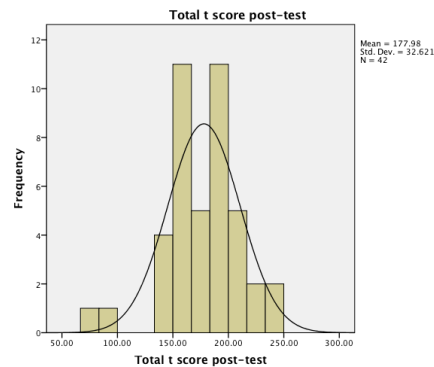
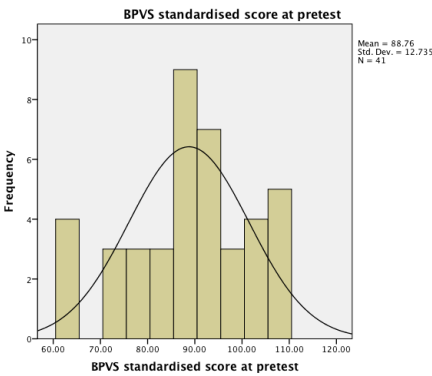
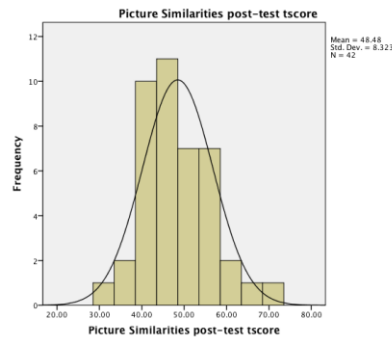
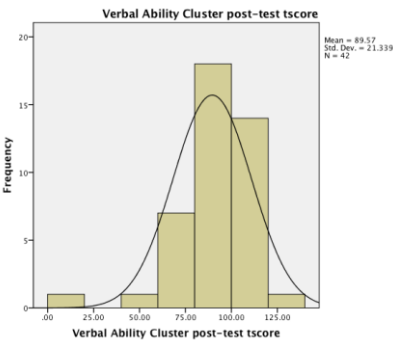
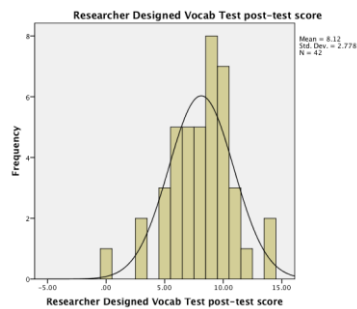
Correlations			
		HLE how often child is read to	Importance of Books
HLE how often child is read to	Pearson Correlation	1	.320**
	Sig. (1-tailed)		.002
	N	78	77
Importance of Books	Pearson Correlation	.320**	1
	Sig. (1-tailed)	.002	
	N	77	77
**. Correlation is significant at the 0.01 level (1-tailed).			

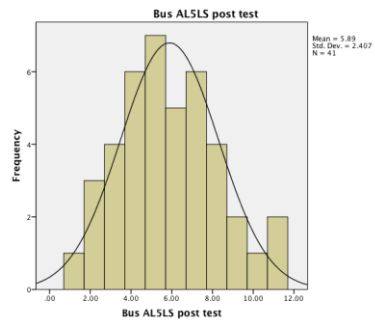
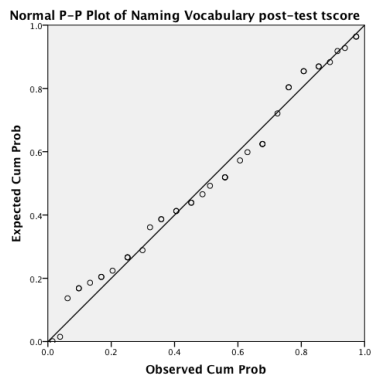
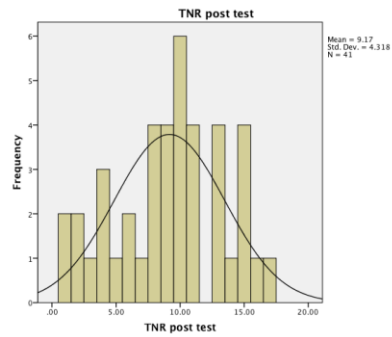
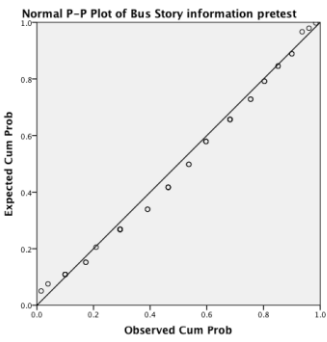
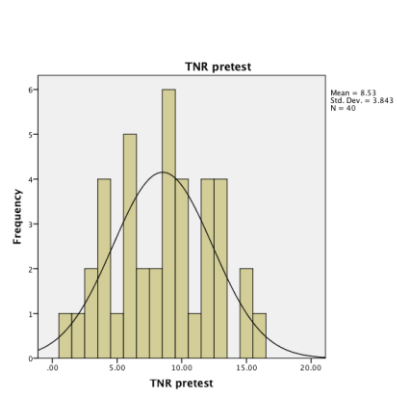
Correlation of HLE frequency of trips to the library and the importance of books

Correlations			
		HLE how often child goes to library	Importance of Books
HLE how often child goes to library	Pearson Correlation	1	.068
	Sig. (2-tailed)		.571
	N	73	72
Importance of Books	Pearson Correlation	.068	1
	Sig. (2-tailed)	.571	
	N	72	77

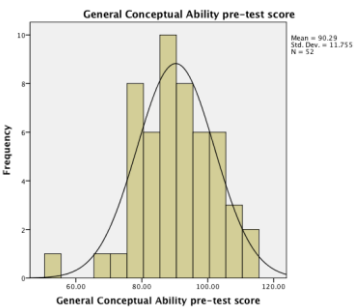
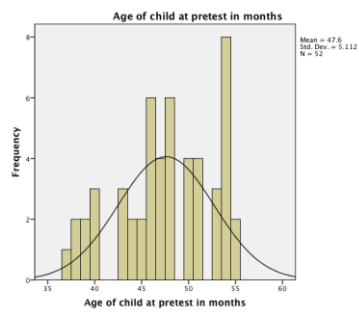
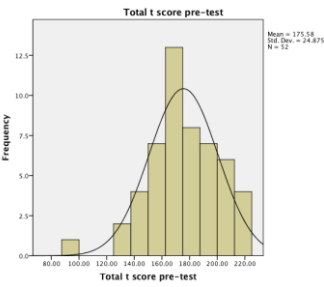
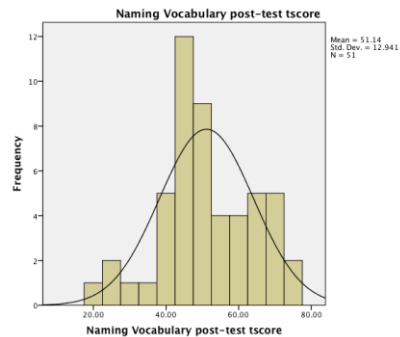
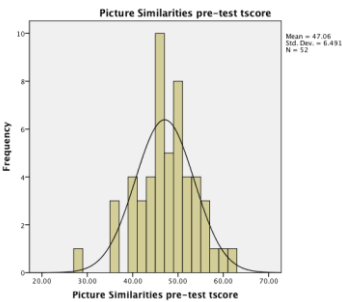
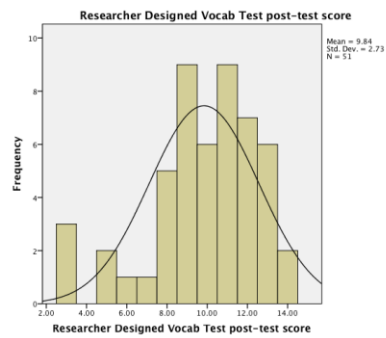
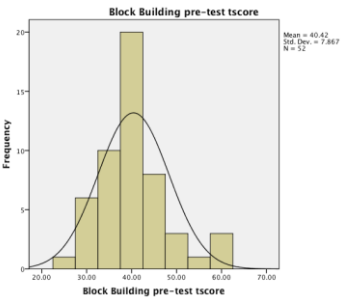
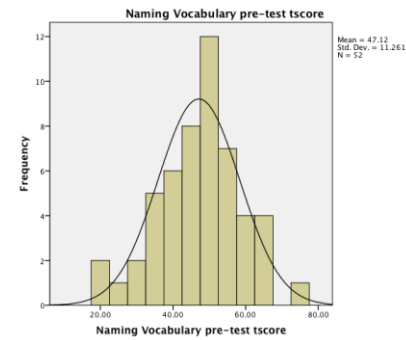
Appendix 16 - Normality for Control group

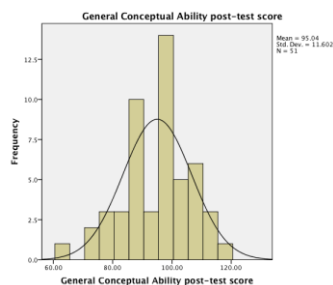
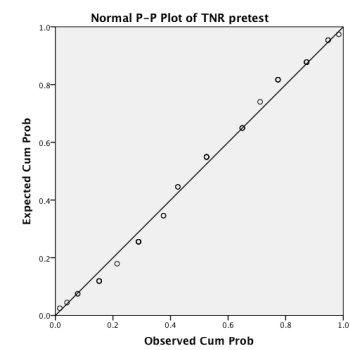
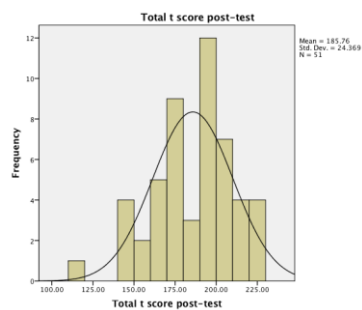
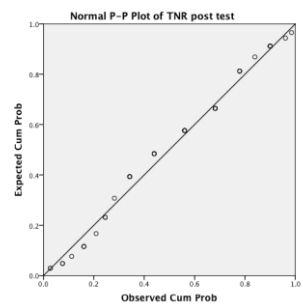
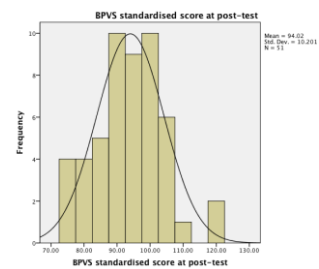
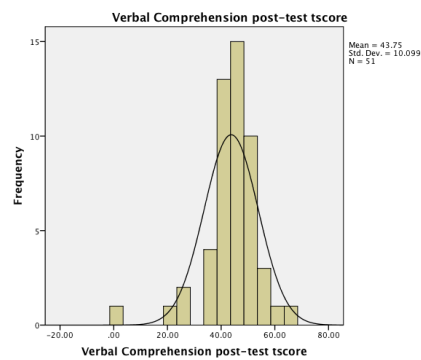
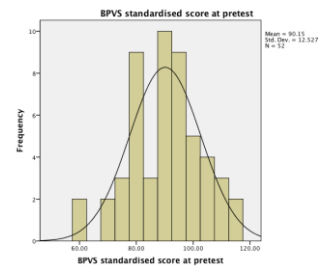
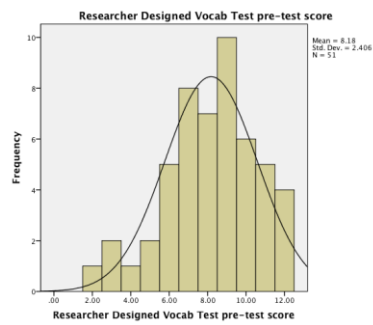




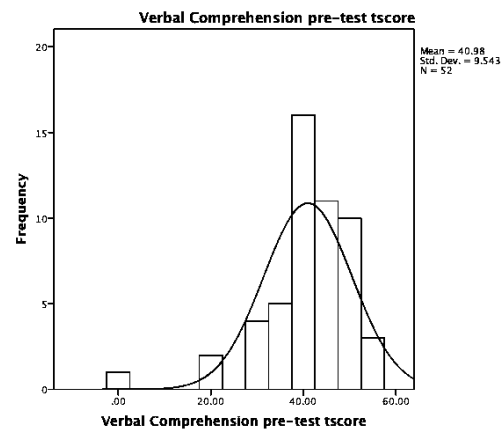


Appendix 17 - Normality for
Treatment Group

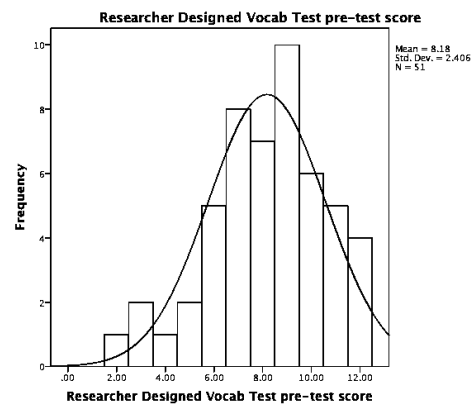




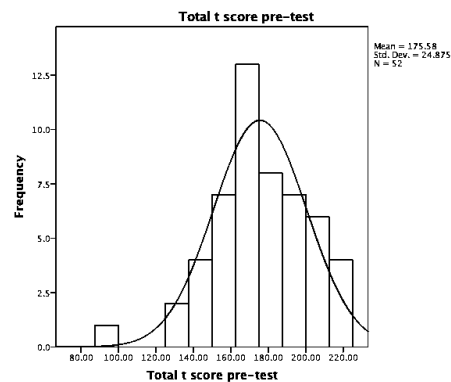
Appendix 18 - Normality Plots for not Normal Distribution (Treatment Group)



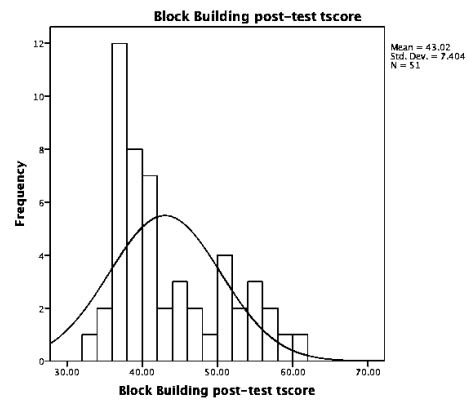
Verbal Comprehension at pre-test



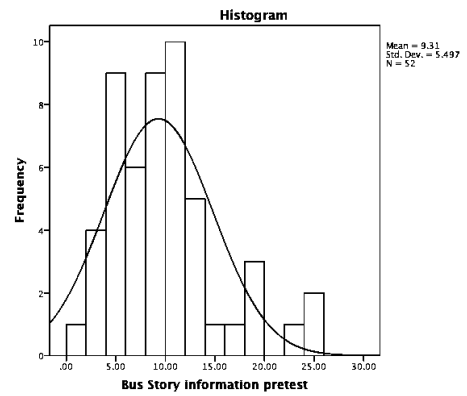
Researcher Designed Vocabulary Test at Post-test



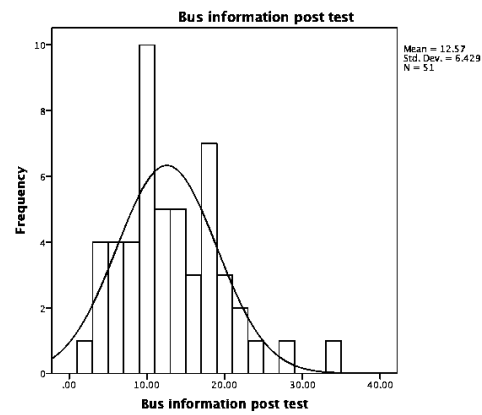
Total t-score at pre-test



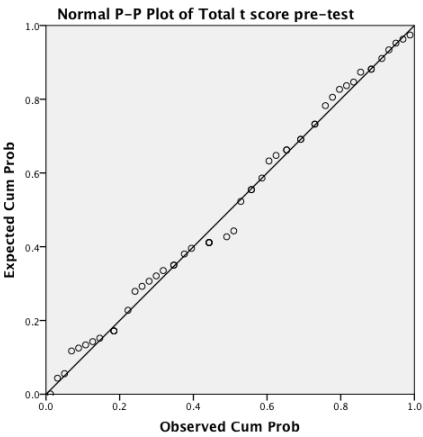
Block Building at post-test



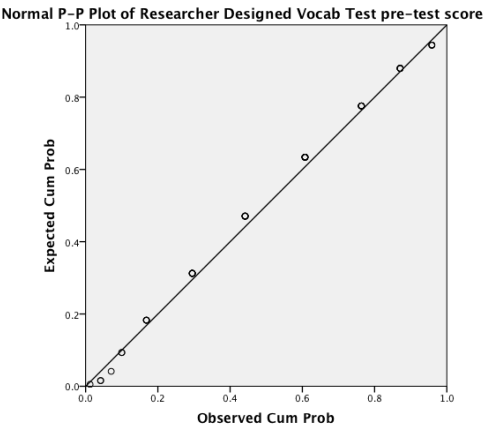
Bus Story Information Score at pre-test



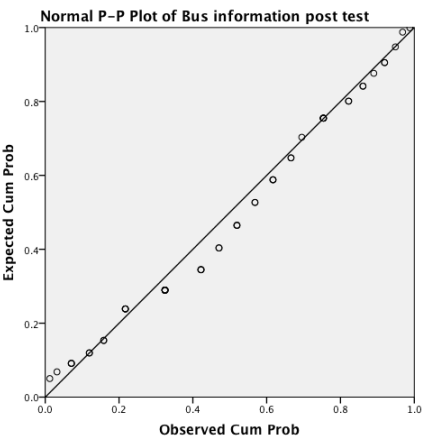
Bus Story Information Score at post-test



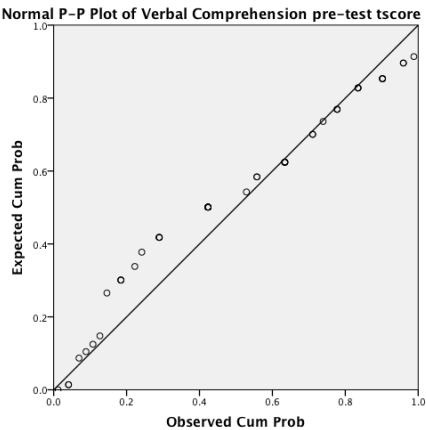
Total t-score pre-test (p-plot)



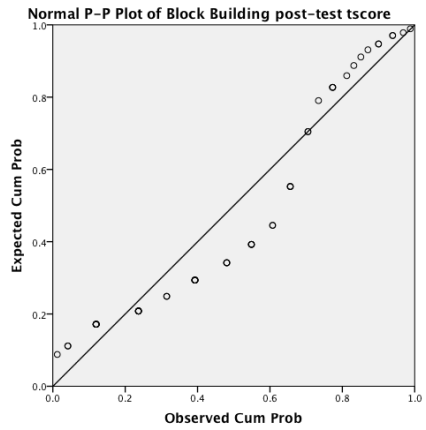
Researcher-Designed Vocabulary Test pre-test (p-plot)



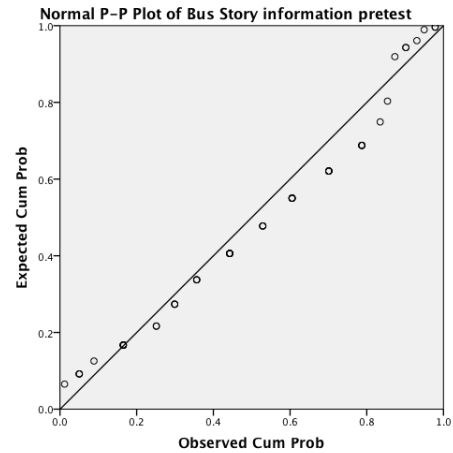
Bus Story Information score at post-test (p-plot)



Verbal Comprehension at pre-test (p-plot)



Block Building at post-test (p-plot)



Bus Story Information score at pre-test (p-plot)

Kolmogorov-Smirnov for Block Building at post-test

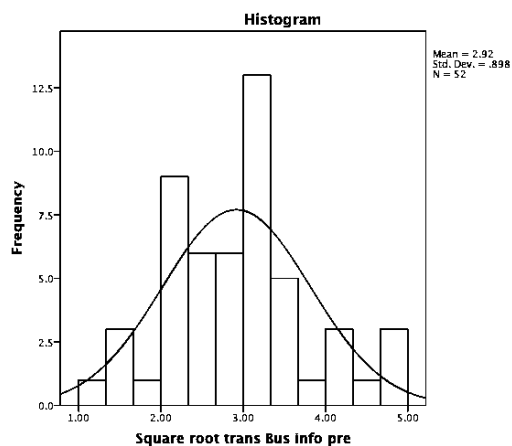
	Treatment or control	Kolmogorov-Smirnov		
		Statistic	df	Sig.
Block Building post-test tscore	1 Treatment	.196	51	.000
	2 Control	.177	41	.002
Verbal Comprehension pre-test tscore	1 Treatment	.167	51	.001
	2 Control	.104	41	.200 [*]
Bus Story information pre-test	1 Treatment	.135	51	.021
	2 Control	.098	41	.200 [*]

Kolmogorov Smirnov for Transformed Block Building at post-test

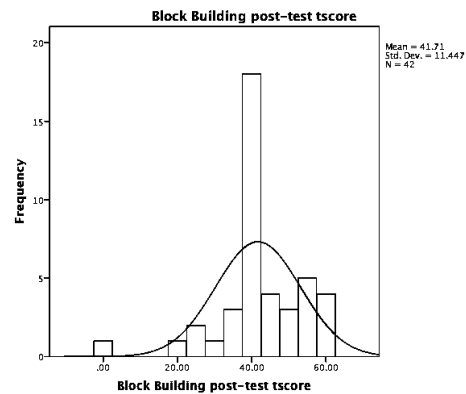
	Treatment or control	Kolmogorov-Smirnov		
		Statistic	df	Sig.
TBB_BAS_post	1 Treatment	.184	51	.000
	2 Control	.253	42	.000

Kolmogorov Smirnov for Transformed Verbal Comprehension at pre-test

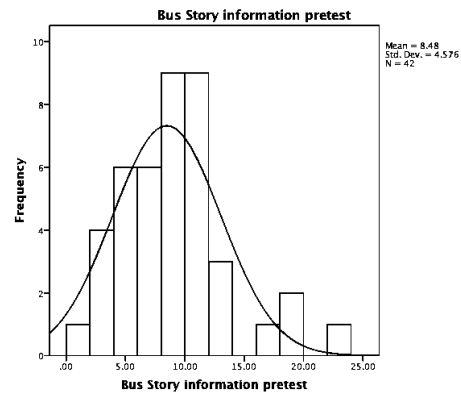
	Treatment or control	Kolmogorov-Smirnov		
		Statistic	df	Sig.
reflect_lg_vc_BAS_pre	1 Treatment	.188	52	.000
	2 Control	.125	41	.106

**Bus Information pre-test (Transformed)**

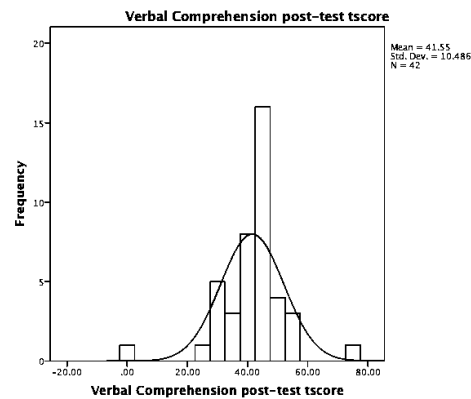
Appendix 19 - Normality Plots for not Normal Distribution (Control Group)



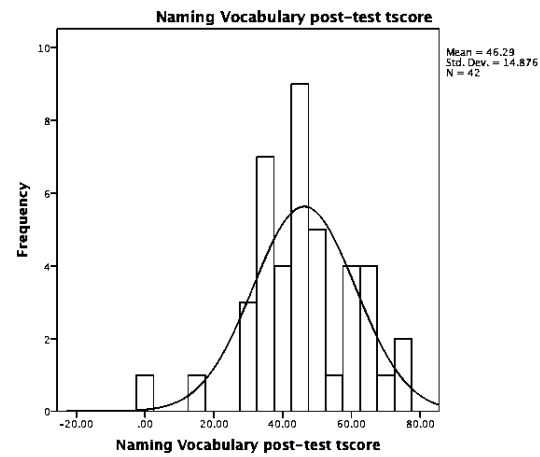
Block Building at post-test



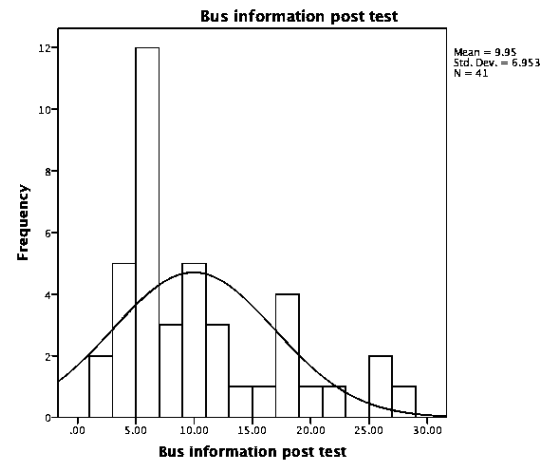
Bus Story Information at pre-test



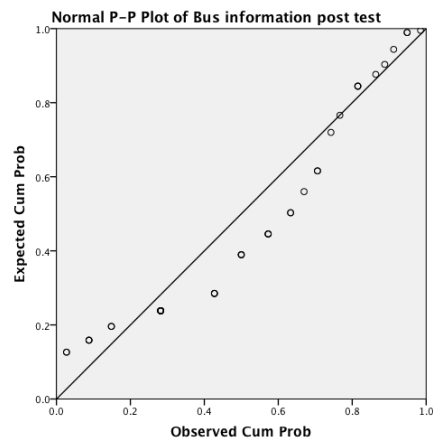
Verbal Comprehension at post-test



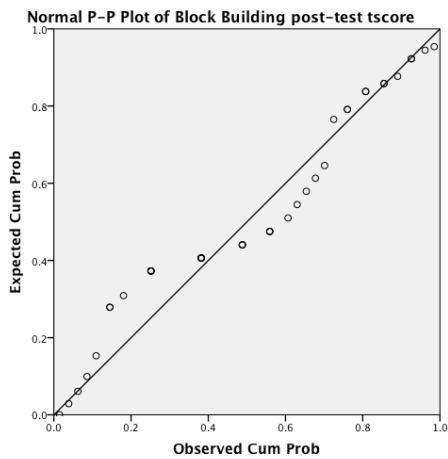
Naming Vocabulary at post-test



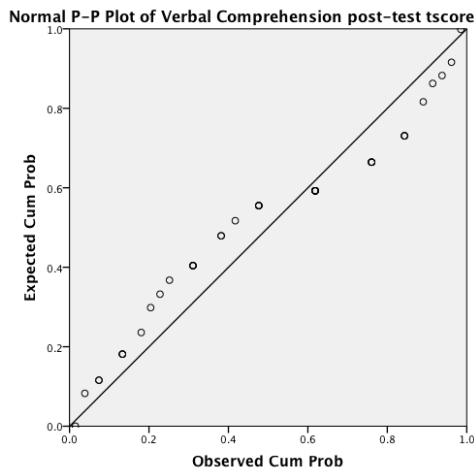
Bus Story Information at post-test



Bus Story Information at post-test (p-plot)



Block Building at post-test (p-plot)



Verbal Comprehension at post-test (p-plot)

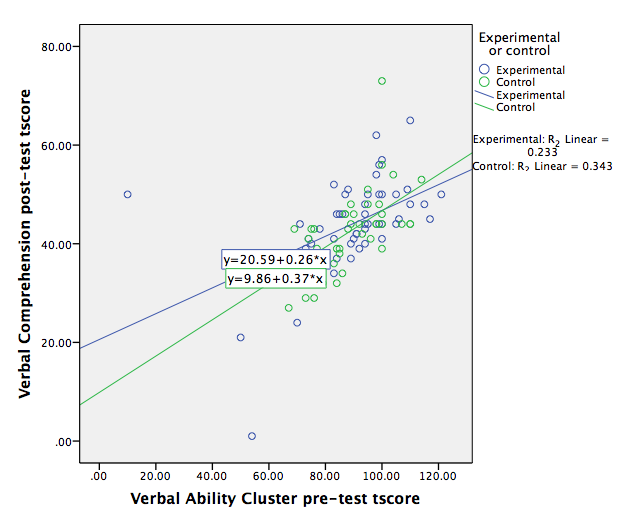
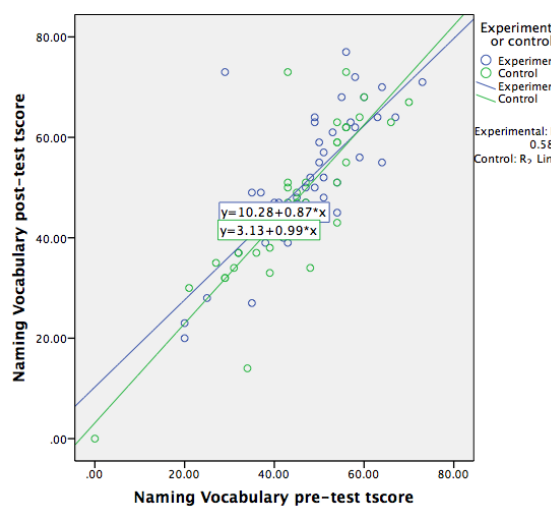
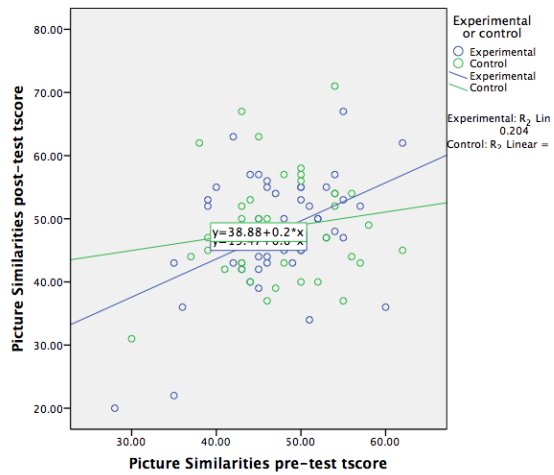
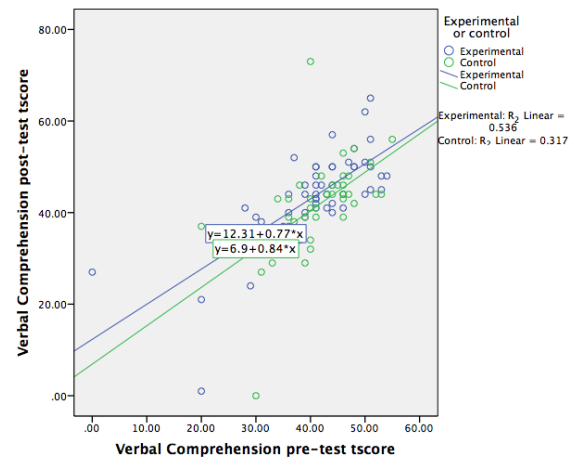
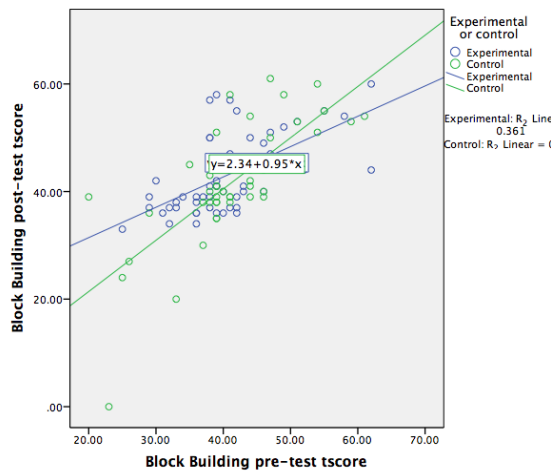
Kolmogorov-Smirnov for Block Building at post-test, Verbal Comprehension at pre-test and Bus Story Information

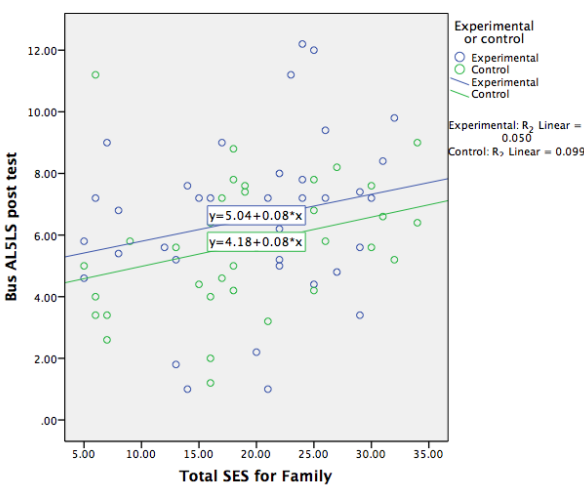
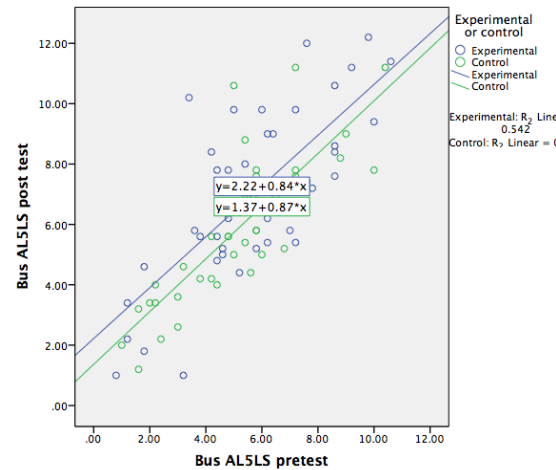
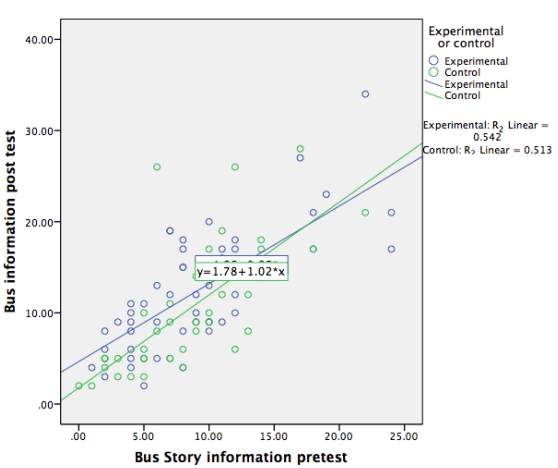
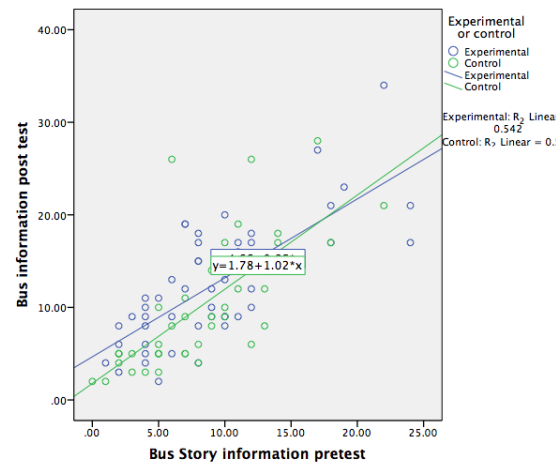
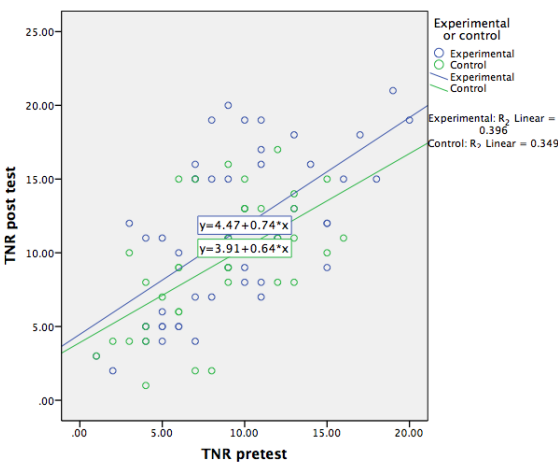
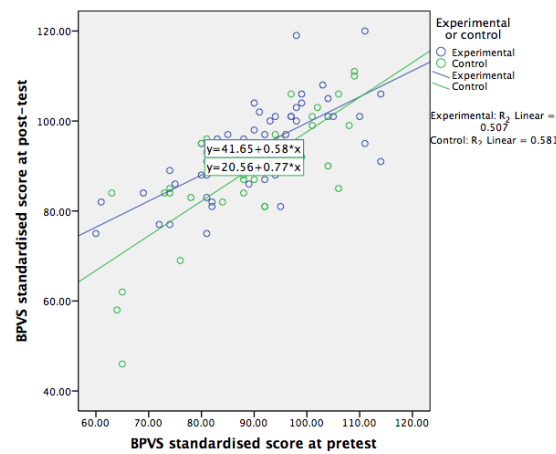
	Treatment or control	Kolmogorov-Smirnov		
		Statistic	df	Sig.
Block Building post-test t score	1 Treatment	.196	51	.000
	2 Control	.177	41	.002
Verbal Comprehension pre-test t score	1 Treatment	.167	51	.001
	2 Control	.104	41	.200*
Bus information post-test	1 Treatment	.106	51	.200*
	2 Control	.178	41	.002

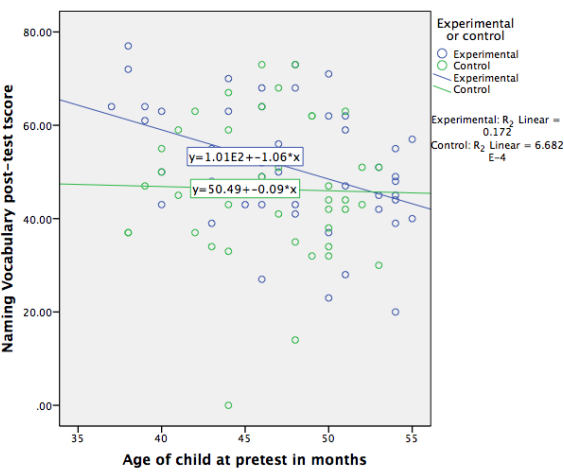
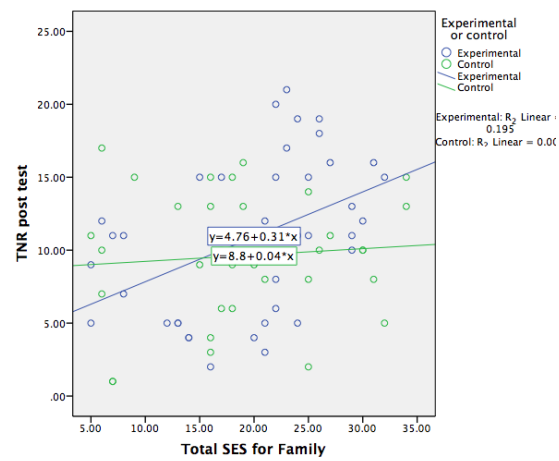
Kolmogorov-Smirnov for Transformed Block Building at post-test and Bus Story at post-test

	Treatment or control	Kolmogorov-Smirnov		
		Statistic	df	Sig.
SQRT Transformed BB post tscore	2 Control	.248	41	.000
Square root trans Bus info post	2 Control	.158	41	.012

Appendix 20 – Linearity







Appendix 21 – Homogeneity of Variance**Levene's Test of Equality of Error Variances^a**

Dependent Variable: Researcher Designed Vocab Test post-test score

F	df1	df2	Sig.
.670	1	90	.42

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Res_design_vocab_pre + Group

Levene's Test of Equality of Error Variances^a

Dependent Variable: BPVS standardised score at post-test

F	df1	df2	Sig.
.482	1	90	.49

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + BPVS_standard_pre + Group

Levene's Test of Equality of Error Variances^a

Dependent Variable: Naming Vocabulary post-test tscore

F	df1	df2	Sig.
.348	1	91	.56

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + BAS_NV_pre_tscore + Group

Levene's Test of Equality of Error Variances^a

Dependent Variable: Bus information post test

F	df1	df2	Sig.
.100	1	90	.75

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Bus_info_pre + Group

Levene's Test of Equality of Error Variances^a

Dependent Variable: Bus MLU post test

F	df1	df2	Sig.
3.626	1	90	.06

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Bus_ALfive_pre + Group

Levene's Test of Equality of Error Variances^a

Dependent Variable: TNR post test

F	df1	df2	Sig.
4.128	1	89	.045

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + TNR_pre + Group

Appendix 22 – Correlation between BPVS & Naming Vocabulary

Correlations		BPVS standardised score at post-test	Naming Vocabulary post- test tscore
BPVS standardised score at post-test	Pearson Correlation	1	.568**
	Sig. (1-tailed)		.000
	N	92	92
Naming Vocabulary post-test tscore	Pearson Correlation	.568**	1
	Sig. (1-tailed)	.000	
	N	92	93

** . Correlation is significant at the 0.01 level (1-tailed).

Appendix 23 Correlation of HLE Items and Narrative Measures

			Correlations										
	Treatment or control		HLE how often child is read to	HLE how often child goes to library	HLE how often child is taught dance, sport or physical activity by parent	HLE how often child plays with letters at home	HLE how often child is taught ABC at home	HLE how often child is taught numbers at home	HLE how often child is taught poems, songs, nursery rhymes at home	Bus information post test	Bus AL5LS post test	TNR post test	
Spearman's rho	1 Treatment	HLE how often child is read to	Correlation Coefficient	1.000	.526**	.450**	.545**	.363*	.479**	.435**	-.078	-.162	-.096
		Sig. (2- tailed)	.	.001	.004	.000	.020	.002	.004	.628	.313	.552	
		N	41	38	39	41	41	41	41	41	41	41	
		HLE how often child goes to library	Correlation Coefficient	.526**	1.000	.155	.265	.168	.251	.279	-.197	-.113	-.089
		Sig. (2- tailed)	.001	.	.358	.108	.313	.129	.090	.237	.500	.597	
		N	38	38	37	38	38	38	38	38	38	38	
		HLE how often child is taught dance, sport or physical activity by parent	Correlation Coefficient	.450**	.155	1.000	.253	.299	.310	.357*	.094	.011	-.051
		Sig. (2- tailed)	.004	.358	.	.120	.064	.055	.026	.568	.945	.756	
		N	39	37	39	39	39	39	39	39	39	39	
		HLE how often child plays with letters at home	Correlation Coefficient	.545**	.265	.253	1.000	.720**	.753**	.472**	-.271	-.239	-.155
		Sig. (2- tailed)	.000	.108	.120	.	.000	.000	.002	.086	.132	.333	
		N	41	38	39	41	41	41	41	41	41	41	
		HLE how often child is taught ABC at home	Correlation Coefficient	.363*	.168	.299	.720**	1.000	.839**	.605**	-.253	-.196	-.228
		Sig. (2- tailed)	.020	.313	.064	.000	.	.000	.000	.111	.219	.152	
		N	41	38	39	41	41	41	41	41	41	41	

2 Control	HLE how often child is taught numbers at home	Correlation Coefficient	.479**	.251	.310	.753**	.839**	1.000	.554**	-.180	-.176	-.148
		Sig. (2-tailed)	.002	.129	.055	.000	.000	.	.000	.260	.271	.357
		N	41	38	39	41	41	41	41	41	41	41
	HLE how often child is taught poems, songs, nursery rhymes at home	Correlation Coefficient	.435**	.279	.357*	.472**	.605**	.554**	1.000	-.155	-.192	-.155
		Sig. (2-tailed)	.004	.090	.026	.002	.000	.000	.	.333	.230	.333
		N	41	38	39	41	41	41	41	41	41	41
	Bus information post test	Correlation Coefficient	-.078	-.197	.094	-.271	-.253	-.180	-.155	1.000	.656**	.607**
		Sig. (2-tailed)	.628	.237	.568	.086	.111	.260	.333	.	.000	.000
		N	41	38	39	41	41	41	41	51	51	51
	Bus AL5LS post test	Correlation Coefficient	-.162	-.113	.011	-.239	-.196	-.176	-.192	.656**	1.000	.613**
		Sig. (2-tailed)	.313	.500	.945	.132	.219	.271	.230	.000	.	.000
		N	41	38	39	41	41	41	41	51	51	51
	TNR post test	Correlation Coefficient	-.096	-.089	-.051	-.155	-.228	-.148	-.155	.607**	.613**	1.000
		Sig. (2-tailed)	.552	.597	.756	.333	.152	.357	.333	.000	.000	.
		N	41	38	39	41	41	41	41	51	51	51
	HLE how often child is read to	Correlation Coefficient	1.000	.005	.161	.249	.496**	.430**	.481**	-.056	.081	-.094
		Sig. (2-tailed)	.	.979	.342	.143	.002	.008	.003	.744	.638	.584
		N	37	35	37	36	37	37	37	36	36	36
	HLE how often child goes to library	Correlation Coefficient	.005	1.000	.438**	.096	.127	.077	.283	-.013	-.077	.262
		Sig. (2-tailed)	.979	.	.008	.589	.467	.658	.099	.940	.664	.134
		N	35	35	35	34	35	35	35	34	34	34

	HLE how often child is taught dance, sport or physical activity by parent	Correlation Coefficient	.161	.438**	1.000	.213	.381*	.280	.387*	-.055	-.078	.015
		Sig. (2-tailed)	.342	.008	.	.213	.020	.093	.018	.749	.649	.929
		N	37	35	37	36	37	37	37	36	36	36
	HLE how often child plays with letters at home	Correlation Coefficient	.249	.096	.213	1.000	.725**	.671**	.277	.174	.130	.041
		Sig. (2-tailed)	.143	.589	.213	.	.000	.000	.102	.317	.457	.815
		N	36	34	36	36	36	36	36	35	35	35
	HLE how often child is taught ABC at home	Correlation Coefficient	.496**	.127	.381*	.725**	1.000	.874**	.554**	.073	.002	-.105
		Sig. (2-tailed)	.002	.467	.020	.000	.	.000	.000	.674	.992	.543
		N	37	35	37	36	37	37	37	36	36	36
	HLE how often child is taught numbers at home	Correlation Coefficient	.430**	.077	.280	.671**	.874**	1.000	.561**	.134	.094	-.139
		Sig. (2-tailed)	.008	.658	.093	.000	.000	.	.000	.437	.585	.419
		N	37	35	37	36	37	37	37	36	36	36
	HLE how often child is taught poems, songs, nursery rhymes at home	Correlation Coefficient	.481**	.283	.387*	.277	.554**	.561**	1.000	.025	.022	.184
		Sig. (2-tailed)	.003	.099	.018	.102	.000	.000	.	.885	.897	.283
		N	37	35	37	36	37	37	37	36	36	36
	Bus information post test	Correlation Coefficient	-.056	-.013	-.055	.174	.073	.134	.025	1.000	.796**	.659**
		Sig. (2-tailed)	.744	.940	.749	.317	.674	.437	.885	.	.000	.000
		N	36	34	36	35	36	36	36	41	41	41
	Bus AL5LS post test	Correlation Coefficient	.081	-.077	-.078	.130	.002	.094	.022	.796**	1.000	.570**
		Sig. (2-tailed)	.638	.664	.649	.457	.992	.585	.897	.000	.	.000
		N	36	34	36	35	36	36	36	41	41	41

TNR post test	Correlation Coefficient	-.094	.262	.015	.041	-.105	-.139	.184	.659**	.570**	1.000
	Sig. (2-tailed)	.584	.134	.929	.815	.543	.419	.283	.000	.000	.
	N	36	34	36	35	36	36	36	41	41	41

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Appendix 24 – Independent Samples t-test Results from Pilot

Independent Samples t-Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error Diff	95% Conf. Interv. of the Difference	
									Lwr	Upp
Verbal Comprehension pre-test tscore	Eq. var. ass.	3.87	.05	-1.3	38	.19	-4.55	3.39	-11.41	2.32
	Eq. var. not ass.			-1.3	27.79	.20	-4.55	3.48	-11.68	2.59
Naming Vocabulary pre-test tscore	Eq. var. ass.	3.39	.07	-.99	38	.32	-3.59	3.63	-10.93	3.76
	Eq. var. not ass.			-.97	30.85	.34	-3.59	3.71	-11.14	3.97
Total t score pre-test	Eq. var. ass.	2.37	.13	-1.91	38	.06	-16.53	8.67	-34.08	1.01
	Eq. var. not ass.			-1.87	30.78	.07	-16.53	8.84	-34.57	1.51
Verbal Ability Cluster pre-test tscore	Eq. var. ass.	3.98	.05	-1.26	38	.21	-6.79	5.40	-17.70	4.13
	Eq. var. not ass.			-1.23	27.82	.23	-6.79	5.54	-18.13	4.56
Block Building pre-test tscore	Eq. var. ass.	1.38	.25	-1.99	38	.05	-5.62	2.83	-11.36	.11
	Eq. var. not ass.			-2.01	36.74	.05	-5.62	2.79	-11.28	.04
Picture Similarities pre-test tscore	Eq. var. ass.	4.54	.04	-1.13	38	.26	-2.78	2.45	-7.74	2.19
	Eq. var. not ass.			-1.11	29.62	.27	-2.78	2.51	-7.90	2.35

Independent Samples t-Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error Difference	95% Confidence Interv	
									Low	Upp
Bus Story information	Eq. var.	3.13	.085	-.23	37	.82	-.53	2.30	-5.21	4.15

pretest	Ass.									
	EqI var. not ass.			-.23	36.90	.82	-.53	2.27	-5.13	4.07
TNR pretest	EqI var. Ass.	2.80	.11	-.13	21	.90	-.25	1.91	-4.22	3.72
	EqI var. not ass.			-.13	17.68	.90	-.25	1.94	-4.33	3.83
Bus ALSLS pretest	EqI var. Ass.	4.13	.05	-1.0	37	.31	-.77	.74	-2.28	.74
	EqI var. not ass.			-1.06	34.85	.30	-.77	.72	-2.23	.70

Appendix 25 - Interview Schedule and Field Notes: Monday 5th March, 2012

Set up recorder and laptop.

Thanks for agreeing to do this. This is an interview that I have decided to conduct to get opinions of experts in the field on the concept of the intervention I am designing to target oral language skills of children in the early years. I am using it as a pre-pilot. Questions in red are the questions that are the most important in each section and should be aimed for if time is running out.

Background – Warm-up questions

Could you tell me what your background in the early years is? What type of setting was it?

- He was a headmaster in an early years setting for many years, really enthusiastic about working in a setting. Oral language from a bilingual perspective.
- The difference between cultural needs and language needs – role was to operate in a two-tier setting – on the individual basis and then in small groups.
- He doesn't believe that it is necessarily related to socio-economic status but more related to what happens at home or not in terms of stimulation, but equally he guards against over stimulation nor over interrogation.

Oral language

What is the teacher's role in the development of narrative and story retelling? Do they have a role?

- Describes "teaching a bit like showing off for money" not unafraid to do things like oral storytelling. In his training he had the Local Authority English advisor as his advisor and he thought that UK was becoming a visual culture as opposed to an auditory one. He advised him to listen to the radio rather than watching DVDs videos etc.
- reckons that children miss out on complex linguistic interactions. So he would use traditional stories orally so that children could interact in a different way.
- He then thinks the teacher's role was to provide the context for abstract thought – he means "that children should be able to think through rather than just see a series of images". So oracy is a two way process
- He thinks that storybooks can enhance that process but he has a problem with seeing literature as an instrumental thing – gives an example of the story of two frogs – it is a counting book but if it was just counting on each page children would lose interest – it is about the richness of the pictures and everything that goes with it.
- If it is a traditional story, then they are often told in different ways and children get to experience that and afterwards you can chat to children about their predictions and discuss things via what if's = very valuable. He thinks just focusing on a theme and the story that goes with it can kill spontaneity.

But you do have to focus on narrative so children actually understand the nature of narrative and storybooks

What do you think about the use of puppets to develop language through dialogic discussion?

- Advises me to lay down ground rules surrounding the use of the puppet, that he isn't put away each time, he is very much a character in the setting. The puppet maintains his persona all the way through. He says that puppets are useful for the child that doesn't want to ask questions. He thinks they work to instruct on concepts and less enthusiastic about how they might work on purely stimulating language. He wonders about the presence of the puppet, the puppet actually being there may affect the dynamic. He compares it to the use of a fantasy figure he used in a lesson on oral language where an alien wrote a letter to the children articulating various aspects of Christmas that he viewed and discussed it with the children as to how to explain this to them. He wonders if it would have worked if he had the alien there.

Sessions

Have you ever used planned pretend play?

- They have planned situations. It says it was a given e.g. the home corner would have been something that he would have planned with the children. Eg of Edward and his pub. The child builds a wall and a sign with no girls allowed and discussion around why's and wherefores surrounding that ban.

Themes for sessions

Could you put these cards in order or preference in relation to the themes you think children in the early years might be interested in? Also, feel free to add any extra ones if you think there are any missing?

- The children will need to have an understanding for what they are seeing – so at the level of the child. He makes sure that if they are going to deal with a particular topic, then the assurance is made to find out whether some of the children have experience this first hand e.g. hairdresser. He gives an example of the local optician – he didn't have time to come to the setting but he asked had everyone in the setting had their eyes tested and the one of them went to have his eyes tested and some children came in tow and experienced it in real life context. "Reading is too difficult a concept – but what happens in a book shop is easier. Professions – people who help us might be easier but even easier might be a hospital, a fire-station a bank" "you can get a real experience for the children to take beyond that" Fairytales – "I am becoming a little suspicious of, if only because I don't quite know what boys will make of it" Now that's a tricky one, because should be providing open opportunities for everybody?" Talks about shy girl who puts on her tutu to become the fairy princess – and the benefits of tapping into it for that child. "The ones that I immediately like are the ones that have concrete elements

to them, so therefore a market, hairdressers, going to the doctor, builders – he suggests that you can transpose the two areas – inside and outside. Go to the builder’s merchants and buy materials and then head outside to build your wall. The idea of “travelling is a whole school topic for half a term” The rail station is where I think you could do that, or you could say to the children that we are going to play a game today” “You have to be good at improvising or have a space that children are familiar with” “musicianship – I’m not sure how you would role-play musicianship, It would strike me as too difficult a this point, But I have known children to role-play being a musician, just as when boys go out and play football, they rarely are playing football – they are role-playing being a professional footballer” “If you are going to go down role play, then they need to be attached to situations that the children recognise”

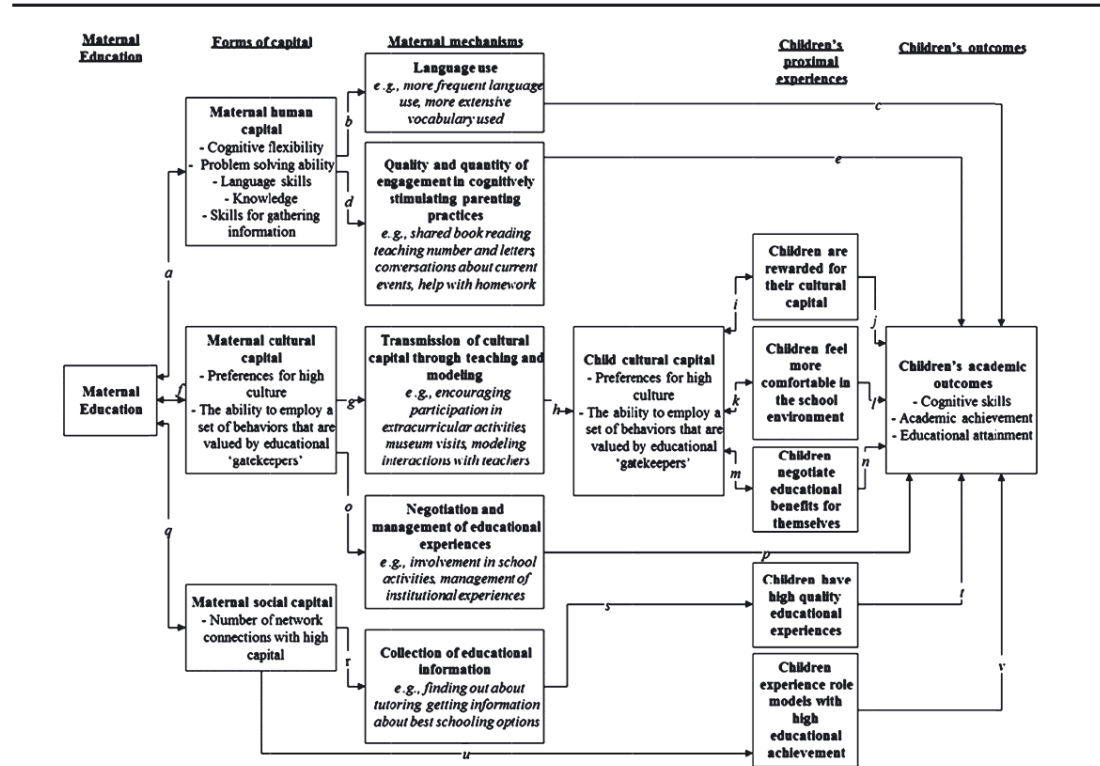
Can you develop a manual for something like this?

- Has known schools where they have developed a manual and it has had no relevance and purpose and it hasn’t been related to where the children are coming from so they
- You have to be careful not to end up with hesitant practitioners who are only interested in the target words that are to be learnt and going back over material until it is learnt. He is not sure about whether it “cramps people’s style” to have a manual. He suggests a manual that gives some ideas but the key element is related to what the practitioner made of the lesson

Thanks!

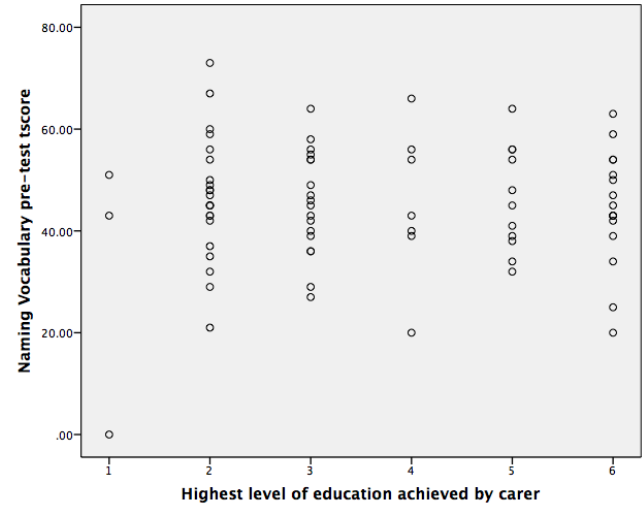
Appendix 26 Harding *et al*'s Theoretical Model, (2015)

FIGURE 1. THEORETICAL MODEL OF MECHANISMS OF THE INFLUENCE OF MATERNAL EDUCATION ON CHILDREN'S ACADEMIC OUTCOMES.

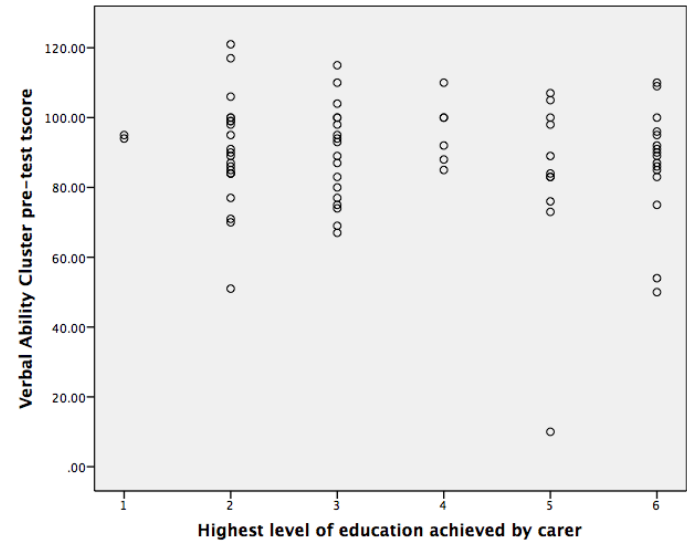


Appendix 27 Scatterplots of Outcome Variables and Maternal Education

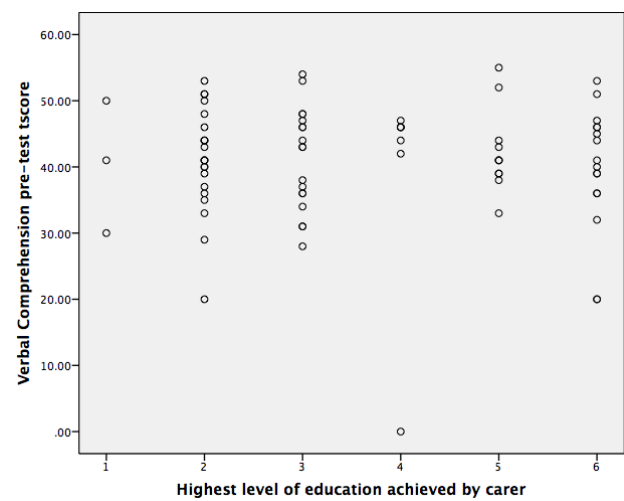
Naming Vocabulary



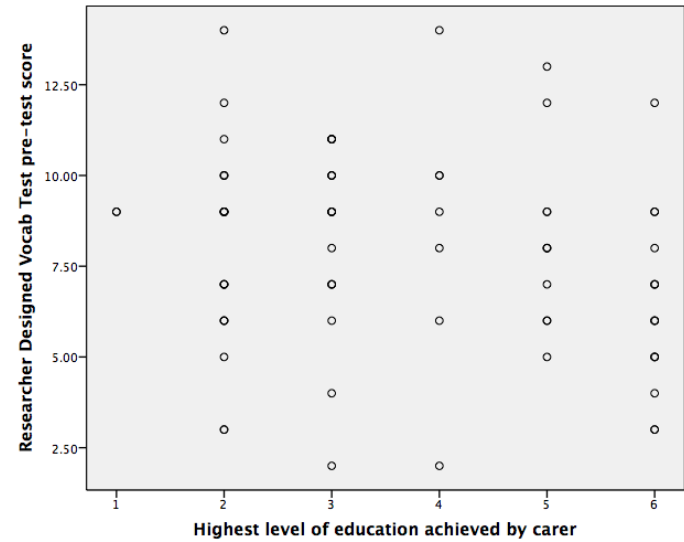
Verbal Ability



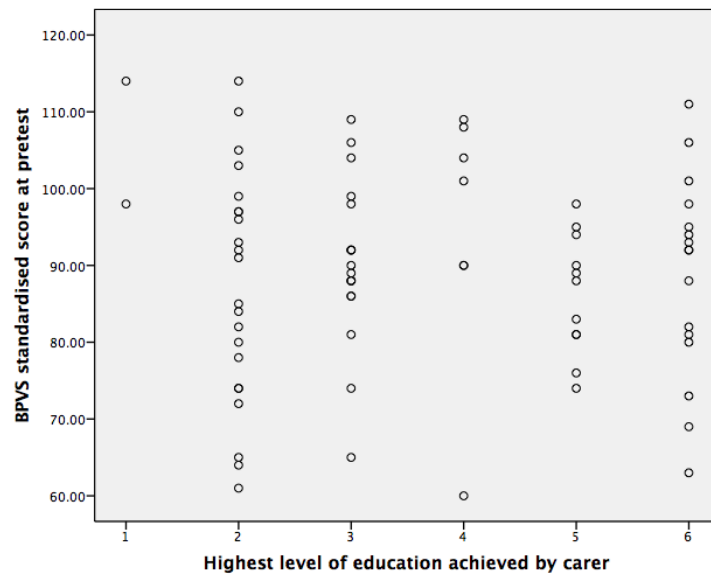
Verbal Comprehension



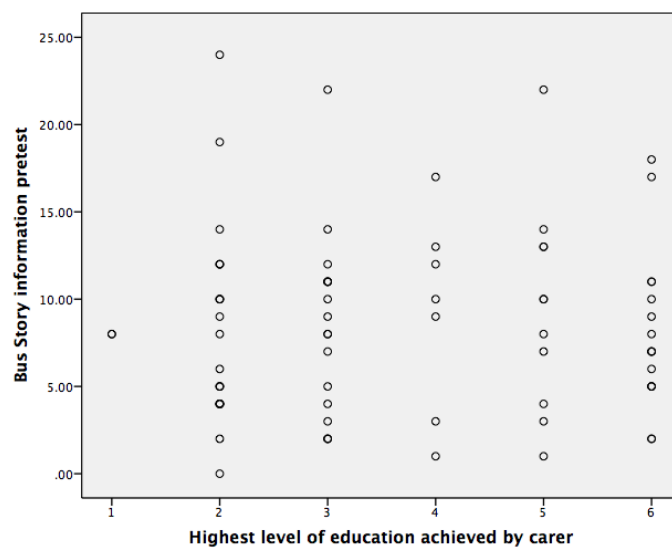
Researcher-Designed Vocabulary Test



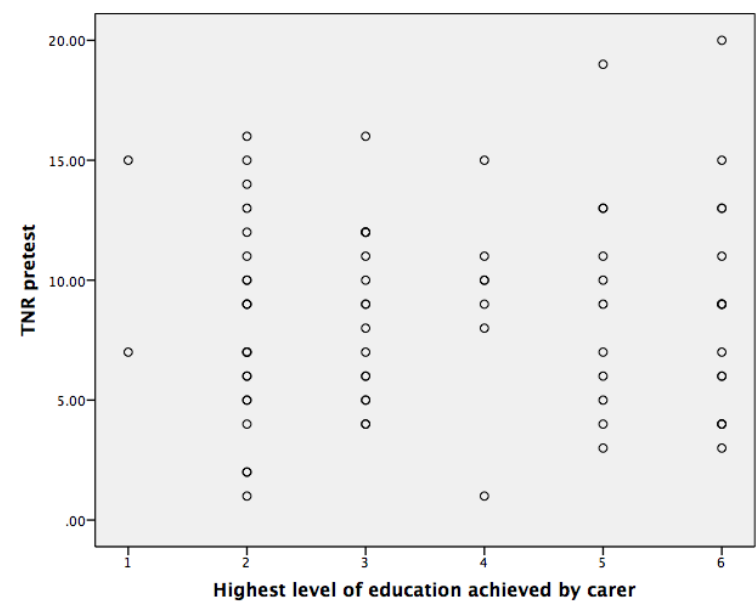
BPVS



Bus Story Information Score



TNR



Bus Story MLU

