An Investigation into the Effects of Narrative Discourse Intervention Supported by Specialised Software on the Language Skills of Primary Pupils with Acquisition Problems.

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ABSTRACT

An Investigation into the Effects of Narrative Discourse Intervention Supported by Specialised Software on the Language Skills of Primary Pupils with Acquisition Problems.

by

Desmond M. Neylon

This study investigated language acquisition in late talking boys between the ages of eight and eleven.

The main aim of this research was to investigate whether specialist software could help to support improvements in the oral language of pupils with language acquisition problems. It sought to discover whether oral language reading and writing could be improved through narrative discourse intervention.

A test-teach-retest methodology was used to establish if persistent expressive language problems could be improved. Pupils’ expressive language was assessed using SALT Software. The Peabody Picture Vocabulary Test assessed receptive language. The Diagnostic Reading Analysis examined reading and the subordination index in SALT Software assessed writing. All tests were administered pre and post intervention. The intervention consisted of a story retell of five age appropriate stories taught over a five week period.

The results found that children improved their narrative discourse skills by including more story components and a more engaging and expansive vocabulary than previously. Children improved their ability to retell stories from a third person singular perspective. Significant gains were evident in story retell, reading and writing fluency. Written texts showed significant improvement in terms of length of sentences and inclusion of main and relative clauses.

In conclusion the study has shown that specialist software can assess and monitor oral language improvements. Improvement can be brought about in oral language, reading and writing through narrative discourse intervention where a uniform structure is maintained throughout the teaching of all three. Finally it is recommended that narrative discourse intervention should form part of the oral language training of all pupils between the ages of four and eight years of age.
Chapter 1 - Introduction

1.1 Introduction

The focus of this study is language acquisition. Many international researchers have identified a link between language acquisition problems and literacy difficulties in Primary pupils (Larney 2002; Stojanovik 2006; Miller 2008; McArthur et al. 2000; Tsao et al. 2004; Smith et al. 2006). Smith et al. (2006) highlighted slow speaking rate in toddlers as an indication of later reading failure. Miller (2008a) asserted that by sampling children’s language at two and a half years of age and by comparing it with a standardized database of typically developing children that one could gauge how far behind a child’s language really was. Reading failure could thus be predicted. However Irish teachers are not trained or supported in assessing oral language problems or in designing suitably targeted interventions. Such work remains the preserve of outside agencies.

This study was conducted by a single researcher working as a Learning Support Teacher in a rapidly expanding, rural, primary school in Co Galway. The participating families live in a commuter belt close to a satellite town of Galway City. The school had one hundred and thirty pupils, five mainstream teachers and two support teachers. The research was undertaken in a newly constructed extension. This chapter will outline the research problem, rationale for the research, research aims, research approach, the scope and limitations of the research and the structure of this thesis.

1.2 Research Problem

The researcher had identified a group of pupils with language acquisition difficulties for whom traditional learning support strategies had failed to generate improvement in literacy levels. None of the children were in receipt of speech and language therapy, and
thus the exact nature and extent of their language acquisition problems had not been identified. Since use of the standardised language assessment tools is restricted to those who possess specific speech and language qualifications, the problem arose as to how their difficulties could be assessed and successfully remediated.

1.3 Rationale for Research

There were primarily two reasons for this research. Firstly there were very few studies which examine the assessment of oral language without access to the full range of language assessment materials. It was necessary to establish oral language and literacy levels pre and post intervention. Monitoring the effects of narrative discourse on oral language and literacy required a reliable and versatile assessment tool. Such tools are generally not available to classroom and specialist teachers. Secondly very few studies examined the link between narrative discourse, reading and writing. This study attempted to monitor improvements brought about by narrative discourse on oral language, reading and writing. This study assessed the effectiveness of SALT (Systematic Analysis of Language Transcripts) Software in language assessment and monitoring of narrative discourse intervention

1.4 Aims

The main aim of this research is to investigate whether the use of specialist software can help the non-expert teacher in supporting improvements in the language of pupils with language acquisition problems. Thus the study aims to:

- Contrast the information gathered through use of the SALT software with the traditional sources of information available to the Learning Support teacher from parents and class teachers.
- Examine the effects of the intervention on oral language.
- Focus on the link between oral language, literacy and whether improvements in the former result in improvements in the latter.
1.5 Research Approach

This study is modelled on the study of Davies and Shanks, 2004 but involves an extension to that study in terms of the inclusion of reading and writing. Both studies involved the use of a story retell intervention. This study involved a three stage methodology. Pre-testing established the standard of expressive language, reading and writing. In the next stage the intervention was administered. The retesting of oral language, reading and writing in the final stage established progress made.

1.6 Scope and (De) Limitations

The main limiting factors of this study were sample size, SALT software limitations, grouping of research sample and researcher bias. Extending the survey beyond one school was not practical as it involved special permissions from various boards of management, transport and loss of teaching time. For these reasons it was appropriate to use convenience sampling and to restrict the study to the researcher’s own school.

Limitations of SALT Software relate to comparison of the way Irish children and typically developing American children speak. No direct comparison can be made between Irish children with language acquisition problems and a database of Irish children with language acquisition problems because children with language acquisition problems are not contained in the database sample. SALT Software includes a New Zealand database of typically developing children between the ages of four and a half and eight and a half years. As the youngest participants in the study were just over seven years this database has limited applicability to this study and was not used.

A comparison group of children with typically developing language was formed for this study. This group consisted of two dyslexic, seven year old, female, students who formed part of the learning support caseload. It was thought that they would benefit from the intervention and provide a good oral language comparison group. A group of typically developing seven year boys was not available to the researcher.
Participating students varied in ages from seven to eleven and belonged to different instructional groups for learning support. They remained in these groups throughout the assessment and intervention to comply with the terms set out by the board of management that pupils’ ongoing instruction would not be affected.

Every effort was made to obtain training in the use of software materials and to follow directions and interpret results as set out in the standardised tests instruction manuals to minimise researcher bias.

1.7 Structure of Thesis

Chapter one introduces the study. Chapter two discusses, the five domains of language, the role of teachers and parents in supporting pupils with language deficits and how narrative retell could improve oral language, reading and writing. Chapter three presents the methodology used in the research. The findings of Chapter 4 are presented mainly in tabular form and are then discussed, interpreted and analysed in Chapter 5 with reference to the literature. Chapter 6 concludes the thesis report with a brief review, followed by conclusions and recommendations.
Chapter 2 Review of Literature

2.1 Introduction

The purpose of this review of literature is to examine the process involved in language acquisition, language impairment, persistent reading difficulties, the process of learning and forgetting and the links between these areas. The main areas covered by this review are the effects of early language delay, the causes of persistent reading difficulties, language acquisition, working memory processes, the writing process and the role of parents and teachers in addressing persistent literacy difficulties. The main areas researched in this review

1) Establish the need for evidence based practice and demonstrate how the use of standardised tests and language sampling targeted the root causes of reading failure. Ascertain how that evidence could be used to inform teaching and learning.

2) Highlighted the role of parents and class teachers in supporting children with language deficits.

3) Outline the importance of language acquisition in the early years of life. Discuss the importance of the early identification of language processing problems and outline the link between early language delay and later reading difficulties.

4) Focus on the five domains of language to pinpoint precisely where problems arise.

5) Examine how the use of narrative retell could improve language and whether that improvement can transfer to reading and writing narrative.

6) Study the role of memory in narrative discourse and how one is affected by the other.
2.2 Evidence Based Practice and Guided Teaching

The origins of evidence based practice are found in medicine but have been adapted and modified to suit many other caring professions such as nursing, educational psychology and teaching. Johnson advocates that practitioners ought to subject evidence to rigorous standards, focus on the precise data that guide one’s practice and judge the quality of evidence (2006, pp.20-21).

Problems with the volume of evidence and sourcing the most suitable information are identified by Gowing (2001, pp. 77-78) Maynard pointed out the need to eliminate bias from the evidence and the selection of evidence and highlighted the fallibility of the human condition and the dangers of relying on observation alone (1997, pp.250-251; Frank 2008). The research design ought to eliminate bias according to Groundwater-Smith and Hunter (2000, p.583-584). Goodman accentuated the ethical implications of operating out of ignorance and consequent incompetence. The search for evidence must be guided, thorough and exhaustive (2009, p.1). These implications are given due consideration in the design of the current study.

2.3 Standardised Tests

2.3.1 Knowledge of Impairment

It is evident from the literature that a wide variety of assessment tools are available in order to diagnose speech and language impairments, to assist with planning of treatment and to review progress. McCauley and Strand described these instruments as “informal probes, published checklists, standardised tests and elicited samples” (McCauley and Strand 2008, p.81). They recommended that standardised tests must demonstrate evidence of reliability and validity for their intended purposes and population. McCauley and Strand reviewed 6 standardised tests used in the diagnosis of motor speech disorders in children. In the U.S., a ‘standardised test’ is only required to have standard procedures for administration and interpretation. As a starting point they maintained that knowledge of the characteristic of the impairment being assessed was essential for the
construction of a reliable test of the impairment under consideration. In other specific cases where the impairment related to speech sound disorder the use of a combination of standardised and non-standardised tests to assess this disorder was recommended. Where language sampling was used some clinicians recommended taking a minimum of fifty utterances for analysis (2008, pp.81-82). Others only took language samples if problems presented in expressive language. In the majority of cases, tests, both standard and non-standard, were used in three ways, in the assessment of vocabulary, in an estimation of the intelligibility of language utterances and in assessing stimulability (the potential for improvement with intervention). A review of literature noted that all authors reviewed, recommended an analysis of a case history, the acquisition of a speech-language sample and testing of stimulability. Some authors used a standardised test for the assessment of speech and phonological skills. Others noted the importance of assessing unstructured speech (Shakan 2007, pp.247-255).

2.3.2 Knowledge of Purpose
Another study identified other important features of standardised speech and language tests used on pupils with intellectual disability. Knowledge of the purpose of the test and considerations regarding disabilities were important features to be included in the normative group when the test was being produced. Forty nine tests were reviewed and it was found that students with intellectual disability were only included in the normative group of twenty three and of these only fifteen had separate norms for students with mild intellectual disability. No test used 100 students to represent this particular subgroup in spite of its being stated as a requirement (Cascella 2006, pp.120-122). Thus tests giving due consideration to these factors are rare.

2.3.3 Screening for Early Language Delay.
Early screening in the Galway-Mayo region consisted of the provision of information to parents and child testing (Conway 2006, p.37; Conway 2005, p.31). The test used was entitled the Mayo Early Language Screening Test. The test was organised in six monthly periods from the age of eighteen months to five years. The tests for eighteen months to two years consisted of tests of expressive and receptive language and pretend play. The
test began by using response to commands such as “Show me the…” and articulation of words as well as demonstration of pretend play such as “Can you feed teddy?” (Garver-Cecchetti et al. 1992). Children who were found to have difficulties might be referred on to the Speech and Language Therapist. Despite early screening procedures in the locality, little effort was made to address the language problems of the children in the present study.

2.3.4 Assessment Part of an Interactive Process

Some commentaries were critical of the use of standardised tests as the sole source of information about language impairment. One noted that assessment should provide information about the potential for improvement. Hasson and Joffe viewed assessment as an interactive process between the subjects, the tester and the task. Testing should provide a clear picture of the lack of learning skills, language processing and problem solving abilities. They recommended an ongoing test-teach-retest approach to assessment. The evaluator tried to achieve a unity of purpose between the teacher and learner. This approach was described as dynamic assessment (2007, pp. 11-13).

2.3.5 Language Sampling of Narrative Speech

A language sampling approach was adapted in the United States. It provided a means of recording direct speech on an ongoing basis. Miller’s contention was that by recording, transcribing and analyzing direct language samples one could arrive at “a gold standard for measuring language performance in children” (2008a, p.1). He asserted that by comparing language samples with a database that one could predict reading achievement (Miller 2008a, p.1). A Narrative Scoring Scheme could provide a detailed marking scheme for abstract story grammar concepts such as cohesion, connecting events, rationale for characters’ behaviour and referencing (Miller 2008b, NSS). Furthermore his tests have been computerized and were available to download on CD (ROM) (Miller 2008d). His work was entitled Systematic Analysis of Language Transcripts or (SALT) for short.
Miller also understood the importance of language comprehension. He pointed out that children who could produce correct subject predicate and object in the correct order in sentences may not be able to demonstrate understanding of the same sentence when required to do so (SALT Software LLC 2009a, References p.1). This was often necessary in order to obtain a picture of a child’s receptive language development. Bishop referred to the importance of being able to keep track of utterances over time in conversational speech in order to convey meaning and to take “prior linguistic contexts into account”. She also commented on peer acceptance being dependent on conversational skills such as the ability to tailor a message to others, to ask suitable questions, to contribute to “ongoing conversation and to communicate intentions” (1997, p.213). Miller pointed to mean length of utterance, total words used and number of diverse words amongst others as sources of information on language comprehension and delayed development (2008b, Delayed Development).

2.3.6 International Database of Language Samples

The work of Miller was further enhanced by the work of Westerveld et al. in New Zealand. They claimed that language samples provided descriptive information on children’s linguistic strengths and weaknesses in everyday speaking contexts that were useful to parents, teachers and clinicians. That information provided understanding of the nature of children’s impairments and played an important role in deciding on appropriate intervention strategies and monitoring outcomes. Language samples were free of the cultural biases that affect many other standardised tests. A further two hundred and sixty language samples of New Zealand children was taken between the ages of four years and five months and eight and a half years (2004, pp.195-196). These conversation and narrative samples were integrated into the SALT databases further enhancing the international importance of this assessment tool.

2.3.7 Language Sampling of Expository Speech

Although conversational and narrative dialogues are focal aspects of language assessments, others highlighted the importance of expository discourse. Language samples were taken in two forms from four hundred and forty four children and teenagers aged between twelve and fifteen years. Two language samples were obtained. One
language sample was obtained in the form of conversational speech and the other in expository speech. The utterances were analyzed for mean length and use of subordinate clauses. All participants used longer phrases and more nominal, relative and adverbial clauses when using expository speech than on conversational speech (Nippold et al. 2008, pp. 356-359). These results were obtained from pupils at second level and it is not possible to say whether they would be replicated at primary level.

2.3.8 Database of Expository Language Samples

A second study by Nippold et al. assessed subjects with conventional speech patterns at ages eleven, seventeen and twenty five. The authors of the study contend that ever increasing amounts of knowledge advanced the development of syntax into adolescence and adulthood. The authors believed that certain tasks were more efficacious than others in eliciting complex grammatical structures. A conversational discourse in which participants talked about their favourite game was recorded and later an expository discourse was recorded based on a dispute between peers. Both forms were then compared. It was hoped that the topic of peer conflict would elicit complex grammatical speech structures because of its relevance to the age groups under consideration. The results revealed that the older the participant the more information they included in their responses. However the authors concluded that more samples of expository language from children with speech impairments was required (2007, pp.179-185).

2.4 Parents, Teachers and Language Acquisition

2.4.1 Parental Influence

DeThorne et al. pointed to the tendency for articulation, language and reading difficulties to run in families. Parents, particularly mothers, have an important role to play in the language development of their children (2006, p. 1280-1281). Hart and Risley found that the most important aspects “to language acquisition were the economic advantages of children's homes and the frequency of language experiences” (1995, Citation). Mothers have a crucial role to play in the frequency and quality of language experiences in the home. Leonard commenting on mothers’ interaction with the children of late talkers at
two years of age found mothers tended to imitate children’s speech rather than the other way round (2000, p.181). Kummere et al. reported the role of parents in early intervention in which parents delivered the intervention. Their findings indicated that it was mothers who were first to notice their children’s language problems and usually those were expressive language problems. Many studies were in general agreement that where parents were involved directly in interventions the outcome was better for the children (2007, pp.272-273; Salmon et al. 2008 p.485; Miles and Bernstein Ratner 2001; Carstairs et al. 2006; Hagtvet et al. 1999)

2.4.2 Classroom Teachers and Learning Disabilities

Several problems were encountered by class teachers in dealing with pupils with speech and language difficulties. In examining these Dockrell and Lindsay note three issues for class teachers. First the additional difficulties experienced by the children present their own challenges. Next teacher’s knowledge gaps in understanding the problems encountered by the children and finally overcoming barriers to meeting the needs of the children. Crucially teachers required an appreciation of how classroom performance is affected by the child’s difficulties (2001 pp.369-371). Riley and Burrell commented that the main issue was how teachers understood the linguistic and grammatical structures involved in language development (2007, p.194). Such features include knowledge of expressive and receptive language as important components in the acquisition of language.

2.5 Expressive Language

2.5.1 The Importance of Discourse

Expressive language was referred to as the production of sound, to the words, phrases and sentences that are part of everyday communication and are an effective means of social interaction by Honig. Language refers also to the ability to make oneself understood by means of utterances intelligible to others. She described utterances as being composed of “phonology, syntax, semantics, morphology and pragmatics” (2007, pp.581-583). In Bornstein and Cote’s study differences in expressive vocabulary at twenty months were
found in urban and rural settings and between genders rather than between nationalities (2005, p.299). Children as school entry age had a store of approximately fourteen thousand words (Honig 2007, p.582). As we have already seen at 2.2.8 above, expressive language increased in children as they grew older (Nippold et al. 2007). Saracho and Spodek found that children tended to increase their language in two directions, one was when they engaged in conversation in various contexts and the other was when they were exposed to language rich environments (2007, p.698). Not all children acquire oral language as expected to and may also experience difficulties with literacy.

2.5.2 Narrative Retell and Expressive Syntax

Larney found that there was strong evidence of continuity between early language delay and later reading difficulties. The likelihood of developing literacy difficulties depended on the age to which the language impairment persisted and the degree of severity of the impairment (2002, p.183). Specific language impairment is defined by Botting et al. as “limitations in language ability in the absence of factors such as low non-verbal IQ, hearing impairment etc.” (2001, p. 1013). This study also found that narrative retelling skills and expressive syntax were the best predictors of progress in eleven year olds with Specific Language Impairments. These aspects of expressive language were also the best indicators of general progress.

2.5.3 Appropriate Classification

Not all children have been correctly identified as either having a Specific Reading Disability or as having a Specific Language Impairment. Mc Arthur et al. explored what the true percentage of pupils with Specific Reading Disability and Specific Language Impairment or with both together really was. The authors found the existence of three groups as described. Of those originally classified as having one or other difficulty a group of fifty three percent were discovered to have both Specific Language Impairment and Specific Reading Disability. In order to clarify the matter they recommend appropriate assessment of pupils on measures of expressive and receptive language impairment as well as assessment for reading disability. Pupils tended to be assessed only on measures of expressive language (2000, pp.869-873).
2.6 Receptive Language

2.6.1 Reading Difficulty and Receptive Language

Stojanovik and Riddell pointed out that several children with Specific Language Impairments had “both expressive and receptive language” deficits. Stojanovik and Riddell in their study of seventeen children between the ages of seven and twelve with Specific Reading Difficulty as their sole impairment, found that they performed worse on tests of receptive language than on tests of expressive languages “as predicted by neuro-anatomical models of the brain” (2008, pp.306-309).

2.6.2 The Persistence of Receptive Language Deficits

Receptive language was placed in the context of brain development by Bishop. She acknowledged that genetics and environmental factors both played an important role in brain development. The brain was in a process of developmental change. The brain evolved in a three dimensional process of growth. The three dimensions referred to were the developmental process, the process of refinement and the process of automation. While genetics played a part in these processes, environmental inputs had been increasingly identified as having an even more important role. It was environmental stimulus which enables the brain to refine language (2000, pp.133-135). As far as language impairments are concerned the most difficult form of language impairments in children are receptive language impairments according to Law et al., (2008); Snowling et al., (2000). The rate of language processing for children with receptive language impairment was slower than their normally developing peers and they responded more quickly as speaking rate slowed (Montgomery 2005 pp.171-172). This finding has implication for the pace at which language material is presented to children with receptive language difficulties.

2.6.2.1 Categorising Language Problems

Language impairment problems were divided into two categories by Bishop. The first category refers to problems in the area of syntax and phonology and relates to expressive problems. The second category relates to semantics and pragmatics and is essentially a
receptive content problems (1998, p. 879). There is evidence to indicate that language acquisition problems may be identifiable much earlier than previously thought and that those problems may be linked to later reading failure.

2.7 Early Language Delay and Reading Difficulty

2.7.1 Can Reading Difficulty be Predicted?

How infants perceived sound in the first two years of life is thought to play an important part in language development. A study by Tsao et al. found that a significant correlation existed between speech perception at six months and language at two years of age and that phonetic abilities were essential for word recognition (2004, pp.1067-1070). Smith et al. evaluated whether children with reading difficulty could be identified years before they present with reading problems in the classroom. High familial risk was used as an indicator of later reading disability and was defined as one or both parents possessing a reading disability. By examining early speech production at thirty months they sought to discover the likelihood of reading failure. Syllables per second and frequency of pausing was examined in spontaneous language samples (2006, p.1). Levelt et al.’s model of speech production which involves the following processes “generating the intended message, lexical retrieval, grammatical and phonological encoding, and articulation” was used (2000, p.1) to examine speech production. They found that the “rate of children’s speech increases gradually over the course of childhood” (Smith 2006, p.290).

2.7.2 Can Reading Impairment be Heard Long Before it is Seen?

Smith et al. concluded that when pausing time is compared to speaking time in children it gives a spontaneous speaking rate which may provide an early indication of reading failure. However phonemes per second turned out to be a better indicator of future reading failure than syllables per second. One child at high risk had a high rate of three syllables per second and devoted little time to pausing (2006, pp. 289-295). Being able to hear differences in speech production could be a useful guide to future reading impairment.
2.7.3 Speaking Rate has Non-Linear Development

Some studies urged caution when using speaking rate as an indication of reading difficulty. Walker and Archibald report that speaking rate interacted with other variables such as context, the length of the statement and gender differences in ways that are difficult to predict. They also studied articulation rate in normally developing children from four to six years. Findings indicated that at age five the children spoke more slowly than at age four or six (2006, p.543). Variations in speaking and articulation rates were confirmed by Ying-Chiao et al. (2006); Robb et al. (2004) who point to personal mood and conversational context as contributing factors. Walker and Archibald interpreted their own findings as indicating a non linear development of speech rate but that non linear development may have its own inbuilt predictability. The authors admit that further longitudinal studies and more frequent testing were needed to clarify the matter. (2006, p. 562).

2.7.4 Simplicity of Language as an Indicator

It was recommended that measurement of speech in phones per second as well as syllables per second be taken because of contradictions in previous research findings (Flipsen 2003, p. 724). Calculating the number of phones in any given phrase may also reveal important clues about the rate of speech development. The testing took place at three, five, nine, twelve and sixteen years. He found that phones per second was the most reliable measure of speaking rate. The author inferred that children with speech delay tended to use simpler syllables than normally developing children but this difference appeared to be insignificant by age four (Flipsen 2002, p.9). However Walker and Archibald (2006); Smith (2006) recommend consideration of additional factors in predicting reading failure. In particular they recommend consideration of milestones.

2.7.5 Milestones for Late Talkers

Milestones have been described as “indicators for detecting language problems”(Luinge et al. 2006, p.924). Harlaar’s study sets out key language milestones. Most normally developing children spoke their first words at one year. They can put words together in a
short sentence at two years and could speak in long and complex sentences at four yeas of age (2008, p.688). In a longitudinal study by Ellis-Weismer et al. it was found that twenty per cent of language impaired two year olds could be classified as late talkers because they had a vocabulary of fewer than fifty words. They describe such children as having delayed onset and poor acquisition of language (1994, p.158). McGuinness described a study in which fourteen percent of the two year olds studied, had fewer than fifty words and seventy one percent of those were boys (2007, p.164). The term late talkers has been used to describe such children and it is the term used by authors such as Thal and Bates (1988, pp.115-123); Rescorla et al. (2008, p.36); Fletcher and Mac Whinney (1996, pp. 134-135) Ellis-Weismer et al. (1994); Williams and Elbert (2003). Fletcher and Mac Whinney point out that those most likely to continue to be delayed are those who come from a lower socioeconomic status, children who were older when identified and those who had problems with vocabulary comprehension and vocabulary production (Fletcher and Mac Whinney 1996, pp. 134-135). Leonard found that fifty two percent of late talkers in a study of 25 two year old presented with mean length of utterance (MLU) that was 1.5 standard deviations below the mean one year later (Leonard 2000, p. 181). Rescorla et al. 2008, disagreed with Flethcher and Mac Whinney (1995), on the influence of socio economic status on late talkers by pointing out that they continued to have difficulties acquiring new and unfamiliar vocabulary irrespective of socio economic status. The study found their language weaknesses continued into adolescence (Rescorla et al. 2008, p.36).

2.7.6 Influence of Nature and Nurture

All studies are not in agreement about the language skills that are needed for success in reading. “Expressive vocabulary… grammar… and abstract language” were cited by Dale et al., (2003, p.565) as indicators of early language delay and predictors of later language problems. The skills of listening and understanding vocabulary were found to have a bearing on language acquisition. Differences in ability to listen were found to be influenced by genetic factors while understanding words was found to be influenced by environmental factors (Rall 2007, p.5). The importance of early detection and treatment of language delay was emphasised by Luinge et al., (2006, p.923).
2.7.7 Comprehension and Pretend Play as Predictors

Bruce et al. argued that it is insufficient to rely on parental reporting alone to identify language impairments but that combining parental reporting with direct observation provided a more reliable guide. The results of their testing at eighteen months predicted language impairment in nine out of ten cases at four and a half years. The conclusions drawn were that screening should emphasise comprehension and pretend play rather than expressive language skills. Finally a more sensitive comprehension test for girls ought to be constructed as some remain undiscovered even after screening. Identification of language impairments at eighteen months would provide extra time for intervention to commence (2003, pp.1090-1094). Knowing which components are underdeveloped could inform interventions.

2.8 The Five Domains of Language.

2.8.1 Grammar

Chomsky proposed to explain the processes involved in language acquisition. That system was “deeply unconscious and largely unavailable to introspection” (Aspects of the Theory of Syntax 1965 cited in Jackendoff 2003, 651). Chomsky’s argued sentences must be governed by a set of rules that collectively allowed the sentences to be created (Syntactic Structures 1957 cited in Jackendoff 2003, p.652). They were indispensable to the production and conferring of meaning on language. These rules could not be taught by parents since they are unconscious. Children learned them by hearing many examples of the language in appropriate contexts. Children then picked up these rules unconsciously (Jackendoff 2003, pp.651-653) through a combination of genetic and environmental factors (Chomsky 2005, p.2).

2.8.1.1 Acquiring Complex Grammatical Structure
The process of acquiring grammatical rules begins at one year and eight months of age (Fletcher 1996, pp.96-97). The acquisition of language is a process which may continue throughout life. Eisenberg argued that language acquisition continued to take place throughout the primary school years and that pupils continued to acquire ever more complex grammatical structure. She outlined four elements of complex grammatical structure. These were the use of conjunctions other than “and”, the use of varied and descriptive verbs, the use of adverbs and elaborated noun phrases. Noun phrases used more than one sentence or a relative clause to describe what has been seen. Such language enabled the listener to create a mental image of the characters events and settings within a narrative (2008, pp.145-146).

2.8.2 Morphology

Grammatical structure was an aid to meaning but much of that understanding depended on word recognition. Initial investigations of morphology suggested that the position words occupied in a sentence was related to their meaning and form. It appeared that children with good command of language could break words down into their constituent parts identifying prefixes and suffixes easily (Frost et al. 2008, p. 935). Rueckel and Aicher stated that there was wide disagreement about how this happened. One view was that word recognition consisted of the decomposition of a word into its constituent parts. Another held that it was the relationship between the parts that enabled processing. While a third held that the words themselves activated the meaning according to the way they were constructed and the use of morphology (2008, p.973). For children with language impairments grammatical morphology and finite verb morphology were problematical even into school years. Children with specific language impairment required a larger number of examples in order to reach the same level of acquisition as typically developing children (Conti-Ramsden and Windfuhr 2002, p.19).

2.8.3 Phonological Awareness

The connection between phonological awareness and the development of spoken language was one that many researchers documented. Orsolini et al. examined the nature of phonological delay in children with specific language impairment. She found that
children with a specific language impairment had great difficulty in producing words with complex syllables and that that difficulty indicated phonological impairment (2001, p.63). Hartmann et al. declared that it was well established that toddlers with expressive language difficulties were likely to present with delayed phonological awareness (2008, p.1215). Frequent vowel errors and the dropping of initial consonants were signs of phonological delay in toddlers (Stoel-Gammon 1989). Late talkers who had phonological delay tended to have a limited range of sounds and more frequent sound errors than typically developing toddlers (Williams and Elbert 2003, p.138). Honig noted that babies may combine easily produced consonants and vowels and may combine these sounds in consonant vowel consonant vowel combinations (cvcv) at about six months old (2007, pp. 583-584). Phonological working memory was the component that was most strongly involved in language acquisition and development and was also related to the development of phonological awareness and early literacy acquisition. “Phonological awareness is predicted by speech perception and receptive vocabulary” (Hartmann et al. 2008, pp.1215-1216).

2.8.3.1 Phonology and Reading

Children with reading difficulties were more prone to difficulties using and distinguishing phonemes (Briscoe et al. 2001 p.329). Children with speech impairment were identified as being more likely to encounter difficulty learning to read than normally developing children. Children between three and five years who had speech impairment had difficulty deciding whether words had been produced correctly and had difficulty establishing the accuracy of non words. A moderate correlation was discovered between phonological storage and phonological awareness (Sutherland 2007, p.229-230). Children with phonological difficulties scored poorly on phonological awareness and literacy. The severity of the phonological problems when related to age was an important determining factor in literacy attainment (Bird et al. 1995, p.1).
2.8.4 Semantics

Honig points to the acquisition of meaning in very young children. Children acquire concepts, symbolic concepts and speech relationships with significant others at an early age. The complex speech relationship referred to the ongoing interactions and negotiations etc. however poorly expressed that children possess. Receptive language precedes expressive language but to what extent children with delayed speech reach the same level of understanding as typically developing children and whether semantic relations are also delayed and to what extent is not clear. One must look to underlying factors to possess a clearer picture of what is happening to the development of meaning in children with language delays (2007, pp.585-588).

2.8.4.1 Semantics and Language Retrieval

The abilities of children on short-term memory tasks such as nonsense word or nonword repetition tests are regarded as good indicators of underlying language difficulties even when those difficulties appear to be resolved according to Conti-Ramsden et al. (2001). Successfully retrieving words he argued depended on the ability to make use of semantic cues and was a task that children with language impairments found more difficult than their typically developing peers (Seiger-Gardner 2008, p.539). Use of gestures is considered an effective means of verb and noun word retrieval (Rose 2008, p. 691-692).

2.8.5 Pragmatics

Another aspect of language which requires the retrieval of appropriate language but also an understanding of when and where to use it is referred to by Honig (2007, p.589). Pragmatics or the ability to use language in context is thought to be the most obvious problem since it is relatively easy to identify (Miller 2008b, Pragmatics or Discourse Problems). The pragmatic aspects of language and their appropriate use are most evident in social situations (Bishop 1998 p.879). Difficulties for late talkers increase as language becomes more elaborate, effusive and complicated, as the socialization process continues and as language itself develops. Some commentators refer to the ability of language to
carry both an implicit and explicit meaning as placing new demands on the language user (Leinonen 1999, p.368).

2.9 **Narrative Discourse**

Masuda described discourse as a natural unit of language with grammatical structure that enables ideas and thoughts to be conveyed (2002, p.1-4). Narrative discourse requires not just the ability to create ideas, concepts and thoughts using language but also the ability to retell stories from the point of view of the listener (Berman and Slobin 1994, p.120; McNeill 1992, p.192). Narrative discourse is used by many speech and language therapists as a means of assessing children’s linguistic abilities (Norbury and Bishop 2003; Eriksson 2001; Manhardt and Rescorla 2002).

2.9.1 **Story Retell**

Manhardt and Rescorla postulated that narrative fictional skills began to develop between the ages of four and seven or eight years of age and continued to develop throughout the primary school (2002, p.1); (Nelson *et al.* 2001, p.17); (Davies *et al.* 2004). Berman and Slobin found that five year old children did not provide a perspective or backgrounding on story retell until they were five years of age (1994, p.120). Stromqvist and Verhoeven indicate that five year old typically developing children included only three to four story components in their retelling of the *Frog Where are You* (Mayer 1969) story whereas typically developing nine year olds include six to seven story components when retelling the same story. Typically developing nine year olds told “a proper story with a setting, an initiating event, a plot and an ending” (2004, pp.120-121). Manhardt and Rescorla found that eight and nine year old late talkers displayed weaker story grammar skills than typically developing children “independent of …(their) weaker general language skills”(2002, p.1); (Davies *et al.* 2004, p.271). Miller’s story grammar contains seven components namely an introduction, character development, mental states, referencing, conflict and resolution, cohesion and conclusion (2008b, *Calculate – NSS Score*). Davies *et al.* argues that the capacity to create “a coherent narrative comes before and predicts successful adaptation to school literacy” (*Naremore 1995 cited in Davies et al. 2004 p. 272*); (Fang 2008). Davies *et al.* contends that may be judged on two levels, on the level of microstructure and the level of macrostructure. The microstructure refers to the
number of sentences the child included in the story. The macrostructure refers to the different types of communication used and the manner in which those units relate to one another (2004, pp.272-273).

2.9.2 Schooled Narrative

The type of communication required in school is distinct from that which is required in everyday conversation. Fang points out that the ability to produce schooled narrative is closely related to success in school and in pupils’ literacy development. By schooled narrative is meant, narrative which contains three specific features. These are use of language, story grammar, a more complex syntax and a richer more varied and literary-sounding vocabulary (2008, pp.205-206).

Best et al. referred to understanding that was extracted from clauses and syntax, the global meaning extracted from the text, the world knowledge of the speaker, the characters, settings, actions and events in the manner in which the speaker recreates the story (2008, p.139). Scholastic Narrative required higher levels of language competence which are conducive to competence in literacy.

2.10 Oral Language and Literacy

2.10.1 Reading

The relationship between oral discourse in preschool children and later reading and writing abilities was studied by Griffin et al. amongst others. His findings suggested that the relationship between oral language and literacy indicate a precise, selective and complex interaction between both. Oral language skills which are required for written narrative and reading comprehension are different. In learning to produce more extensive oral discourse, children may be able to address more sophisticated accounts in written texts (2004, p.124-126); (Speece 1999). The need to examine all the components of reading in order to specify the requirements for success was also emphasised in the literature. Reading components were identified as:

“Oral language development, phonological and phonemic
awareness, phonics and decoding skills, vocabulary knowledge and language development, comprehension strategies, and reading fluency”

(Hasbrouck and Tindal 2006, p.6)

Riley and Burrell postulate that narrative abilities and reporting are highly correlated with reading fluency but that efforts to improve narrative ability are dependent on possessing detailed knowledge of children’s oral language skills (2007, p. 181). Those who received instruction in phonology and reading improved their decoding skill while those who received instruction in vocabulary and grammar improved their reading comprehension (Bower-Crane et al. 2008, pp.422-423).

2.10.2 Oral Narrative and Fluency

Conderman and Strobel identified vocabulary and rereading as important for fluency (2008, p.15). Puranik et al. demonstrated that a portion of students with speech and language impairments struggle with decoding, word recognition and fluency even from the early grades. Furthermore the pupils who appeared to have resolved language impairments by first grade were presenting with oral and reading fluency, difficulties in second and third grades (2008, p.546). Pupils that received oral narrative intervention outperformed their typically developing peers who had not on oral narrative comprehension. However they found a lack of transference between narrative retell comprehension and narrative reading comprehension. Children demonstrated improvements on “grammatical accuracy (and) semantic diversity, but not on verbal productivity, verbal fluency, or grammatical complexity” (Westerveld and Gillon 2008, pp.46-48). The authors did not find any improvements on reading fluency as a result of oral narrative intervention.
2.11 Oral and Written Narratives

2.11.1 Writing

Noel et al. claimed that good oral language skills indicated reading and literacy success (2008, p.823); (Hagtvet 1999). Cragg and Nation investigated the relationship between oral narrative and narrative writing in poor comprehenders. They found that poor comprehenders performed poorly in spoken recall of stories and in content of written narrative (2006, p.58). Dockrell et al. described the writing of children with language impairments as consisting of “short texts, poor sentence structure, and difficulties with ideas and organization” (2009, p.427). Snellings et al. reminded us of the importance of lexical retrieval as an essential process in oral language production and writing fluency. They found that the teaching of story vocabulary resulted in greater fluency in narrative writing in particular. They referring to the demands of the many processes involved in writing and that when a lot of input is devoted to one process by low academic achievers it may be denied to another. They concluded that reducing resource demands might improve writing (2004, 175-176). Hoewisch wrote about the difficulty of getting children with language difficulties to read and write. She believed that successful children’s writing was based on supporting children’s choices (2001, p.249). Martinez-Pons insisted on the importance of self regulation in student’s work. He pointed out that if children were to be prepared for lifelong learning they must have confidence in what they do (2002, pp. 126-128). Alves-Martens et al. cautioned against creating negative emotions in children by setting them up to fail in too difficult literacy tasks (2002, p.51).

2.12 Narrative and Memory

2.12.1 Temporary Storage of Information

Working memory deficits affect the ability to hold language in memory while it was being processed. Working memory was referred to as a system in the brain which provided temporary storage and handling of information required for such “complex cognitive tasks as language comprehension, learning and reasoning, and language acquisition” (Baddeley 1992, p. 556); (Van Daal et al. 2008). Working memory may vary from individual to individual and change over time in regard to speed of processing.
and efficiency of encoding information. It generally improved as one progressed from childhood to adolescence (Demetriou et al. 2000, p. vii-viii); (Klingberg et al. 2002).

2.12.2 Memory and Learning from Narrative and Expository Text

Dodwell and Bavin indicated that children with specific language impairment had limited memory capacity for double processing tasks particularly when the cognitive load was high (2008, p.202). Wolfe and Mienko found that presenting information in narrative or expository text form did not affect learning and recall of information (2007, pp.541-542).

2.12.3 Narrative and Autobiographical Memory

Recalling knowledge of past events is a task which most pupils are required to do as part of many learning experiences. The organization of narrative memory and autobiographical events was the focus of study for Radvansky et al. They identified the main task of the listener as creating a working model of the event described. Successful understanding depended upon the creation of that working model. Use of a speech organiser might assist the listener. Characters, locations and events might be used to retrieve the model. They noted that some memories are organized sequentially, causally and hierarchically and that memories organized along those lines are more easily retrieved (Taylor and Tversky (1997) cited in Radvansky et al. 2005, p. 797).

Research showed that pupils with limited working memory required specific approaches to reduce cognitive load in the teaching of oral language and literacy.
Chapter 3 Methodology

3.1 Overview

The primary aim of this study was to investigate whether ICT could help the researcher (as a non-expert learning support teacher) support improvement in the language of pupils with language acquisition problems. This chapter sets out the procedures involved in conducting that research. The first section sets out the research questions. The next section describes the rationale for the selection of the methodology followed by a detailed description of the participants and the setting. The selection and implementation of the research instruments is outlined in the third section. The final section reflects on the validity and reliability of the data thus gathered and discusses the limitations of the research methodology.

3.2 Research Questions

Following an analysis of the research aims, the following set of research questions was identified:

a) How can ICT support diagnostic testing of pupils with language acquisition problems?

b) Can language acquisition problems be improved using story retell interventions?

c) Do improvements in story retell result in corresponding improvements in reading and writing?

To address these questions and to support this investigation a research instrument which was deemed to be appropriate was selected.

3.3 Research Methodology

A test-teach-retest study was chosen as the most appropriate method to conduct the investigation as outlined by Hasson and Joffe (2007) at 2.1.4. A mix of qualitative and quantitative research methods was combined to form a single study in the test retest aspects of this form of research.
The test-teach-retest methodology was considered the most suitable approach following a review of the available methodologies. It was thought to be the most likely method to describe the effects of a particular intervention. Some questions required the use of qualitative research methods while others required quantitative methods and still others by using a combination of both. Qualitative research may be used to provide in-depth information about a small group (Ambert et al. 1995 p.4). For instance qualitative research methods may be used to identify themes in relation to heredity, growth development, classroom and learning support room performance. The knowledge provided through quantitative research methods “can be used to answer a number of questions about how much change occurred as a result of your intervention” (Francisco et al. 2001, p.21). Quantitative research methods in the form of standardised tests were used with participants in order to assess where pupils present strengths and weaknesses lay prior to the commencement of instruction so that tuition can be directed towards areas of greatest need. Standardised tests were essential in order to establish participants’ progress subsequent to a period of instruction (Hasson and Joffe 2007, p.15). Pupils were compared with their previous performance on specific tasks e.g. narrative discourse, narrative story retell, reading and writing assessment.

2.3.1 The Setting

The research was conducted in a rural seven teacher school. The school has five mainstream teachers and two full time support teachers, one full time Learning Support Teacher and one full time Resource Teacher. There are currently 130 pupils on roll. The test-teach-retest was conducted in the newly constructed school extension. This room was capable of holding eight pupils. The support room was furnished with two tables and six chairs, a teacher’s table and chair and an assortment of freestanding shelving which contain teaching aids and a variety of reading material. Pupils attending learning support for English attended classes of forty five minutes duration four or five days a week.
3.3.2 The Participants

The participants were selected from a group of sixteen pupils who are at present in receipt of Learning Support in English. Of the sixteen pupils presenting with language problems five were referred for psychological assessment in the current school year 2008-2009. Of this group three were referred because of concerns with language acquisition problems. The other two were referred because of general literacy problems. These latter five pupils were selected for inclusion in this study. Two female pupils both aged seven years of age were selected because they did not have language acquisition problems but did have more general literacy problems. The latter two pupils comprise Group B. Three boys with language acquisition problems whose ages were eight, nine and eleven comprise Group B. The socio economic background of the participants was identified based on the mother’s occupation and education. Of the two pupils in Group A one was classified as Grade ABC1 and the other was classified as Grade C2DE. Of the three pupils in Group A two were classified as Grade ABC1 and one was classified as Grade C2DE. The NRS social grades have been used as a means of demographic classification (Wilmshurst et al. 2009).

3.3.3 Other Contributors

3.3.3.1 Mainstream Teachers

The views of mainstream teachers were sought on the general progress of selected pupils, their level of involvement in classroom discussion, specific progress in story retell, reading and written narrative story and the teaching methods in use particularly in relation to language acquisition. These views were obtained by means of interview. Four classroom teachers were interviewed in total.

3.3.3.2 Parents

The parents of participating pupils were also interviewed. Permission was sought in writing to allow children to take part in the study. Background information was obtained in relation to learning difficulties for both parents and children. The intervention was outlined to parents and their support was sought in relation to the use of cue cards to facilitate story retell as part of homework exercises.
3.4 Research

3.4.1 Research Procedure

The research followed a test-teach-retest model as outlined by Hasson and Joffe (2007)

1. Parents were interviewed with a view to obtaining
   (a) Background information regarding language milestones prior to school entry, hereditary factors and
   (b) Home support to oversee story retell interventions, using cue cards and templates containing story grammar to oversee the learning of new vocabulary and to oversee story reading and to offer verbal praise as appropriate as children performed these tasks. Parents might assist their children by prompting but this was not a requirement.

2. Assessment of all pupils in both groups was conducted using the Group Reading Test 11 and the Diagnostic Reading Analysis.

3. Language Samples were taken using protocols outlined by (SALT Software LLC 2009). Three samples were taken from each pupil. The samples included conversation, story retell narrative and narratives in which the pupil selected the story. For the conversation samples the protocol as set out by (SALT Software LLC 2009b, Tips Sheet) was used. Following this protocol enabled comparison of conversation transcripts with the SALT Reference Database.

4. Narrative sampling was conducted according to the protocol used in collecting narrative samples for the SALT Reference Database. This protocol is outlined at, SALT Software LLC (2009c, Tips Sheet)
   Following this protocol facilitated comparison between samples taken and those comprising the SALT Reference Database. A minimum of fifty utterances were collected. Samples were recorded, transcribed, encoded and analysed using SALT software. Tables were created by the author using SALT Software outputs.

5. Analysis of written narrative was performed on SALT Software. Pupils wrote a story that they had read and narrated orally. The story was analysed using
Subordination Index scoring system. Sentences containing a subject and predicate were awarded one point. SALT Software produced a score based on the number of such sentences. This analysis was conducted by the author.

6. Intervention commenced with instruction in story grammar and the language of feelings. Colour cue cards were used in order to highlight different aspects of story grammar. Five cue card questions were used Who, Where What When and Why. Four were designed by (Shanks and Rippon 2001).

7. A cue card for Why was designed by the author. Why questions focused on the feelings of the characters and assisted children in providing an explanation for characters’ actions.

8. Questions targeted a specific form of language. For instance the Who questions focused on character names and descriptions, Where questions focused on settings, etc.

9. Each week a new story was introduced. In the first week pupils were instructed in five questions Who, What, When, Where, Why and a story was read. Activities were designed round each question. Activities based on who questions related to naming major and minor characters and providing descriptions. At the end of each week pupils retold the story using the five questions to identify different aspects of story structure. A newsreader and reporter type scenario was used to retell the story. The newsreader asked the questions and the reporter answered.

10. In the second week a new story was introduced and the first story was used as reading material.

11. Vocabulary in relation to each story was introduced and learned using a flip chart. Words with which the children were unfamiliar were addressed by means of images, meaning, context and discussion.
12. Stories were retold orally using the five cue questions. Stories were also written using the five cue questions. Story summaries were written in text organisers as outlined in Appendix G.

13. Stories were read by pupils using photocopies of text of the selected stories. Stories were selected for suitability of language and topics.

14. At the end of the intervention parents and class teachers were interviewed and their views obtained on progress. Pupils were tested using the assessment tools outlined here.

3.4.2 Research Instruments

The following data collection instruments were selected:

- Systematic Analysis of Language Transcripts (SALT)
- The Peabody Picture Vocabulary Test (Dunn and Dunn 2007)
- Expressive Language Test (Williams 2007)
- Diagnostic Reading Analysis (Crumpler and McCarty 2007)
- Group Reading Test 11 (GRT11) (Hughes and Burley 2005)
- Free Writing Samples
- Interviews with teachers and parents

3.4.2.1 Systematic Analysis of Language Transcripts

Systematic Analysis of Language Transcripts (SALT) is a standardised language sampling procedure for the assessment of expressive language. SALT enables the comparison of the transcription of an individual speaker with a reference database. Comparisons were made with age matched peers. Comparisons was made on the basis of transcript length, syntax, morphology, semantics, phonology, pragmatics, discourse, intelligibility, repetitions and revisions, mean length of utterance, rate and abandoned
utterances. Language samples were norm referenced with an American database. The New Zealand Database was not used as it only applied to some participants. Norms and analysis of language transcripts were used to determine the existence of expressive difficulties and disabilities..

3.4.2.2 The Peabody Picture Vocabulary Test Fourth Edition
The Peabody Picture Vocabulary Test Fourth Edition was individually administered to provide norm referenced test of receptive vocabulary and verbal ability.

3.4.2.3 Expressive Language Test Second Edition
The Expressive Language Test was individually administered to provide norm referenced test of expressive language.

3.4.2.4 Group Reading Test 11(GRT\textsubscript{11}) and Diagnostic Reading Analysis
Group Reading Test 11(GRT\textsubscript{11}) was norm referenced and used as a short screening/monitoring test for groups of children. Selecting a suitable reading test for such a wide variety of reading ability proved challenging. The ages of pupils in the sample ranged from seven years to eleven and a half. Some of the beginning readers at age seven were barely able to read a full sentence let alone a passage. Neale (1999) was used initially but three pupils failed to register a score. Therefore it was decided to use a sentence reading test in order to assess reading, vocabulary and comprehension skills combined with Crumpler and McCarty (2007) which was designed to assess reading with low ability levels. The latter test provided information on a range of reading skills.

3.4.2.5 Free Writing Samples
Free writing samples were obtained for each pupil in the areas of narrative story retell self select pre intervention and post intervention. In the case of narrative story retell the pupils were allowed to select a story they had read or heard recently e.g. story from a library book. Narrative samples were scored on the basis of Subordination Index as outlined:
3.4.2.6 Diaries

A daily diary documenting teacher observations of pupil performance was kept. Information reported in the diary related to pupils’ and/or teachers’ comments on and reaction to:

a) questions
b) assignments,
c) application to work assignments
d) observations on pupil work.

Only comments relevant to the present study were recorded.

3.4.3 Analysis

Statistically significant results obtained from standardised tests such as SALT and Diagnostic Reading Analysis were analysed using Excel. Conversation, narrative self select, narrative retell recordings were transcribed into SALT software. Errors were identified and coded within each transcript. The transcripts were then compared and analysed so that common trends could be identified. Trends were also identified in interviews with teachers and parents and analysed and the results combined and triangulated with results from pupil transcripts and from standardised tests.

3.4.4 Reliability and Validity

Validity refers to the whether the test works “as it is intended to” (Hasselgreen 2004, Introduction). The use of diverse research methods in this study was essential in order to verify findings in relation to oral language skills. The use of multiple methods improved the validity of the findings. The convergence between two methods “. . . enhance(s) our belief that the results are valid (Jick 1979, p.603).

Babbie (1994) defined reliability as providing the same answer repeatedly, in an unchanged situation where answers had been forgotten. (Van der Velde et al. 2004, p.45-59) emphasised the need for a methodical approach to testing to ensure reliability. However the taking of language transcripts such as narrative retell may be affected by such factors as how recently the material was covered even though pupils with learning difficulties tend to have problems with recall. Triangulation where possible between the
qualitative and quantitative data was therefore an important feature of this study in order to ensure reliability and validity.

Conformability is identified by Lincoln and Guba (1985, pp.289-392) as referring to the degree to which the researcher can demonstrate the neutrality of their research interpretations, through a ‘conformability audit’. In this study conformability is supported by the inclusion of detailed excerpts from the raw data to support the findings made. A representative sample of the data is included in (Appendices I - L).

3.5 Limitations of the Methodology

The following were identified as some limiting factors in the study.

3.5.1 Sample

The availability of a broad homogeneous sample was beyond the scope of this study. To be secure in the generalisability of findings it would be necessary to conduct the study with a much larger sample of boys who have dyslexia and have difficulty acquiring language yet do not qualify for speech and language therapy.

3.5.2 Compatibility of Test

All children selected were assessed on all three language sample types conversation, narrative retells self select, narrative retells from using story elicitation books from saltsoftware.com. It was not possible to assess one pupil on the latter narrative type as assessment materials were unavailable for his age group. However it was possible to compare his performance on a text one level below his age. This is not unusual practice as stories that appear quite simple have been used with older age groups in other studies. The Frog Where Are story was used to assess language in different age groups throughout the primary school. The study of Berman and Slobin (1994) is a case in point. However the use of the Dr DeSoto (Steig 1990) story with an eleven year old limited the comparison sample size from the SALT Software database.
The largest comparison samples in SALT were obtained by using fifty complete and intelligible utterances as a basis for comparison with the database. Depending on the number of utterances in the transcript the comparison group of typically developing children could be as low as ten and as high as the one hundred and twenty. It was not possible to compare all children with the New Zealand database. These problems were mitigated by the use of the Expressive Language Test Second Edition and The Peabody Picture Vocabulary Test, Fourth Edition to assess expressive and receptive language.

SALT Software does not measure language comprehension. An attempt was made to do this by providing pictures called Bracken Concept Development Pictures which could be downloaded from the SALT Software website. It was intended that those pictures would be used to construct stories and that this would provide an assessment of language comprehension. In an email received from SALT Software offices it was stated that “a lot of narratives were collected using those pictures but the narratives were not very rich” (Nockerts 2009, Email) and the project was abandoned. Therefore SALT Software does not measure language comprehension.

Irish children tended to be more loquacious than their American counterparts. Irish children tended to use more words and sentences to express themselves than American children. This even applied to Irish children who were reported with language acquisition problems. Irish children tended to use “and” “then” “so” and “like” as pause words more frequently than American children. The examiner ignored these Irishisms and made new sentences where it was judged that the child intended to create a new sentence or where the child started a new thought. American children used some slang such as “gonna” and “gotta” but tended to speak in whole sentences.

3.5.3 Scheduling Issues

Pupils in group A received the intervention in three different instructional groups because of age differences. Difficulties in maintaining similarity of intervention across different age groups were addressed by preparing lesson plans for all three age groups
consecutively. Similarity of methodology was maintained across all groups. Pupils in group B were all in the same instructional group.

Other limitations of the study include the short period of the intervention. With a longer period of instruction the results may have been more impressive. The possibility of testing again after six months would help to indicate what effect instruction had on narrative retell in the long term and the ability of memory to provide story components.

3.5.4 Researcher Bias

The research is open to bias on the part of the researcher. However the researcher undertook training in the protocols of obtaining language samples. This helped to minimise bias. For conversational and narrative language samples the protocol as set out at (SALT Software LLC 2009b Tips Sheet) and (SALT Software LLC 2009c Tips Sheet) respectively were followed. Additionally online training was also undertaken into procedures for obtaining language samples. This training was available at (SALT Software LLC 2009d) Training consisted of two video demonstrations of two to three hours duration. The first demonstration was viewed about two weeks before sampling was undertaken and the second video session was taken the day prior to the taking of the first language sample.

Training was undertaken in elicitation, transcription, analysis and interpretation of language samples according to procedures set out at (SALT Software LLC 2009e).

Scores for narrative story self select and narrative selected stories were obtained as follows:

- The stories were scored separately by the class teachers.
- Their scores were then rechecked by an independent examiner who was familiar with the marking scheme employed by SALT for Narrative Story Scoring.
- The final results were then tabulated.
3.5.5 Participant Bias

Teachers may not wish to give information about the methods used to teach particular topics. Teachers may also feel threatened that a pupil of theirs has not learned much from a particular teaching approach and may seek to transfer the blame for this failure to the pupil rather than accepting that the teaching method needs to be changed. Note was taken in interview situations of the way in which answers were given to questions in addition to the information itself.

Some parents are reluctant to share information relating to their educational qualifications, occupation and background in case this might reflect badly on them. Answers to sensitive questions were crosschecked with information provided on enrolment forms completed when children became pupils in the school. Parents may wish their child to perform better than they really are. One parent taught a story to her child immediately before the intervention commenced. This story was not included for coding purposes in case it might distort the result for this child.

Pupils also may perform below or above their potential depending on whether they like or dislike the topic or the teacher. Prior knowledge of the pupil was used to determine whether the pupils were making their best efforts. Where this was not the case the pupil was informed and requested to make a better effort. The posture and application of each child was noted.

3.6 Summary

This chapter outlined the research methodology used to conduct this study. It identified the research instruments, outlined the procedures followed and described the participants and the procedures involved. Due consideration was given to concerns of reliability and validity. The limitations of the study were presented to ensure the transparency and trustworthiness of the research.
Chapter 4 Presentation of Findings

4.1 Introduction

The previous chapter outlined the methods used to conduct this study. This chapter aims to present findings in five sections as follows:

1. The first sections will present findings on the backgrounds of parents and pupils and oral language of the participants from;
   - Interviews with parents
   - Interviews with teachers

2. Secondly the contribution of ICT to language assessment will be examined. In particular the findings from SALT Software relating to the five domains of language will be presented;
   - Grammar,
     - Pronoun Production
     - Conjunction Production
     - Subordination Index
     - Word error analysis
   - Semantics
     - Language sample length
     - Range and diversity of word roots
     - Speed of thought and word rate
     - Responses to questions in conversational speech
     - Mazes.
   - Morphemes
     - Omitted bound morphemes
     - Inserted morphemes
   - Phonological Awareness
     - Word approximations
   - Pragmatics
     - Abandoned utterances
3. The third section will present findings from SALT Software on the evaluation of story retell and will conclude with a summary of diagnostic information obtained from SALT Software:
   - Narrative Story Retell Scores
4. Results of SALT Software will be verified by reference to other standardised tests:
   - Expressive Vocabulary Test Second Edition Peabody Picture
5. The fifth and final section will present findings on reading and writing:
   - Standardised test of Reading GRT
   - Diagnostic Reading Analysis Forms A and B
   - Written assignment scores pre intervention
   - Written assignment scores post intervention

Findings will be presented as outlined above. Findings from one source will be triangulated with findings from another wherever possible.

The study was conducted on two groups A and B. Subjects in Group A and B were all assigned a number. Pupils in Group A are identified by the numbers A1 and A2. Pupils in Group B are identified by the numbers B1, B2 and B3. Mothers have been assigned identification which corresponds with the number given to their child. So therefore Parent A1 is the mother of Pupil A1 etc. Correspondence and confidentiality have thus been maintained.

4.2 Presentation of Data

4.2.1 Interviews with Parents – Developmental Histories

Information provided by parents (Appendix A) indicated a link between heredity factors and the occurrence of dyslexia existed. One of the most important findings from parents with reference to the achievement of milestones was that pupils in Group B were described by their parents as having delayed speech development at or before two and a
half years of age. All the participants in the study were screened at three years of age but no follow up action appears to have been taken. One parent was so concerned at two and a half years of age that she brought her child to the doctor. He commented “Don’t worry. He’ll be all right”. All three mothers in Group B remarked that their children were walking at one year (Appendix B). The two descriptors applied by parents in Group B were early walking and late talking. One parent referring to her own child commented, “He was an early walker and a late talker”.

4.2.2 Interviews with Parents - Oral Language

All of the parents of children in Group B had concerns about their children’s expressive language. Some of the concerns related to articulation problems others referred to grammatical problems. All parents in Group B thought that their children would find it difficult to retell stories accurately (Appendix C). Post intervention the majority of parents thought that their children were retelling stories better or much better than before. A more detailed account of parents’ comments post intervention is available in (Appendix D). Class teachers were also consulted on pupils’ performance in class.

4.2.3 Interviews with Class Teacher - Oral Language

Teachers commented that pupils in Group B were good at sport. One teacher commenting on the over physical play of one pupil said “He has no friends”. The pupils in Group B were seldom involved in classroom discussion and rarely articulated an opinion on topics under discussion according to their teachers. Teachers also expressed concern about the degree to which by pupils in Group B understood classroom discussion. Teachers did not identify grammatical structure or use of tenses as specific problems (Appendix E). One teacher commented “It’s not the kind of thing we hear in class”. Class teachers were interviewed again post intervention on the subject of pupils oral language development.

Classroom teachers did not identify any improvement in pupils’ general responses in class. However teachers acknowledged that the story retell of the majority of pupils in group B had improved post intervention (Appendix F). Following these interviews the investigation turned to the use of quantitative methods of investigation.
4.3 ICT as an Aid to Language Assessment

4.4 Grammar

First the grammatical complexity of children’s language was compared with typically developing American children using SALT Software. The speech of pupils indicated the presence of a variety of grammatical forms.

4.4.1 Personal Pronoun Production

Pupils used a variety of personal pronouns in their speech such as I, it, we, he, her, you, me, she, them, and they. The personal pronoun I, we, he and they were the most frequently used pronouns by all participants pre-intervention.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>41%</td>
<td>she</td>
<td>he 33.3%</td>
</tr>
<tr>
<td>we</td>
<td>12%</td>
<td>they</td>
<td>they 33.3%</td>
</tr>
<tr>
<td>various</td>
<td>47%</td>
<td>various</td>
<td>various 33.3%</td>
</tr>
<tr>
<td>A.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>39%</td>
<td>I</td>
<td>he 50%</td>
</tr>
<tr>
<td>we</td>
<td>17%</td>
<td>they</td>
<td>they 25%</td>
</tr>
<tr>
<td>various</td>
<td>44%</td>
<td>various</td>
<td>various 25%</td>
</tr>
<tr>
<td>B.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>28%</td>
<td>It</td>
<td>she 55%</td>
</tr>
<tr>
<td>we</td>
<td>37%</td>
<td>they</td>
<td>her 24%</td>
</tr>
<tr>
<td>various</td>
<td>35%</td>
<td>various</td>
<td>various 21%</td>
</tr>
<tr>
<td>B.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It</td>
<td>24%</td>
<td>he</td>
<td>he 58%</td>
</tr>
<tr>
<td>we</td>
<td>25%</td>
<td>him</td>
<td>they 32%</td>
</tr>
<tr>
<td>various</td>
<td>51%</td>
<td>various</td>
<td>various 10%</td>
</tr>
<tr>
<td>B.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>it</td>
<td>21%</td>
<td>it</td>
<td>he 28%</td>
</tr>
<tr>
<td>we</td>
<td>30%</td>
<td>they</td>
<td>they 25%</td>
</tr>
<tr>
<td>various</td>
<td>49%</td>
<td>various</td>
<td>various 47%</td>
</tr>
</tbody>
</table>

Table 4.1: PERSONAL PRONOUN PRODUCTION PRE-INTERVENTION

compiled from SALT Software Analysis of Language Samples

Table 4.1 presents most frequently used pronouns as a percent of total pronoun production. The language samples in Group A and B indicated the use of a greater variety of pronouns in the conversational and narrative story self select samples than in the narrative retell samples. All pupils are capable of variety in their use of pronouns. The most frequently used pronouns in both groups indicate general similarities. The use of
pronouns by pupils in Group A however was more varied than by pupils in Group B in the majority of cases. Pronouns form the subject of most clauses in the speech of pupils in both groups. Using a wide variety of pronouns enables the creation of more grammatically complex, varied and interesting sentences. The following table outlines the development of pronoun production post intervention.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td>we 42%</td>
<td>he 21%</td>
<td>he 48%</td>
</tr>
<tr>
<td></td>
<td>it 28%</td>
<td>they 17%</td>
<td>him 19%</td>
</tr>
<tr>
<td></td>
<td>various 30%</td>
<td>various 62%</td>
<td>various 33%</td>
</tr>
<tr>
<td>A.2</td>
<td>it 43%</td>
<td>she 26%</td>
<td>he 48%</td>
</tr>
<tr>
<td></td>
<td>we 40%</td>
<td>it 21%</td>
<td>they 25%</td>
</tr>
<tr>
<td></td>
<td>various 17%</td>
<td>various 53%</td>
<td>various 27%</td>
</tr>
<tr>
<td>B.1</td>
<td>we 46%</td>
<td>he 31%</td>
<td>she 66%</td>
</tr>
<tr>
<td></td>
<td>it 18%</td>
<td>they 26%</td>
<td>her 19%</td>
</tr>
<tr>
<td></td>
<td>various 36%</td>
<td>various 56%</td>
<td>various 14%</td>
</tr>
<tr>
<td>B.2</td>
<td>I 48%</td>
<td>he 27%</td>
<td>he 56%</td>
</tr>
<tr>
<td></td>
<td>it 16%</td>
<td>they 23%</td>
<td>they 17%</td>
</tr>
<tr>
<td></td>
<td>various 36%</td>
<td>various 50%</td>
<td>various 27%</td>
</tr>
<tr>
<td>B.3</td>
<td>we 32%</td>
<td>they 29%</td>
<td>he 48%</td>
</tr>
<tr>
<td></td>
<td>it 16%</td>
<td>it 24%</td>
<td>him 19%</td>
</tr>
<tr>
<td></td>
<td>various 51%</td>
<td>various 47%</td>
<td>various 32%</td>
</tr>
</tbody>
</table>

Table 4.2: **PERSONAL PRONOUN PRODUCTION – POST INTERVENTION**

Table 4.2 was compiled from SALT Software analysis of language samples post intervention.

The intervention enabled the majority of pupils in Group B to make a more varied use of pronouns in narrative story self select which was the area most directly targeted by the intervention. A reading of the transcripts also indicates a slightly greater use of noun clauses rather than pronoun clauses in the narrative story self select and story retell. In addition there is an increased use of third person singular speech in conversational speech by all pupils in Group A and B. Another contributing factor to variety of speech production is the production of conjunctions.
### 4.4.2 Conjunction Production

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td>and</td>
<td>66%</td>
<td>and 50%</td>
</tr>
<tr>
<td></td>
<td>then</td>
<td>13%</td>
<td>then 32%</td>
</tr>
<tr>
<td></td>
<td>various</td>
<td>21%</td>
<td>various 18%</td>
</tr>
<tr>
<td>A.2</td>
<td>and</td>
<td>68%</td>
<td>and 58%</td>
</tr>
<tr>
<td></td>
<td>because</td>
<td>12%</td>
<td>then 20%</td>
</tr>
<tr>
<td></td>
<td>various</td>
<td>20%</td>
<td>various 22%</td>
</tr>
<tr>
<td>B.1</td>
<td>and</td>
<td>68%</td>
<td>and 66%</td>
</tr>
<tr>
<td></td>
<td>then</td>
<td>20%</td>
<td>so 13%</td>
</tr>
<tr>
<td></td>
<td>various</td>
<td>12%</td>
<td>various 21%</td>
</tr>
<tr>
<td>B.2</td>
<td>and</td>
<td>75%</td>
<td>and 64%</td>
</tr>
<tr>
<td></td>
<td>because</td>
<td>15%</td>
<td>then 33%</td>
</tr>
<tr>
<td></td>
<td>various</td>
<td>10%</td>
<td>various 3%</td>
</tr>
<tr>
<td>B.3</td>
<td>and</td>
<td>54%</td>
<td>and 62%</td>
</tr>
<tr>
<td></td>
<td>then</td>
<td>14%</td>
<td>then 21%</td>
</tr>
<tr>
<td></td>
<td>various</td>
<td>32%</td>
<td>various 17%</td>
</tr>
</tbody>
</table>

Table 4.3: **CONJUNCTION PRODUCTION PRE-INTERVENTION**

compiled from SALT Software Analysis of Language Samples

Table 4.3 reveals a remarkable similarity between pupils in both groups Group A and Group B in their use of conjunctions. Pupils used a variety of conjunctions such as; after, and, because, but, if, so, then, and while. The conjunction “and” was the most frequently used conjunction by all pupils. It was used between thirty five and fifty three times by pupils in Group B. Conjunctions are significant because they influence the creation of subordinate clauses. The following table shows how conjunction production was affected by the intervention.
Tables 4.3 and 4.4 demonstrate that the conjunctions used were either less varied or about the same pre intervention as post intervention. SALT Software provides other measures of grammatical complexity.

### 4.4.3 Measures of Grammatical Complexity

Subordination index established syntactic complexity by an examination by measuring the use of main and subordinate clauses. The subordination index scores for pupils in Group A and Group B are presented in Table 4.5.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td>1.61</td>
<td>1.64</td>
<td>1.78</td>
</tr>
<tr>
<td>A.2</td>
<td>1.48</td>
<td>2.27</td>
<td>1.79</td>
</tr>
<tr>
<td>B.1</td>
<td>1.04</td>
<td>1.25</td>
<td>1.23</td>
</tr>
<tr>
<td>B.2</td>
<td>1.42</td>
<td>1.69</td>
<td>1.75</td>
</tr>
<tr>
<td>B.3</td>
<td>1.58</td>
<td>1.74</td>
<td>1.82</td>
</tr>
</tbody>
</table>

Table 4.5: **SUBORDINATION INDEX SCORES PRE–INTERVENTION**

compiled through coding of Language Samples using marking system SO-S6.

---

Table 4.4: **CONJUNCTION PRODUCTION**

Table 4.10 was compiled from SALT Software analysis of language samples.
The subordination index scores of the majority of pupils in Group B are lower than the subordination index scores of pupils in Group A. SALT Software permitted the exploration of Subordination Index Scores for Narrative Retell stories only. The software permits a comparison of subordination index scores of Irish children with an American database of standardised scores. It presents the distribution of clauses from one to six.

<table>
<thead>
<tr>
<th>Pupil</th>
<th>S.I</th>
<th>[SI-0]</th>
<th>[SI-1]</th>
<th>[SI-2]</th>
<th>[SI-3]</th>
<th>[SI-4]</th>
<th>[SI-5]</th>
<th>[SI-6]</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td>1.78</td>
<td>0</td>
<td>9</td>
<td>22</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>0.27</td>
<td>28.33</td>
<td>5.71</td>
<td>0.56</td>
<td>0.03</td>
<td>0.02</td>
<td>0.00</td>
</tr>
<tr>
<td>A.2</td>
<td>1.79</td>
<td>0</td>
<td>14</td>
<td>12</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>0.31</td>
<td>27.15</td>
<td>7.75</td>
<td>1.01</td>
<td>0.11</td>
<td>0.03</td>
<td>0.00</td>
</tr>
<tr>
<td>B.1</td>
<td>1.23</td>
<td>0</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>0.45</td>
<td>28.59</td>
<td>8.33</td>
<td>1.22</td>
<td>0.12</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>B.2</td>
<td>1.75</td>
<td>0</td>
<td>7</td>
<td>11</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>0.13</td>
<td>33.10</td>
<td>10.38</td>
<td>0.85</td>
<td>0.10</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>B.3</td>
<td>1.82</td>
<td>0</td>
<td>17</td>
<td>21</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>0.10</td>
<td>31.30</td>
<td>11.90</td>
<td>2.40</td>
<td>0.50</td>
<td>0.10</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Table 4.6 NARRATIVE RETELL SUBORDINATION INDEX SCORES

EXPLORED PRE - INTERVENTION. Table 4.12 was compiled from SALT Software analysis of Subordination Index Codes on narrative retell.

Table 4.6 shows that the Irish pupils in this survey tended to use more main clauses accompanied by at least one subordinate clause and fewer main clauses unaccompanied by a subordinate clause than typically developing American children. This should be understood in the context of the tendency of Irish children to commence and continue their utterances with “and” or “and then”. The table also shows the tendency of the majority of pupils in Group B to retell stories using fewer main and subordinate clauses than pupils in Group A or typically developing American children. The development of clauses post intervention is presented in the following table.
Table 4.7: SUBORDINATION INDEX SCORES - POST INTERVENTION

Table 4.7 was compiled from SALT Software analysis of Subordination Index Scores.

Subordination Index scores in Table 4.7 indicate that the majority of scores in Group A are higher than scores in Group B. A comparison of tables 4.5 and 4.7 reveal an increase in the majority of scores in Group A and the overwhelming majority of scores in Group B. All scores for narrative retell self select present the greatest increases from pre to post intervention with one notable exception in Group A. The development of clauses in Narrative Retell post intervention is presented in Table 4.14

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td>2.19</td>
<td>2.00</td>
<td>1.84</td>
</tr>
<tr>
<td>A.2</td>
<td>2.70</td>
<td>1.38</td>
<td>1.34</td>
</tr>
<tr>
<td>B.1</td>
<td>1.73</td>
<td>2.18</td>
<td>1.41</td>
</tr>
<tr>
<td>B.2</td>
<td>1.96</td>
<td>2.00</td>
<td>1.34</td>
</tr>
<tr>
<td>B.3</td>
<td>1.96</td>
<td>3.33</td>
<td>2.59</td>
</tr>
</tbody>
</table>

Table 4.8: NARRATIVE RETELL SUBORDINATION INDEX SCORES EXPLORER POST - INTERVENTION.

Table 4.14 was compiled from SALT Software analysis of Subordination index scores.

This table reveals an increase in the number of main clauses without an accompanying subordinate clause for pupils in Group A and the majority of pupils in Group B. The table also reveals a slight increase in the number of main clauses with an accompanying subordinate clause by pupils in Group B. A comparison of tables 4.6 and 4.8 revealed that
the majority of pupils in Group B retold their story using an increased number of main clauses and main clauses with one accompanying subordinate clause. While improvements in grammatical complexity were outlined the production of word and sentence errors will now be considered. The following table explores word and sentence errors pre-intervention.

### 4.4.4 Word Error Analysis

<table>
<thead>
<tr>
<th>Error Type/ Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A.1</td>
<td>A.2</td>
<td>A.1</td>
</tr>
<tr>
<td>Lexical Errors</td>
<td>3</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Org. Error</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utterance Error</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Omit. Morphemes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Def. Indef. Article</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Omitted Words</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colloquialisms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verbs</td>
<td>6</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Nouns</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conjunctions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preposition</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pronouns</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Adjectives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Errors</td>
<td>9</td>
<td>13</td>
<td>20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error Type/ Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B.1</td>
<td>B.2</td>
<td>B.3</td>
</tr>
<tr>
<td>Lexical Errors</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Org. Error</td>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Utterance Error</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Omit. Morphemes</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Omitted Words</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Colloquialisms</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Def. Indef. Article</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Verbs</td>
<td>13</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Nouns</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Conjunctions</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Preposition</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Pronouns</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Adverb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjective</td>
<td>2</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Total Errors</td>
<td>26</td>
<td>23</td>
<td>28</td>
</tr>
</tbody>
</table>

Table 4.9: **WORD ERROR CODES ANALYSIS PRE-INTERVENTION**
The occurrence of errors in Group A linked mostly to the use of irregular verbs. There are errors in the use of irregular verbs in Group B also, but errors in the use of regular verbs are combined with a tendency to use tenses inappropriately. There was a tendency amongst all pupils in Group B to speak in the present tense when recounting events which had taken place in the past. There was an inability amongst pupils in Group A to retrieve specific vocabulary in order to make themselves understood identified by lexical errors. Lexical errors occurred more frequently in Group B than in Group A. Errors in grammar were more likely to be made in other grammatical categories by pupils in Group B than pupils in Group A. The pattern of error post intervention may be examined in the next table.
Table 4.10: **WORD ERROR ANALYSIS POST-INTERVENTION**
compiled from SALT Software Analysis of Word Error Codes.

Table 4.10 presents a picture of word, sentence organisation and utterance errors. It is clear from this table that pupils in Group B have a greater tendency to make word sentence and organisational errors than pupils in Group A even though there has been a degree of convergence of scores between the two groups. The pattern of errors continues to reflect a tendency for the highest error rate to occur with verbs production and the
erroneous verbs are mostly irregular but regular verbs continue to pose a problem for pupils in Group B as do the use of tenses albeit that this problem too has eased somewhat. A comparison of Tables 4.9 and 4.10 uncovers a decrease in word errors from pre to post intervention in both groups. However the tables record an increase in sentence and organisational errors from pre to post intervention. Grammatical accuracy is a pre-requisite for the creation of meaning and making oneself understood. A more detailed description of the decrease in word errors is presented in Chart No. 1.

![Mean Score Word Error Analysis Pre and Post-Intervention](chart)

Chart 4.1 **MEAN SCORE WORD ERROR ANALYSIS PRE AND POST INTERVENTION** chart showing significant improvement in word errors compiled from Word and Utterance Error Codes.

Chart 4.1 reveals a significant reduction in word errors from pre to post intervention. Measures of semantics will now be examined.
4.5 Semantics

4.5.1 Mean Length of Utterance in Words

Semantic complexity of speech is measured by mean length of utterance in words, root word diversity and word rate by SALT Software. SALT Software compares language samples with typically developing American children for these three variables.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Irish Pupils</td>
<td>American Mean</td>
<td>Irish Pupils</td>
</tr>
<tr>
<td>A.1</td>
<td>5.30</td>
<td>5.48</td>
<td>11.22</td>
</tr>
<tr>
<td>A.2</td>
<td>8.42</td>
<td>5.43</td>
<td>9.17</td>
</tr>
<tr>
<td>B.1</td>
<td>4.36</td>
<td>5.98</td>
<td>9.24</td>
</tr>
<tr>
<td>B.2</td>
<td>7.64</td>
<td>6.23</td>
<td>8.56</td>
</tr>
<tr>
<td>B.3</td>
<td>5.32</td>
<td>6.12</td>
<td>10.64</td>
</tr>
</tbody>
</table>

Table 4.11: MEAN LENGTH OF UTTERANCE IN WORDS PRE-INTERVENTION

This table was compiled from a SALT Software comparison of children on mean length of utterance in words.

The majority of scores by Irish children on mean length of utterance were higher than the mean scores of American children. However the majority of Irish scores in Group B were lower than Irish scores in Group A. The majority of Irish children used longer mean length of utterance in words than their American peers. However the majority of utterances by pupils in group B were shorter than those used by pupils in group A. The pattern of utterance length post intervention is considered in Table 4.12.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Irish Pupils</td>
<td>American Mean</td>
<td>Irish Pupils</td>
</tr>
<tr>
<td>A.1</td>
<td>8.62</td>
<td>5.47</td>
<td>11.74</td>
</tr>
<tr>
<td>A.2</td>
<td>12.42</td>
<td>5.36</td>
<td>6.40</td>
</tr>
<tr>
<td>B.1</td>
<td>6.76</td>
<td>8.22</td>
<td>8.50</td>
</tr>
<tr>
<td>B.2</td>
<td>7.70</td>
<td>6.02</td>
<td>10.80</td>
</tr>
<tr>
<td>B.3</td>
<td>14.00</td>
<td>6.39</td>
<td>21.56</td>
</tr>
</tbody>
</table>

Table 4.12 MEAN LENGTH OF UTTERANCE IN WORDS POST-INTERVENTION

Compiled from SALT Software analysis of conversation questions.
Table 4.12 reveals that Irish children used more words to express their ideas than their American age-related counterparts. That trend continued between pre and post intervention particularly with pupils in Group B. In addition to an examination of length of utterance, another important consideration is the word root diversity in language used by participants.

### 4.5.2 Diversity of Language

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Irish Pupils</td>
<td>American Mean</td>
<td>Irish Pupils</td>
</tr>
<tr>
<td>A.1</td>
<td>139</td>
<td>119.96</td>
<td>195</td>
</tr>
<tr>
<td>A.2</td>
<td>171</td>
<td>122.02</td>
<td>181</td>
</tr>
<tr>
<td>B.1</td>
<td>104</td>
<td>129.14</td>
<td>161</td>
</tr>
<tr>
<td>B.2</td>
<td>172</td>
<td>132.85</td>
<td>154</td>
</tr>
<tr>
<td>B.3</td>
<td>134</td>
<td>130.37</td>
<td>186</td>
</tr>
</tbody>
</table>

Table 4.13: RANGE AND DIVERSITY OF WORD ROOTS PRE-INTERVENTION

This table was compiled from SALT Software comparison of participants' transcripts with American database of typically developing age-related children on multiplicity of word roots.

Irish children in this survey scored higher than American children on measures of word root diversity in the majority of cases in both groups A and B. Pupils in Group A scored higher than pupils in Group B in the majority of cases. Trends are examined in Table 4.14

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Irish Pupils</td>
<td>American Mean</td>
<td>Irish Pupils</td>
</tr>
<tr>
<td>A.1</td>
<td>166</td>
<td>120.40</td>
<td>199</td>
</tr>
<tr>
<td>A.2</td>
<td>163</td>
<td>122.06</td>
<td>108</td>
</tr>
<tr>
<td>B.1</td>
<td>100</td>
<td>131.87</td>
<td>174</td>
</tr>
<tr>
<td>B.2</td>
<td>161</td>
<td>128.29</td>
<td>197</td>
</tr>
<tr>
<td>B.3</td>
<td>236</td>
<td>134.18</td>
<td>289</td>
</tr>
</tbody>
</table>

Table 4.14: RANGE AND DIVERSITY OF WORD ROOTS POST-INTERVENTION

This table was compiled from SALT Software analysis of conversational and narrative language samples based on word root range and diversity.
Irish pupils in Group A and the majority of pupils in Group B use a greater diversity of word roots than the database samples. Increases are particularly evident in narrative story self select in Group B. In addition there has been a narrowing of the gap between scores by Irish children in Group A and B. Semantic complexity referred to the speed with which ideas are translated into words and are measured in words per minute.

### 4.5.3 Processing Speed and Word Rate

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Irish Pupils</td>
<td>American Mean</td>
<td>Irish Pupils WPM</td>
</tr>
<tr>
<td>A.1</td>
<td>46.96</td>
<td>82.05</td>
<td>70.19</td>
</tr>
<tr>
<td>A.2</td>
<td>67.83</td>
<td>81.11</td>
<td>66.52</td>
</tr>
<tr>
<td>B.1</td>
<td>55.16</td>
<td>84.71</td>
<td>86.44</td>
</tr>
<tr>
<td>B.2</td>
<td>70.59</td>
<td>96.48</td>
<td>79.08</td>
</tr>
<tr>
<td>B.3</td>
<td>93.30</td>
<td>98.35</td>
<td>119.50</td>
</tr>
</tbody>
</table>

Table 4.15: **WORD PROCESSING SPEED PRE-INTERVENTION**

compiled from SALT Software comparison of Irish Language Transcripts with American database of typically developing age related children on speed of thought based on Words Per Minute.

The speed of processing tended to increase in both groups from conversation to narrative story self select to narrative retell except in the case of narrative retell in Group B. The scores of pupils in Group B in general were higher than the scores of pupils in Group A. The within utterance and between utterance pauses were more frequent and of longer duration in Group B than in Group A. All of the Irish scores on word processing speed in words per minute were lower than the mean scores of American children. In other words American children spoke more quickly than Irish children. And in the case of late talking children in Group B the older the child the closer they came to the mean score of American children.
Table 4.16: WORD PROCESSING SPEED POST-INTERVENTION

Table 4.16 was compiled from scores obtained from SALT Software analysis of language samples on word processing speed.

Irish pupils in Group A scored higher in word processing speeds than Irish pupils in Group B. Once again American children scored higher than Irish children in words per minute in the vast majority of cases in Groups A and B. There was an increase in word processing speed by Irish pupils in Group A from pre to post intervention. There was a decrease in word processing speed by Irish pupils in Group B from pre to post intervention. The gap between Irish pupils in Groups A and B widened from pre to post intervention. Late talkers’ scores in Group B indicate an increase in speaking rate as children increased in age.

4.5.4 Responses to Questions

Speed of response is important to the listener. In addition responses to questions that reveal understanding of the question are also important. Table 4.17 examines this aspect of semantics for conversational speech.

Table 4.17: RESPONSES TO QUESTIONS PRE-INTERVENTION

Table 4.17 was compiled from scores obtained from SALT Software analysis of language samples on responses to questions.
Asking and responding to questions is an important factor in learning. Appropriate responses indicate the degree to which questions have been understood. One Group A pupil addressed 17 questions with monosyllabic answers or short phrase answers which were contextually based.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Examiners Questions</th>
<th>American Mean</th>
<th>Pupils Responses</th>
<th>American Mean</th>
<th>Y/N Responses</th>
<th>American Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td>53</td>
<td>30.46</td>
<td>52</td>
<td>24.43</td>
<td>5</td>
<td>8.33</td>
</tr>
<tr>
<td>A.2</td>
<td>28</td>
<td>21.01</td>
<td>26</td>
<td>16.43</td>
<td>1</td>
<td>5.58</td>
</tr>
<tr>
<td>B.1</td>
<td>75</td>
<td>47.34</td>
<td>73</td>
<td>38.61</td>
<td>11</td>
<td>13.34</td>
</tr>
<tr>
<td>B.2</td>
<td>80</td>
<td>34.92</td>
<td>76</td>
<td>27.31</td>
<td>24</td>
<td>11.23</td>
</tr>
<tr>
<td>B.3</td>
<td>31</td>
<td>44.59</td>
<td>28</td>
<td>35.18</td>
<td>6</td>
<td>13.09</td>
</tr>
</tbody>
</table>

Table 4.18: **RESPONSES TO QUESTIONS POST-INTERVENTION**

Table 4.18 was compiled from scores obtained from SALT Software analysis of discourse summary.

Table 4.18 revealed an increased number of questions to sustain conversation for the majority of pupils in Group B post-intervention while the reverse was the outcome for the majority of pupils in Group A. The intervention does not appear to have affected the responses of the majority of pupils in Group B while pupils in Group A required extra prompting during post intervention assessment. This may be explained by the participants’ reluctance to respond as described by class teachers and the novelty of the exercise on the first occasion. Responses in Group B revealed that one pupil did not provide appropriate responses to a small number of questions. This may be an indication of other problems. All other participants responded appropriately to the questions asked. Appropriate responses indicate an ability to create meaningful utterances by participants but the production of mazes indicates an inability or delay in producing meaningful utterances.

**4.5.5 Mazes**

The prevalence of mazes (revisions and repetitions) and abandoned utterances provided an indication of language production problems. In the case of pupils in group A the percent of total words devoted to mazes varies between 4 and 8 percent on the entire
language samples. The only exception to this trend was a score by one pupil of thirteen percent on narrative story self select. Another of the key indicators of expressive language difficulties is represented by the tendency to continually revise and repeat words, phrases, sentences and utterances.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation Word Mazes</th>
<th>American Mean</th>
<th>Narrative SSS Word Mazes</th>
<th>American Mean</th>
<th>Narrative Retell Word Mazes</th>
<th>American Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td>7%</td>
<td>11.38%</td>
<td>13%</td>
<td>12.48%</td>
<td>2%</td>
<td>10.26%</td>
</tr>
<tr>
<td>A.2</td>
<td>8%</td>
<td>11.12%</td>
<td>5%</td>
<td>12.75%</td>
<td>8%</td>
<td>11.40%</td>
</tr>
<tr>
<td>B.1</td>
<td>12%</td>
<td>10.60%</td>
<td>10%</td>
<td>11.20%</td>
<td>5%</td>
<td>10.41%</td>
</tr>
<tr>
<td>B.2</td>
<td>6%</td>
<td>10.29%</td>
<td>9%</td>
<td>9.21%</td>
<td>6%</td>
<td>12.68%</td>
</tr>
<tr>
<td>B.3</td>
<td>14%</td>
<td>6.64%</td>
<td>11%</td>
<td>10.28%</td>
<td>16%</td>
<td>11.59%</td>
</tr>
</tbody>
</table>

Table 4.19: **MAZE WORDS AS A PERCENT OF TOTAL WORDS PRE-INTERVENTION** compiled from SALT Software analysis of Maze Summary.

The mazes for both groups A and B consisted mostly of revisions rather than repetitions and fill pauses. The revisions related to the revision of words and phrases but revised words and phrases occurred in the ratio two to one respectively. The majority of pupils in Group A had scores below the mean while the majority of pupils in Group B had scores above the mean. The majority of scores in Group A indicate that between 2 and 13 percent of total speech were maze words. The majority of scores in Group B indicated that between 5 and 16 percent of total speech were maze words. Revisions and repetitions were a more frequent occurrence for some pupils than others in Group B. The majorities of scores in Group B was below the mean and indicate that a minority of pupils relied on word and phrase revisions but those revisions were less successful than the revisions of pupils in Group A. It is evident from Group B that revisions and repetitions form some degree of difficulty for a minority of pupils in this group.
<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Word Mazes</td>
<td>American Mean</td>
<td>Word Mazes</td>
</tr>
<tr>
<td>A.1</td>
<td>14% 11.29</td>
<td>6% 12.86</td>
<td>4% 10.86</td>
</tr>
<tr>
<td>A.2</td>
<td>5% 11.19</td>
<td>2% 13.83</td>
<td>7% 7.30</td>
</tr>
<tr>
<td>B.1</td>
<td>10% 10.72</td>
<td>13% 12.19</td>
<td>13% 10.95</td>
</tr>
<tr>
<td>B.2</td>
<td>9% 10.76</td>
<td>7% 10.53</td>
<td>10% 12.63</td>
</tr>
<tr>
<td>B.3</td>
<td>16% 7.14</td>
<td>17% 12.45</td>
<td>17% 11.59</td>
</tr>
</tbody>
</table>

Table 4.20: **MAZE WORDS AS A PERCENT OF TOTAL WORDS POST-INTERVENTION** compiled from SALT Software analysis of Maze Summary post-intervention.

Table 4.20 indicates that the majority of scores in Group A decreased from pre to post intervention. The majority of scores in Group B increased from pre to post intervention. The same trend with regard to revisions was maintained. Some increases in scores may be explained by increased demands relating to recall of story structure and story retell. This ends the section on semantics. The next section will consider the domain of language known as morphemes.

### 4.6 Morphemes

#### 4.6.1 Bound and Inserted Morphemes

The bound morphemes which are considered by SALT Software are third person singular s, verb endings ed and ing and plurals s and es.
Table 4.21: OMITTED BOUND MORPHEMES PRE-INTERVENTION Compiled from SALT Software analysis of Bound Morpheme list

It is clear from table 4.21 that both groups A and B did not present with difficulty with bound morphemes pre intervention.

Table 4.22: OMITTED BOUND MORPHEMES POST-INTERVENTION compiled from SALT Software analysis of Maze Summary of Bound Morpheme list

Table 4.22 indicates an increase of bound morpheme omission post intervention. The incidence is not high however but is present in both Groups A and B. The insertion of morphemes in inappropriate places also occurred. The inaccurate insertion of morphemes is not standardised by SALT Software.
Table 4.23: **INSERTED MORPHEMES PRE-INTERVENTION**
compiled from SALT Software analysis of Word Code lists.

This table highlights a trend by all pupils to insert morpheme after a word usually a verb or noun but most often a verb. An example of the kind of error is “pulls” in stead of “pulled”. The trend also highlights a tendency to use auxiliary verbs instead of verbs past tense. An example of this might be where a pupils speaks of “he was walking” instead of “he walked”. Pupils in Group B were more likely to speak in this way than pupils in Group A.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bound Morphemes</td>
<td>American Mean</td>
<td>Bound Morphemes</td>
</tr>
<tr>
<td>A.1</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>A.2</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B.1</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>B.2</td>
<td>1</td>
<td>0</td>
<td>18</td>
</tr>
<tr>
<td>B.3</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 4.24: **INSERTED MORPHEMES POST-INTERVENTION**
compiled from SALT Software analysis of Word Code lists.

The majority of scores increased in Group A from pre to post intervention while the majority of scores decreased in Group B from pre to post intervention. Not only did the use of morphemes present problems for pupils but the manner in which pupils learned new vocabulary was also an issue.
4.7 Phonological Awareness

When pupils sought to express a new or unusual word they sometimes employed strategies to assist them.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approx. Sound</td>
<td>Talked Around Subject</td>
<td>Approx. Sound</td>
</tr>
<tr>
<td>A.1</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>A.2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B.1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>B.2</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>B.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 4.25: PHONOLOGICAL AWARENESS PRE-INTERVENTION compiled from SALT Software analysis of Word Code lists.

Table 4.25 outlines the level of difficulty with retrieving specific vocabulary to explain a particular topic. Pupils in Group B produced a word that sounded like the word they wished to use. This strategy did not work more often than not. The majority of pupils in Group B either sound a word which is similar to the word they required or they avoid using the word by talking round the subject. Thus a pupil might speak about a “pole” instead of a “mast” or a “flower” for “petals”. It is evident that pupils in Group B have greater problems in retrieving specific subject vocabulary than pupils in Group A.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approx. Sound</td>
<td>Talked Around Subject</td>
<td>Approx. Sound</td>
</tr>
<tr>
<td>A.1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>A.2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B.1</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>B.2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B.3</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 4.26: PHONOLOGICAL AWARENESS POST-INTERVENTION compiled from SALT Software analysis of Word Code lists.
The majority of scores in Group A either improved or remained the same. The majority of scores in Group B improved. Tables 4.32 and 4.33 indicate that while the retrieval of vocabulary has improved it continues to present problems for the majority of pupils in Group B. Acquiring vocabulary is important for the development of language but using that vocabulary in appropriate contexts is equally important.

4.8 Pragmatics

4.8.1 Abandoned Utterances

Abandoned utterances occurred when a pupil initiated a phrase or sentence but was unable to complete the thought thus failing to make a meaningful utterance.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AU</td>
<td>American Mean</td>
<td>AU</td>
</tr>
<tr>
<td>A.1</td>
<td>2</td>
<td>1.73</td>
<td>2</td>
</tr>
<tr>
<td>A.2</td>
<td>2</td>
<td>1.67</td>
<td>2</td>
</tr>
<tr>
<td>B.1</td>
<td>8</td>
<td>1.46</td>
<td>9</td>
</tr>
<tr>
<td>B.2</td>
<td>6</td>
<td>1.70</td>
<td>8</td>
</tr>
<tr>
<td>B.3</td>
<td>3</td>
<td>1.85</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 4.27: ABANDONED UTTERANCES PRE-INTERVENTION compiled from SALT Software Analysis of Standard Measures.

Table 4.27 indicated that pupils in both groups had difficulty in articulating some ideas but that this problem is more prevalent in Group B than Group A.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Conversation</th>
<th>Narrative SSS</th>
<th>Narrative Retell</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AU</td>
<td>American Mean</td>
<td>AU</td>
</tr>
<tr>
<td>A.1</td>
<td>0</td>
<td>1.76</td>
<td>0</td>
</tr>
<tr>
<td>A.2</td>
<td>1</td>
<td>1.56</td>
<td>1</td>
</tr>
<tr>
<td>B.1</td>
<td>1</td>
<td>1.53</td>
<td>1</td>
</tr>
<tr>
<td>B.2</td>
<td>0</td>
<td>1.57</td>
<td>0</td>
</tr>
<tr>
<td>B.3</td>
<td>1</td>
<td>1.95</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 4.28: ABANDONED UTTERANCES POST-INTERVENTION compiled from SALT Software Analysis of Standard Measures.
Pupils in both Groups A and B show a reduced use of abandoned utterances post intervention. Tables 4.27 and 4.28 present evidence that pupils made less use than previously of utterances that were meaningless as a means of communicating ideas. The results of SALT Software triangulated with the results of standardised tests of expressive and receptive language.

### 4.9 Standardised Tests of Expressive and Receptive Language

#### 4.9.1 Expressive Vocabulary Pre Intervention

The Expressive Vocabulary Test Second Edition assessed a combination of vocabulary some of which was learned at home and some of which was learned in school.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Standard Score</th>
<th>Percentile</th>
<th>Stanine</th>
<th>Age Equivalent</th>
<th>Chronological Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>113</td>
<td>81</td>
<td>7</td>
<td>8.8</td>
<td>7:03</td>
</tr>
<tr>
<td>A2</td>
<td>114</td>
<td>82</td>
<td>7</td>
<td>9.4</td>
<td>7:09</td>
</tr>
<tr>
<td>B1</td>
<td>86</td>
<td>18</td>
<td>3</td>
<td>6.7</td>
<td>8:04</td>
</tr>
<tr>
<td>B2</td>
<td>94</td>
<td>34</td>
<td>4</td>
<td>9.4</td>
<td>9:05</td>
</tr>
<tr>
<td>B3</td>
<td>88</td>
<td>21</td>
<td>3</td>
<td>8.11</td>
<td>11:05</td>
</tr>
</tbody>
</table>

Table 4.29: **EXPRESSIVE VOCABULARY TEST SECOND EDITION PRE-INTERVENTION** standardised expressive language test Form A.

Pupils who achieved an average rating on expressive language achieve a standard score of 100. This table clearly shows that pupils in Group A are performing above average for their age with regard to their expressive vocabulary. Pupils in Group B however are performing below average for their ages with regard to their expressive vocabularies.
4.9.2  Receptive Language Pre Intervention

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Standard Score</th>
<th>Percentile</th>
<th>Stanine</th>
<th>Age Equivalent</th>
<th>Chronological Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>114</td>
<td>82</td>
<td>7</td>
<td>8:11</td>
<td>7:03</td>
</tr>
<tr>
<td>A2</td>
<td>94</td>
<td>34</td>
<td>4</td>
<td>7:05</td>
<td>7:09</td>
</tr>
<tr>
<td>B1</td>
<td>83</td>
<td>13</td>
<td>3</td>
<td>6:07</td>
<td>8:04</td>
</tr>
<tr>
<td>B2</td>
<td>94</td>
<td>42</td>
<td>4</td>
<td>8:08</td>
<td>9:05</td>
</tr>
<tr>
<td>B3</td>
<td>90</td>
<td>25</td>
<td>4</td>
<td>9:11</td>
<td>11:05</td>
</tr>
</tbody>
</table>

Table 4.30: **PEABODY PICTURE VOCABULARY TEST FOURTH EDITION PRE-INTERVENTION** standardized test of receptive language Form A.

The table clearly show that the receptive vocabulary of pupils in Group A was in the High Average Range or the Low Average Range. The majority of scores in Group B were in the Low Average Range. One score was in the Moderately Low Range.

4.9.3  Expressive Language Post Intervention

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Standard Score</th>
<th>Percentile</th>
<th>Stanine</th>
<th>Age Equivalent</th>
<th>Chronological Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>126</td>
<td>96</td>
<td>8</td>
<td>10.7</td>
<td>7:05</td>
</tr>
<tr>
<td>A2</td>
<td>108</td>
<td>70</td>
<td>6</td>
<td>8.9</td>
<td>7:10</td>
</tr>
<tr>
<td>B1</td>
<td>88</td>
<td>21</td>
<td>3</td>
<td>7.0</td>
<td>8:06</td>
</tr>
<tr>
<td>B2</td>
<td>103</td>
<td>58</td>
<td>5</td>
<td>10.5</td>
<td>9:07</td>
</tr>
<tr>
<td>B3</td>
<td>85</td>
<td>16</td>
<td>3</td>
<td>8.8</td>
<td>11:07</td>
</tr>
</tbody>
</table>

Table 4.31: **EXPRESSIVE VOCABULARY TEST SECOND EDITION POST-INTERVENTION** compiled from Expressive Vocabulary Test Second Edition Form B.

The scores of pupils in Group A post intervention indicate that they performed above average. The majority of pupils’ scores in Group B showed an increase but the majority is below average. The increases in scores in Group B are marginal. On the whole these results confirm the findings of parent and teacher interviews and the results of SALT Software that pupils in Group B have language problems. One Pupil in Group B decreased in score. This may be attributed to a number of factors one of which is that the test did not examine the new vocabulary learned during the intervention or it may highlight expressive language problems for this pupil.
4.9.4 Receptive Language Post Intervention

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Standard Score</th>
<th>Percentile</th>
<th>Stanine</th>
<th>Age Equivalent</th>
<th>Chronological Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>113</td>
<td>81</td>
<td>7</td>
<td>8.4</td>
<td>7:05</td>
</tr>
<tr>
<td>A2</td>
<td>130</td>
<td>98</td>
<td>9</td>
<td>11.4</td>
<td>7:10</td>
</tr>
<tr>
<td>B1</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>8.5</td>
<td>8:06</td>
</tr>
<tr>
<td>B2</td>
<td>100</td>
<td>50</td>
<td>5</td>
<td>9.7</td>
<td>9:07</td>
</tr>
<tr>
<td>B3</td>
<td>87</td>
<td>19</td>
<td>3</td>
<td>9.4</td>
<td>11:07</td>
</tr>
</tbody>
</table>

Table 4.32: **PEABODY PICTURE VOCABULARY TEST FOURTH EDITION POST-INTERVENTION** test of receptive language Form B.

Scores in Group A were in the High Average Range or the Moderately High Range. The majority of scores showed an increase from pre to post intervention. Average or below average scores may concealed a lack of breadth rather than depth of vocabulary on the part of the participants. Pupils whose scores on receptive language tests were about average or whose scores were lower than their scores on expressive language tests may indicate a lack of automaticity of word recognition skills and may result in vocabulary deficits over time. These tests confirm that pupils in Group B had problems with expressive and receptive language and that they responded positively to the intervention. Tests have confirmed the findings of SALT Software in relation to mazes, phonological awareness. Next the effects of the intervention on narrative discourse are considered.
### 4.10 Story Retell

The following table presents the scores of children in the survey on story grammar.

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Narrative SSS</th>
<th>Pre Intervention Score</th>
<th>Narrative SSS</th>
<th>Post Intervention Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td>Hi. Sch. Musical</td>
<td>9</td>
<td>Mary and the Fairy</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Over the Hedge</td>
<td>13</td>
<td>The Yellow Balloon</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Elephants</td>
<td>16</td>
<td>Kittens Day Out</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Frog Where Are You</td>
<td>19</td>
<td>Frog Where Are You</td>
<td>25</td>
</tr>
<tr>
<td>A.2</td>
<td>Hi. Sch. Musical</td>
<td>5</td>
<td>Mary and the Fairy</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Hotel For Dogs</td>
<td>7</td>
<td>The Yellow Balloon</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Little Red R. Hood</td>
<td>23</td>
<td>Tall Tilly</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Frog Where Are You</td>
<td>28</td>
<td>Frog Where Are You</td>
<td>29</td>
</tr>
<tr>
<td>B.1</td>
<td>Dawn of the Dead</td>
<td>10</td>
<td>Shiverham Hall</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Army Movie</td>
<td>11</td>
<td>Hurricane Season</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Spirit of the Attic</td>
<td>6</td>
<td>London’s Burning</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Pukins Gets Her Way</td>
<td>21</td>
<td>Pukins Gets Her Way</td>
<td>26</td>
</tr>
<tr>
<td>B.2</td>
<td>Pirates of the Caribbean</td>
<td>13</td>
<td>The Pesky Parrot</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Kung Foo Panda</td>
<td>11</td>
<td>Hurricane Season</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Clash of the Titans</td>
<td>6</td>
<td>London’s Burning</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>A Porcupine Named Fluffy</td>
<td>15</td>
<td>A Porcupine Named Fluffy</td>
<td>27</td>
</tr>
<tr>
<td>B.3</td>
<td>Top Gear</td>
<td>17</td>
<td>Into the Storm</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Hi. School Musical</td>
<td>11</td>
<td>Escape from Colditz</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>The Water Boy Story</td>
<td>17</td>
<td>Thin Ice</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Dr. De Soto</td>
<td>25</td>
<td>Dr. De Soto</td>
<td>29</td>
</tr>
</tbody>
</table>

Table 4.33: **STORY RETELL PRE AND POST INTERVENTION** compiled from SALT Software Narrative Story Scoring Guidelines.
The overwhelming majority of pupils’ narrative discourse improved from pre to post intervention. Children included more of the elements of good story retell post intervention. This would appear to be as a result of the intervention itself which emphasised the components of story grammar. The table reveals consistently higher scores post intervention. The story component scores are averaged over three stories in the next table.

<table>
<thead>
<tr>
<th>Story Components</th>
<th>Intro</th>
<th>Char Dev</th>
<th>Mental States</th>
<th>Background</th>
<th>Conflict/Res</th>
<th>Cohesion</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1 Pre</td>
<td>2.3</td>
<td>2.3</td>
<td>2</td>
<td>2.6</td>
<td>1.6</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td>A.1 Post</td>
<td>2</td>
<td>3.6</td>
<td>2</td>
<td>3</td>
<td>2.6</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>A.2 Pre</td>
<td>1</td>
<td>1.3</td>
<td>0.3</td>
<td>0.6</td>
<td>1.6</td>
<td>1.6</td>
<td>1.3</td>
</tr>
<tr>
<td>A.2 Post</td>
<td>4</td>
<td>2.3</td>
<td>3.3</td>
<td>3.6</td>
<td>4</td>
<td>3.3</td>
<td>4</td>
</tr>
<tr>
<td>B.1 Pre</td>
<td>2</td>
<td>1.6</td>
<td>1.6</td>
<td>2.3</td>
<td>2</td>
<td>0</td>
<td>0.33</td>
</tr>
<tr>
<td>B.1 Post</td>
<td>3</td>
<td>3</td>
<td>2.6</td>
<td>3.6</td>
<td>3.3</td>
<td>1.6</td>
<td>2.3</td>
</tr>
<tr>
<td>B.2 Pre</td>
<td>1.6</td>
<td>2</td>
<td>1.6</td>
<td>3.3</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>B.2 Post</td>
<td>3.6</td>
<td>3.6</td>
<td>2.6</td>
<td>3.3</td>
<td>3</td>
<td>3</td>
<td>2.3</td>
</tr>
<tr>
<td>B.3 Pre</td>
<td>3</td>
<td>2.6</td>
<td>2</td>
<td>2.3</td>
<td>3</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>B.3 Post</td>
<td>3</td>
<td>3.3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 4.34 **STORY COMPONENTS AVERAGE SCORES PRE AND POST INTERVENTION** This table was compiled from class teachers’ scores using Narrative Story Scoring Guidelines.

It is evident from the table that all pupils are capable of including all seven components in their narrative retell. However scores of about 2 or less than two indicated a tendency to leave out this component all together and where it was included only a very sketchy account was offered of that component.
4.12 Oral Language and Literacy

4.12.1 Reading

Two reading tests were administered pre and post intervention the first of these was the Group Reading Test

<table>
<thead>
<tr>
<th></th>
<th>Standard Score</th>
<th>Percentile</th>
<th>Chronological Age</th>
<th>Reading Age</th>
<th>Confidence Band</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td>75</td>
<td>5</td>
<td>7:02</td>
<td>6:00</td>
<td>6:00 – 6:8</td>
</tr>
<tr>
<td>A.2</td>
<td>89</td>
<td>24</td>
<td>7:08</td>
<td>6:10</td>
<td>6:02 – 7:05</td>
</tr>
<tr>
<td>B.1</td>
<td>87</td>
<td>20</td>
<td>8:03</td>
<td>7:02</td>
<td>6:05 – 7:09</td>
</tr>
<tr>
<td>B.2</td>
<td>81</td>
<td>11</td>
<td>9:03</td>
<td>7:02</td>
<td>6:07 – 7:08</td>
</tr>
<tr>
<td>B.3</td>
<td>90</td>
<td>26</td>
<td>11:02</td>
<td>9:07</td>
<td>8:03 – 11:03</td>
</tr>
</tbody>
</table>

Table 4.35 GROUP READING TEST PRE-INTERVENTION screening test of reading.

The test reveals that the standard scores of all pupils in this study are either equal to or below 90.

<table>
<thead>
<tr>
<th></th>
<th>Standard Score</th>
<th>Percentile</th>
<th>Chronological Age</th>
<th>Reading Age</th>
<th>Confidence Band</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td>81</td>
<td>5</td>
<td>7:05</td>
<td>6:00</td>
<td>6:00 – 6:07</td>
</tr>
<tr>
<td>A.2</td>
<td>85</td>
<td>24</td>
<td>7:08</td>
<td>6:10</td>
<td>6:08 – 7:04</td>
</tr>
<tr>
<td>B.1</td>
<td>90</td>
<td>20</td>
<td>8:06</td>
<td>7:02</td>
<td>6:05 – 7:09</td>
</tr>
<tr>
<td>B.2</td>
<td>81</td>
<td>11</td>
<td>9:06</td>
<td>7:04</td>
<td>6:08 – 8:00</td>
</tr>
<tr>
<td>B.3</td>
<td>91</td>
<td>4</td>
<td>11:04</td>
<td>9:11</td>
<td>8:09 – 11:00</td>
</tr>
</tbody>
</table>

Table 4.36 GROUP READING TEST POST-INTERVENTION screening test of reading.

These reading tests reveal some increases have occurred from pre to post test. It is difficult to say from this test how significant the increases were since it is only a screening test.

4.12.2 The Diagnostic Reading Analysis

This test is specifically designed for pupils who tend to score in the bottom quartile of the reading ability range.
Table 4.37 **DIAGNOSTIC READING ANALYSIS PRE-INTERVENTION** standardised test of reading for weak readers.

Scores on the Diagnostic Reading Test reveal that pupil performance on reading had been weak prior to the intervention.

Table 4.38 **DIAGNOSTIC READING ANALYSIS POST-INTERVENTION** standardised test of reading for weak readers.

Scores on the Diagnostic Reading Test post intervention reveal improved standard scores for all pupils’ in both Groups A and B with a increase in processing speed from pre to post intervention. These improvements are further explored in Chart 4.3
Chart 4.2 MEAN STANDARD SCORES ON DIAGNOSTIC READING ANALYSIS PRE AND POST INTERVENTION chart showing significant improvement in reading post intervention.

Chart 4.2 reveals that standard scores improved from pre to post intervention and that those scores were statistically significantly particularly in the case of Group A. The findings on reading suggest significant improvements in reading. Next the findings on writing were examined.

4.13 Writing

4.13.1 Subordination Index of Written Exercises
Written work was assessed on the same basis as Subordination Index. Each sentence containing a subject and predicate were coded according to SALT Software guidelines for grammatical structure.
Table 4.39 SUBORDINATION INDEX FOR WRITTEN ASSIGNMENTS PRE AND POST INTERVENTION

Table was compiled from pupils written assignments pre and post intervention.

Table 4.39 presents an increase in Subordination Index Scores from pre to post intervention. Children produced a greater number of sentences and the sentences were structured better grammatically. The increases in scores have been further explored in Chart 4.3

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Writing Exercises</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre Intervention</td>
</tr>
<tr>
<td>A.1</td>
<td>0.00</td>
</tr>
<tr>
<td>A.2</td>
<td>1.00</td>
</tr>
<tr>
<td>B.1</td>
<td>0.50</td>
</tr>
<tr>
<td>B.2</td>
<td>1.67</td>
</tr>
<tr>
<td>B.3</td>
<td>1.33</td>
</tr>
</tbody>
</table>

Chart 4.3 MEAN SUBORDINATION SCORES FOR WRITING PRE AND POST INTERVENTION chart showing significant improvement in writing post intervention compiled from Subordination Index scores.

This chart indicates that there has been a statistically significant increase in scores from pre to post intervention in writing. This completes the presentation of findings.
Chapter 5 Discussion of Findings

5.1 Introduction

The main aim of this chapter is to discuss the findings of this study in light of the review of literature. The issues raised in the literature review will be further discussed compared and contrasted with the findings of this study. Three questions were raised concerning this study the questions namely home/school background diagnostic testing, intervention and literacy outcomes.

5.2 Home/School Background

5.2.1 Heredity

The answer to question one began with data presented from traditional sources of information on pupils available to the Learning Support Teacher. These sources were the parents and teachers of pupils participating in the study. The first topic to emerge from the data was the role of heredity in the language acquisition problems of participating pupils. The review of literature also highlighted this topic. DeThorne, (L. S. 2008); Smith et al. (2006); Hagtvet et al. (1999) argued that there was a tendency for articulation and language problems to run in families and those pupils with articulation and phonology problems were more likely to encounter reading difficulties. The results of this study on heredity are presented in Table 4.1. The study revealed that all participating pupils had relations who either had literacy difficulties or language difficulties and that those difficulties corresponded with the difficulties experienced by their relations. Parents also provided information on milestones.

5.3 Developmental Milestones

Milestones were described as suitable indicators for detecting language problems Luinge 2006. Early speech milestones were outlined by Harlaar (2008). Ellis-Weismer et al. (1994) and Mc Guinness (2007) outlined the incidence of late talking children. The present study found that all of the children in Group B did not meet the specific milestone for two years of age described by Harlaar (2008) namely that children should be able to
put words together in a short phrase or sentence at two years of age. This skill only began to appear at two and a half years of age and only falteringly at the beginning. It was near to three years of age when this milestone was reached by pupils in Group B. It is very likely then that the children in Group B are the children referred to by (Thal and Bates 1988, pp.115-123; Rescorla et al. 2008, p.36; Fletcher and Mac Whinney 1996, pp. 134-135; Ellis-Weismer et al. 1994; Williams and Elbert 2003) as late talkers. This study found that the pupils in Group B were late talkers. This study also found that pupils in Group B were able to walk at one year old. The characteristic of physical prowess continued with the pupils in the group as they were noted for their ability on the sports field. Pupils’ early development in Group B was pointedly portrayed by one parent as “He was an early walker and a late talker”.

5.4 Teachers

The results of a study by Nippold et al. (2008) revealed that the older the participant (typically developing) the more information they tended to include in their oral responses. (Walker and Archibald 2006; Smith et al. 2006; Ying-Chiao et al. 2006; Robb et al. 2004) identified slower speaking rates of late talkers and (Flipsen 2003) identified the simplicity of the language used. The findings of Nippold’s (2008) study held true for this study also but some qualifications must be made regarding participants’ responses and their teachers’ approaches to language. Teachers revealed in Appendix E that Pupils in Group B made very little contribution to discussion in their classroom and characterised them as quiet and as seldom offering an opinion. The majority of teachers when speaking of their approaches to language with pupils in Group B responded that they were constrained in asking questions of pupils with language acquisition difficulties because of pupil response time and curriculum pressures and demands on class time. Delayed responses were an embarrassment to the pupil and because of these teachers tended to avoid asking open questions but instead asked closed questions that tended not to require an elaborate response. Teachers after being informed of the results of SALT Software on grammar and morphology indicated that they had not heard or were not aware of problems with grammar. One teacher commented “It’s not the kind of thing we hear in class”.
5.4.1 Listening and Comprehension

In the review of literature two skills in particular were found to have a bearing on language acquisition namely, listening skills and understanding vocabulary. Differences in ability to listen were influenced by genetic factors while differences in understanding words were influenced by environmental factors (Rall 2007). It is important that language comprehension problems be identified early (Bruce et al. 2003). Teachers when asked about whether the children with language acquisition problems listened in class replied in Appendix F that children in Group A listened added that attention and interest was a problem in the amount of discussion that was understood. Teachers of pupils in Group B when asked the same question added that they were not sure how much of what was being discussed was understood. One teacher put it like this “He listens alright but very little goes in”. The majority of pupils in Group B were also described by their teachers as having articulation and language processing problems. The teacher commented “He has a kind of local language”.

5.4.2 Physical Strengths, Peer Acceptance and Conversation

Teachers asked about the strengths and weaknesses of pupils in Group A replied that the pupils were good at art or music and dance. Teachers of pupils in Group B responded that the majority of pupils in the group were good at sport. One pupil was described as being very rough at play. This may have an influence on the late development of his conversational language as described by Bishop (1997). Skills such as initiating conversation, asking appropriate questions and contributing to ongoing conversation may be affected negatively by poor social interaction. The teacher’s precise description of this pupil was “He is very rough in his play and he has not friends”.

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5.5  **Diagnostic Testing**

Traditional methods of obtaining information on pupil progress have been discussed. (Miller 2008a) contended that technology could be used in order to arrive at a gold standard of children’s language development by taking language samples and comparing them with a database to assess language and predict reading success. Hasson and Joffe (2007) noted the importance of the potential for improvement. Honig (2007) outlined the components of language phonology, syntax, semantics, morphology and pragmatics.

5.5.1  **SALT Software and Subordinate Clauses**

Table 4.1 and 4.2 revealed that pupils in both Groups A and B relied heavily on the use of pronouns to form the subject of the main and subordinate clauses in their conversational and narrative speech. Tables 4.3 and 4.4 showed that all pupils in the study demonstrated remarkable similarity in their use. All pupils used the words “then” and “and then” as the most frequently used form of conjunction. The reliance on such a form of words meant that Irish children tended to create a high number of subordinate clauses and fewer main clauses. On the other hand American children tended to create a greater number of main clauses with fewer subordinate clauses. Differences exist in the manner of speaking of Irish and American children.

5.5.2  **SALT Software and Grammaral Complexity**

Fletcher and MacWhinney (1996) outlined how the onset of grammar begins at two years of age. Eisenberg (2008) described the process as a life long one. Rescorla *et al.* (2008) found that difficulties for late talkers of acquiring language continued into adolescence. Jackendoff (2003) describes the process initially, at least, as being unconscious. Tables 4.5 to 4.8 found that the majority of subordination index scores of boys ranging in ages from eight to eleven were lower than the subordination index scores of typically developing seven year old girls. On tests of pre-selected Narrative Retell stories the majority of boys produced fewer main clauses and main clauses with a subordinate clause than seven year old girls. Tables 4.9 and 4.10 found that boys in Group B were more
prone to word errors in parts of speech than typically developing seven year old girls. Those errors involved a greater number of errors in regular and irregular verbs and their tenses. Boys in Group B spoke in the present tense when recounting events which had taken place in the past. These findings when taken together with findings on pronouns and conjunctions reveal that the grammar of the majority of boys that ranged in ages from eight to eleven in Group B was less complex than the grammar of typically developing seven year old girls. Why do boys with language acquisition problems continue to lag behind their peers in terms of language production? Could it be that this is due to the delayed onset of speech at two years of age and that the gap which is created then is not bridged during their primary school years? More research is needed with larger populations but the findings of this study bear out the findings of Rescorla et al. (2008) as far as the primary school is concerned. Teachers of boys in Group B when asked if they had noticed the grammatical errors described, replied that they had not heard them. This hardly seems surprising given the tendency of such pupils not to contribute on an regular basis to classroom discussions.

5.5.3 SALT Software and Delayed Development

Miller (2008b) described the characteristic of delayed development as being related to word root diversity and total words used and mean length of utterance and other detailed syntactic analysis. Smith et al. (2006) found speaking rate was slower in children with reading disability and speaking rate had linear development. Walker and Archibald (2006); Ying-Chiao et al. (2006); Robb et al. (2004) disagreed with the findings of Smith et al (2006). Table 4.11 found that the majority of scores of pupils surveyed on mean length of utterance scored higher than the mean scores of typically developing American children. The only exception to this trend was that the majority of pupils in Group B scored lower on mean length of utterance in conversational speech than the mean scores of typically developing American children. Tables 4.13 found that the majority of Irish pupils scored higher on word root diversity than typically American children. This may indicate the need for an Irish database. Findings in relation to word processing speed in Tables 4.15 indicate that all measures of word processing speed in Group B indicate an
increase in word speed processing as pupils increased in age. Speaking rate in SALT Software is measured in words per minute and not in phones per second or syllables per second. The initial findings of this study indicate linear development of speaking rate for late talkers (Smith et al. 2006). Speaking rate in this study appears to confirm the presence of literacy difficulties. Further study of larger samples of late talkers is required to be secure in this finding.

5.5.4 SALT Software and Speaking Rate

If speaking rate is related to age and if late talkers speak more slowly than typically developing children it may be possible to hear language difficulties long before they become a problem in school particularly with the use of SALT Software. (Fletcher 1996) found mean length of utterance to be a significant factor in the language development of late talkers. Pupils’ scores on measures of mean length of utterance indicate that there may be problems in the conversational speech of late talkers which may also signify the presence of literacy difficulties but because of the manner in which Irish children use conjunctions this finding has to be interpreted with caution. Findings on word root diversity indicate that on this measure pupils appear to be performing normally.

5.5.5 SALT Software and Comprehension

All of the areas of language listed assess semantics at word level. SALT Software LLC (2009a) pointed out that children may be able to create sentences with grammatical accuracy but may not be able to demonstrate an understanding of the same sentence when required to do so. SALT Software offers the opportunity to consider questions relating to conversational speech. Responses to questions in conversational speech indicate a good understanding of what was required of pupils in terms of the describing past events. Questions asked related to recall of information. The level of questioning used did not interrogate the meaning of language. Children were not required to use language to draw inferences, provide exact sequence, understand cause and effect and summarise information. SALT Software provided limited information on the manner in which children understood language.
5.5.6 SALT Software and Morphological Structure

SALT Software revealed that the use of bound morphemes was not a particularly imposing problem for children in this study. Frost (2008) emphasised the connection between ability to break down words into constituent parts and reading. Conti-Ramsden and Windfuhr (2002) highlighted the difficulty that children with language impairment have with finite verb morphology. This study confirmed her findings but in an unexpected way. The findings highlighted the insertion of morphemes onto irregular verbs was highlighted by the findings for pupils in Group A. It was also highlighted in Table 4.23 as a problem for pupils in Group B for both regular and irregular verbs. Problems with morphological structure may be another predictor of problems with reading. This might be an area for further research.

5.5.7 SALT Software and Phonological Awareness

Orsolini et al. (2001); Hartmann et al. (2008) and (Honig 2007) all attempt to document the connection between spoken language and phonological awareness. Hartmann et al. (2008) identifies phonological working memory as the crucial component most strongly involved in the acquisition of language, early phonological awareness and literacy development. In attempting to retrieve specific subject vocabulary Table 4.25 found that pupils in Group B tended to sound words that were like the words they wished to use. More frequently they avoided using the vocabulary altogether. The findings of this study indicate that pupils in Groups A and B had difficulty with phonological awareness with one notable exception in Group A. The link between poor phonological processing and spoken language is highlighted in this study also.

5.5.8 SALT Software and Pragmatics

In SALT Software pragmatics refers to topic maintenance and turn taking, narration description and making coherent arguments. In short it refers to the appropriate social use of language (Miller 2008b). Leinonen (1999) emphasised complex language. Table 4.27 found that pupils in Group B on occasions had difficulty creating some utterances but
generally abandoned the attempt and started again. This interfered with turn taking and is an indication of low level problems with pragmatics. The use of narrative discourse may reveal more about the use of complex language.

5.6 Intervention

It is clear from the evidence provided that late talkers have difficulty with their internal ability to create language as described by Masuda (2002). He refers to the ability to use grammatical structure, phonology semantics morphology, pragmatics and vocabulary to create thoughts, images and ideas. There is a consensus amongst commentators that narrative skills begin to develop between four and seven or eight years old and that they continue to develop throughout the primary school years (Manhardt and Rescorla 2002; Berman and Slobin 1994; Nelson et al. 2001). This study agrees with these findings (Table 4.3 and 4.34). Davies et al. (2004) argued that the ability to create a coherent narrative comes before and predicts success in school literacy. Fang (2001) added that schooled narrative uses complex syntax and literary sounding vocabulary. This study also agrees with these findings (Tables 4.33, 4.34, 4.37 and 4.39) Davies et al. (2004) and Best et al. (2008) argue that narrative may be considered on two levels. It may be considered on the microstructure level of individual sentences and on the macrostructure level on the types of communication used and how those communications relate to one another. The discussion of question two will consider story retell on two levels. First it will consider the use of language on the level of grammar, semantics, morphology etc. Secondly it will consider story retell on the level of story structure (Miller 2008b).

5.6.1 The Language of Story Retell.

Traditional sources were unable to provide information on specific language problems. SALT Software revealed findings in relation to language acquisition in the five domains of language.
5.6.2 Story Retell and Pronoun Production

Norbury and Bishop (2003); Eriksson (2001); Manhardt and Rescorla (2002) recommended narrative retell as a means of assessing child language. Post intervention Table 4.2 revealed an increase in the variety of pronouns used by the majority of pupils in Group B in narrative story self select and in the use of third person singular speech in the conversational speech of all pupils in the study. However the increases are confined to specific areas and the increases are small. How the stories were written had a bearing on how the stories were retold and which pronouns were used most frequently. It is clear from the pronouns that have been used in narrative discourse that all of the pupils in the study were capable of using the language of perspective and of telling stories from the listener’s perspective pre and post intervention. That they were able to do this slightly better is evident from the increased variety of third person pronouns used in narrative retell in Table 4.2.

5.6.3 Story Retell and Conjunction Production

Findings in relation to the use of conjunctions revealed in Table 4.4 indicate a continued and even increased dependence on the conjunctions “and” and “and then”. It would appear that this way of speaking has become an engrained habit of speaking. It may be that pupils have developed an increased dependence on pause words to allow them to think about what is coming next.

5.6.4 Story Retell and Grammatical Complexity

The majority of Subordination Index Scores in Table 4.7 indicate an increased use of subordinate clauses post intervention. The majority of scores in Group A indicated an increase in subordinate index scores and every score except one in Group B indicated an increase in the use of subordinate clauses. The greatest increases occurred in narrative retell self select. The intervention encouraged pupils to retell stories using key questions as cues. Findings in Table 4.8 highlighted the increased use of sentences involving the use of a main clause accompanied by one subordinate clause. Questions such as who were the characters and why did characters act as they did, encourage the production of
relative, adverbal and adjectival clauses. Even though children have extended their use of clauses they are unlikely to be able to use these in class as children are seldom asked to speak.

### 5.6.5 Story Retell and Word Error Analysis

Table 4.10 reveal a decrease from pre to post intervention in word errors. The incidence of verb errors continued to be the most frequent form of grammatical error even though there was a decrease in this form of error from pre to post intervention. The decrease itself was significant. This may be explained by increased opportunities to hear and to use regular and irregular verbs in varied contexts which required oral responses.

### 5.6.6 Story Retell and Semantics

- **speaking rate**

  Ying-Chiao et al. (2006); Robb et al. (2004) explained differences in speaking rate by reference to mood and context. Walker and Archibald (2006) referred to inbuilt predictability of speaking rates. Semantic development was considered under the heading of mean length of utterance, root diversity and speaking rate. The findings of table 4.12 show that mean length of utterance increased from pre to post intervention and table 4.14 outlined an increase in the majority of scores on root diversity by pupils in Groups A and B with a minority of scores showing a slight decrease. All of the scores were above the mean scores of typically developing American children. Table 4.16 post intervention revealed an increase in speaking rate from pre to post intervention in Group A and a decrease in speaking rate by pupils in Group B. These results bear out the findings of Ying-Chiao et al. (2006); Robb et al. (2004). None the less the findings also maintain a linear rate when compared with themselves in Group B with one exception. Therefore the scores of pupils in Group B in Table 4.16 appear to have their own inbuilt predictability as suggested by Walker and Archibald (2006). The gap between late talkers speaking rate in Group B was closed before the end of primary school possibly due to the intervention. Speaking rate appears to be a good predictor of reading difficulties for late talkers.

- **processing questions**
Almost all pupils appeared able to process the questions asked with one notable exception. One pupil when asked when his birthday took place replied “I don’t know” and when asked where he lived replied “I haven’t a clue”. In a diary entry for the following day it was noted that the pupil had returned with an answer to these questions and that the information had been obtained from a parent. It would appear that this pupil is not processing language fully and may not be listening carefully to questions addressed to him.

- **mazes and working memory**

The antithesis of understanding in children’s language is the creation of mazes. As has been shown mazes are made up of revisions and or repetitions. The findings of this survey in Tables 4.19 and 4.20 indicate that mazes decreased in Group A post intervention but increased in Group B. Baddley (1992); Van Daal et al. (2008) argued that working memory is required to process and store information simultaneously. Children when retelling stories were required to recall cue questions, in story grammar and story detail. Dodwell and Bavin (2008) point out that children with specific language impairments have limited memory capacity for double processing tasks particularly when cognitive load is high. This study found that the higher the cognitive load the more mazes created by late talkers, more than typically developing peers and typically developing American children.

5.6.7 **Story Retell and Morphology**

It is noteworthy that the Tables 4.22 recorded an increase in the occurrence of omitted bound morphemes for the majority of pupils in Groups A and B post intervention. Inserted bound morphemes also increased for Group A but decreased for Group B post intervention Tables 4.23 and 4.24. The scale of the increase in the case of bound morphemes was small. The scale of the increase of inserted morphemes was greater. One pupil in Group B had a remarkable decrease in inserted morphemes from pre to post intervention. It would appear that improvement in finite verb morphology may require directed interventions specifically targeted at this problem.
5.6.8 Story Retell Phonological Awareness

Orsolini et al. (2001): Hartmann et al. (2008) and Honig (2007) asserted that late talkers were likely to possess phonological awareness problems and that those problems were related to the ability of phonological working memory to acquire language. Sutherland and Gillon (2007) discovered that children with language impairment in preschool years had difficulty deciding whether they had pronounced words correctly. It was a feature of the difficulties with new vocabulary of some late talking children in this study. Orsolini et al. (2001) asserted that difficulties in pronouncing unfamiliar syllabic structure were an indication of impaired phonological development. Bird et al. (1995) found that the severity of the phonological problems when related to age was an important determining factor in literacy attainment. Phonological awareness scores in Table 4.26 indicated an improvement for pupils in Group A but the scores of pupils in Group B only showed a slight improvement from pre to post intervention. The findings of this study on pronouncing new unfamiliar vocabulary appear to confirm the findings relating to phonological impairment and to being an important determinant of success in literacy.

5.6.9 Story Retell and Pragmatics

Honig (2007) referred to pragmatics as the retrieval of appropriate language and knowing when and where to use it. Leinonen (1999) spoke of when and where to use complex language. Pupils in this study indicated that they knew when and where to use language even though they were not always able to retrieve appropriate language. Their efforts to retrieve appropriate language were measured by their use of abandoned utterances. Tables 4.27 and 4.28 outline the extent of the problem. Table 4.28 presents the extent of the improvement post intervention. All pupils in the survey reduced their use of abandoned utterance post intervention and some late talkers significantly so. It appears that this form of impairment responds well to story retell intervention. Participants in this study were not so well able to use appropriate language when retelling familiar stories (Table 4.33, 4.34).
5.6.10 Story Retell

Story retell was scored according to the guidelines provided by Miller (2008b) in SALT Software. It has been shown how five year old typically developing children omit many aspects of story grammar (Berman and Slobin 1994); (McNeill 1992) emphasised perspective. Manhardt and Rescorla (2002); Davies et al. (2004) mentioned the development of narrative skills between four and seven years of age. They found that late talkers had both weaker language and story grammar skills. Stromqvist and Verhoeven (2004) found that five year olds included three or four aspects of story grammar. Initial assessment of story retell found that all pupils in the study tended included only three to four components of story grammar. Table 4.34 revealed that pupils with scores of about 2 or less tended to omit that particular story component altogether in their narrative and where it was included it tended to be very sketchy and incomplete. The components which were most frequently omitted by late talkers were character development, mental states, conflict resolution and conclusion. Table 4.34 demonstrated that the intervention has brought about a significant improvement in the narrative discourse of all pupils. Pupils post intervention included six to seven components of story grammar. This study shows that it is unlikely that narrative skills will improve independently of targeted intervention.

5.7 Expressive and Receptive Vocabulary Tests

5.7.1 Scores Explained

Mc Arthur et al. (2000) found that children with specific language impairment had expressive and receptive deficits. Stojanovik and Riddell (2008) found that children with specific reading difficulty performed worse on receptive language tests than expressive language tests. Law (2008); Snowling (2000) pointed out that receptive deficits were the most difficult to remediate. The Expressive Vocabulary Test Second Edition and the Peabody Picture Vocabulary Test Forth Edition were used to assess the expressive language/word retrieval and receptive language respectively of all the children in the study. Standard scores for expressive and receptive language were compared. This study found that the expressive and receptive scores improved post intervention. Receptive scores were most improved c.f. Table 4.32. Therefore the findings on receptive language
contradict the findings of Stojanovik and Riddell (2008) regarding interventions targeting receptive language but agree with Mc Arthur et al. (2000) that these late talkers have expressive and receptive deficits even though the late talkers in this study have not been classified as having a specific language impairment. Receptive language appeared most receptive to narrative intervention.

5.7.2 Expressive Language versus Receptive Language Scores

The expressive language word retrieval scores in Table 4.31 and 4.32 for the majority of pupils in Group B post intervention are lower than their receptive language scores. This may be explained in a number of ways. First it is not unusual for receptive language scores to be higher than expressive language word retrieval scores. Children can understand words that they choose not to use. Tests of receptive language are often found to be easier to complete because partial knowledge of a word may be prompted by the visual stimulus of a picture. It may also indicate word retrieval difficulties as speed of response is important in the expressive language word retrieval test. It may indicate disfluency in a pupil’s speech where meaning may be lost while the listener waits for the appropriate word to be produced. This interpretation is born out by the findings of SALT Software in relation to phonological awareness mazes and abandoned utterances. The intervention had a positive effect on expressive and receptive language.

5.8 Outcomes

5.8.1 Reading

The review of literature has highlighted the complexity of the connection between oral language and reading. (Larney, 2002; Stojanovik, 2006; McArthur et al 2000; Tsao et al 2004; Smith et al 2006; Walker and Archibald 2006; Robb et al 2004; Ying-Chiao Tsao et al. 2006; Flipsen 2002; Dale 2003). Other studies such as Hasbrouck and Tindal (2006); Griffin et al (2004); Speece et al (1999); Riley and Burrell (2007); Bowyer-Crane et al (2008); Conderman and Strobel (2008) outlined how the components of oral language are related to different aspects of reading. For example children who improved
in phonology and reading improved in decoding while children who improved in vocabulary and grammar also improved in reading comprehension (Bower-Crane et al. 2008). Riley and Burrell (2007) found that narrative and reporting abilities are highly correlated to reading fluency. One study found that pupils who had received oral narrative intervention improved their oral narrative comprehension but that this did not transfer to reading comprehension or ability to tell a well structured story. They demonstrated improvements in grammatical accuracy and semantic diversity but not on verbal productivity, verbal fluency, or grammatical complexity. Most importantly they did not find any improvement in reading fluency as a result of the intervention. The variables targeted by this study were oral language, vocabulary and reading (Westerveld and Gillon 2008).

The results of this study revealed in Tables 4.35 and 4.36 that there were small gains on the Group Reading Test from pre to post intervention. The Diagnostic Reading Analysis however is designed to elaborate on those gains. The test revealed a significant increase in standard scores from pre to post intervention. The results of the Diagnostic Reading Analysis also reveal that there was no improvement in comprehension but there was an increase in fluency from pre to post intervention. Therefore the findings of the present study disagree with the findings of (Westerveld and Gillon 2008) on verbal productivity, verbal fluency, or grammatical complexity. They also agree with the findings of Bower-Crane et al. (2008) on reading and decoding and disagree with the findings on vocabulary and grammar. This study concurs with the finding that narrative discourse does not improve reading comprehension. This study agrees with Riley and Burrell (2007) regarding narrative and reporting abilities improving reading fluency (Table 4.39)and with Bower-Crane et al. 2008 on the teaching of phonology and reading improving decoding. This study found that narrative intervention improved grammatical complexity, grammatical accuracy, oral language, word recognition and reading fluency. It did not improve reading comprehension.
5.8.2 Writing

Snellings et al. (2004); Noel et al. (2008); Hagvet (1999) emphasised good oral language skills for literacy. For the assessment of written narrative children were asked to write one sentence. Pupils were encouraged to use the same structure in writing as they had for retelling narrative and not to worry about spelling mistakes. The approach followed was the one suggested by Rose and Sussmilch (1996) in improving confidence in their own language, (Martinez-Pons 2002) self regulation of their work and the teaching of vocabulary to aid lexical retrieval and to reduce cognitive demands (Snellings et al. 2004) to enable greater investment of effort in the writing itself. The findings on Table 4.39 indicate that there was a significant improvement in the grammatical complexity of sentences produced by all participating pupils as measured by Subordination Index through SALT Software. The findings combined with a reading of the written narratives reveal that spelling and structure need further work while they also revealed positive results in terms of longer sentences, greater detail, use of a wider lexicon of vocabulary and considerably greater overall length from pre to post testing. In conclusion improvements in narrative discourse resulted in improvements in grammatical complexity, grammatical accuracy, oral language, word recognition and reading and writing fluency.
Chapter 6 Conclusions and Recommendations

6.1 Introduction

The primary aim of this study was to investigate whether ICT could help the researcher (as a non-expert learning support teacher) support improvement in the language of pupils with language acquisition problems. ICT was used extensively throughout this research project. It was used to diagnose initial problems and concerns in the expressive language of participating pupils and to assess the effects of narrative discourse intervention on those problems. This chapter will review the research project in four sections. The first section will review the investigation. The next section will examine the research outcomes. The third section will focus on recommendations and the final section will draw conclusions from the research.

6.2 Review of Investigation

6.2.1 Early Identification and Appropriate Classification

There are a number of themes that arose in the review of literature that require further consideration and from which conclusions may be drawn. These themes were early identification and classification of children with language acquisition problems. The problem of early identification was addressed both in the review of literature, the findings and discussion of findings chapters. The review of literature outlined the importance of the early identification of pupils whose speech was delayed not least because valuable time may be gained in addressing that delay. The literature review highlighted steps that could be taken at an earlier age to identify late talkers. It stressed that parents have a role to play but that greater attention needs to be placed on testing receptive language at eighteen months and engaging in direct observation of play interaction and communication. Findings that children who engage in reduced amounts of gesturing, babbling, play, interaction and communication are likely to present with language deficits at four and a half years of age seems promising. The importance of millstones for
children’s language development was identified in the literature and the findings. At present children are assessed for expressive and receptive language by community nurses at three years of age in the Galway Mayo region. Late talkers were also referred for speech and language assessment. However their problems do not appear to be generally well understood. There appears to be a lack of understanding of how they ought to be remediated. The findings of this study show that it ought not be presumed that late talkers will be alright if left to themselves.

6.2.2 Appropriate Classification

The literature also highlighted the importance of appropriate classification of children with language and reading impairments. Inappropriate classification of children as language impaired or reading impaired was highlighted. It was discovered that of those originally classified as having one or other difficulty a group of fifty three percent were discovered to have both Specific Language Impairment and Specific Reading Disability. The findings of this study show that parents classified their own children as early walking and late talking. Reposts conducted by the educational psychologist classified all the pupils in the study as having a Specific Reading Difficulty i.e. dyslexia. One report refers to a pupil as having been late to talk but none of the children were classified as late talkers. It has been shown in the review of literature that children with early language deficits are overwhelmingly referred to as late talkers. It would appear from the findings of this study that there is at least one sub group within the category of Dyslexic which might more accurately be referred to as late talkers. Such a qualification would place the emphasis on language rather than reading which may be more helpful to parents and educationalists alike. This study has shown that targeted language interventions can have positive effects on language.

6.2.3 Incidence of Late Talking

The finding that all three pupils in Group B were classified as late talkers may be accounted for in one of two ways. It may have been a coincidence that three late talking boys were discovered in one school. Secondly it may mean that the incidence of late
talking boys is higher than had previously been thought. The literature suggested that fourteen percent of the two year olds studied, had fewer than fifty words and seventy one percent of those were boys. The findings of the present study showed that there were three pupils in receipt of learning support out of a total school population of one hundred and thirty pupils. This works out at an incidence of 2.3 per cent of the entire school population. However when it is taken into consideration that pupils in infant class do not receive learning support another twenty six pupils must be deducted from the overall population. The incidence therefore is 2.8 per cent of the entire school population. Whether this figure is replicated in the school population as a whole from senior infants to sixth class must remain a matter of conjecture until a broader investigation has been completed.

6.2.4 Three Themes

Three themes were identified in relation to this study. These were the use of ICT to support diagnostic testing, the influence of narrative discourse on children with language acquisition problems and whether improvements in story retell can bring about corresponding improvements in reading and writing.

6.3 Research Outcomes

6.3.1 ICT

The use of ICT in this study was considered because of the absence of suitable diagnostic tests to assess children’s expressive language in detail. The literature contentended that by recording, transcribing and coding language samples a gold standard for measuring language performance in children could be established. This study revealed that language sampling had strengths and weaknesses. It was particularly useful at diagnosing problems in the five domains of language. SALT Software highlighted weaknesses in the use of pronouns. While all pupils were capable of using a variety of pronouns the majority of
late talking boys were more restricted in their use. The software also highlighted an over reliance on the conjunctions “and” and “and then” by all participants thus restricting the creation of main clauses and increasing the occurrence of subordinate clauses. SALT Software identified a more restricted use of subordinate clauses by late talkers and a greater likelihood of producing errors in other parts of speech but particularly in their use of verbs. Late talkers also tended to use verb tenses inaccurately. In terms of semantics SALT Software presented information relating to mean length of utterance, word root diversity and speaking rate. The findings indicated that the majority of scores on mean length of utterance and word root diversity were higher than the mean scores of typically developing American children. Late talkers were found to be slower on speaking rate than typically developing Irish and American children. Initial findings in this area appeared to confirm linear development of speaking rate in late talkers. Late talkers appeared to close the gap on typically developing children by the end of primary school with the aid of intervention. Findings in the area of semantics were also used as indicators of delayed development but speaking rate was the only one of the three areas mentioned which indicated delayed development. Findings in relation to morphology show finite verb morphology to be of greatest concern for late talkers. Late talkers had difficulty in retrieving vocabulary and the majority relied on sounding words that approximated the desired word or on talking round the subject while using revisions and repetitions. Children demonstrated pragmatic awareness in conversational speech when answering questions but revealed a lack of awareness of pragmatics when engaged in narrative discourse exercises. All children in the study included only three to four components of story grammar when assessed initially. These findings were contrasted with traditional sources of information from parents and teachers. Teacher information was precise when describing pupils listening and comprehension skills. Parent information was precise when describing developmental histories but both teachers and parents were imprecise when asked to provide a description of children’s language acquisition problems. SALT Software had particular strengths in outlining children’s expressive language.
6.3.3 Narrative Discourse Intervention

Narrative discourse intervention influenced the oral language of children in the study in the following ways. Firstly children in the study were more capable of retelling stories using a third person singular perspective. Syntactically children created more stand alone main clauses and more main clauses with one accompanying subordinate clause. There was an increased use of adverbial and adjectival clauses. The intervention appeared to affect the number of word errors and appeared to have a significant, positive affect on the use of finite verbs in particular. Semantically there was an increase in the mean length of utterance and word root diversity for the majority of pupils but a gap remained between word root diversity of typically developing Irish children and late talkers with the former outperforming the latter. Improvements were particularly evident in narrative story self select. Speaking rate decreased following the intervention in contradiction to a linear development theory of speaking rate. However the findings indicated inbuilt predictability for late talkers. Speaking rate appeared to increase with age but the gap between typically developing children and late talkers was not closed even by the oldest pupil in the study at eleven years of age. Speaking rate may be one indication of language acquisition problems in late talkers and a useful indicator of future reading difficulty. Improved performance was also evident in the retrieval of vocabulary as part of phonological awareness while an increase in errors was noted in finite verb morphology related to inserted morphemes. Narrative discourse intervention appeared to improve pragmatic awareness with a significant reduction in the use of abandoned utterances. However as language became more complex in narrative discourse all children omitted a significant numbers of components of story grammar. The situation was improved post intervention with children including most components of story grammar. The components omitted post intervention in a minority of cases in Group B was cohesion and conclusion. The findings of this study outlined language skills and narrative discourse skills improvements. However these improvements are unlikely to be long-term unless class teachers involve late talker in classroom discussions.
6.3.4  Reliability of Results

SALT Software was used to monitor language development post intervention. A note of caution must be advised in relation to the reliability of some scores as the comparison group was small in some instances. As was already shown scores by late talkers were above the mean in measures of mean length of utterance and word root diversity. A better comparison would be made if database samples of typically developing Irish children were available against which a more accurate and reliable comparison could be made. It may be possible that other factors affected the results such as mainstream classroom teaching. While this is a possibility it must be remembered that class teachers stated that late talkers only participated seldom in classroom discussion. Parents too had an input but they lacked consistency and regularity.

6.3.5  Standardised Tests

Two standardised tests were used to assess pupils’ expressive and receptive language and to triangulate the results of SALT Software. The tests found that late talkers were below average in measures of expressive and receptive language prior to the intervention. The difference between the standard scores of expressive and receptive tests was not statistically significant except in the case of receptive scores. The interpretation of these results involved the creation of a hypothesis that would provide an explanation of results. The tests used assessed vocabulary therefore the results should be interpreted in terms of vocabulary. Pupils whose scores on receptive language tests were about average or whose scores were lower than their scores on expressive language tests may indicate a lack of automaticity of word recognition skills and may result in vocabulary deficits over time. Pupils whose receptive scores were higher than their expressive score may indicate that these children have been read to at home and at school. A significant difference in scores may mean that children have difficulty with word retrieval. Tests of expressive and receptive vocabulary appear to have confirmed some findings of SALT Software in relation to abandoned utterances, mazes and phonological awareness and in connection with the accessing of vocabulary and lack of automaticity. Receptive and expressive language scores pre intervention explain the difficulties experienced by late talking
children in acquiring language. These standardised scores appear to confirm that narrative discourse affects expressive and receptive language positively.

6.3.6 Literacy

- Reading

Many studies have outlined the importance of oral language for reading. What is not so clear is which aspects of oral language bring influence to bear on which aspects of reading. Many studies pointed to the complex interaction between oral language and reading. The results of the present study reveal that on the Group Reading Test there were small improvements from pre to post intervention. The results of the Diagnostic Reading Test found significant improvements in word recognition, reading and reading fluency but reading comprehension remained unaffected.

- Writing

Children in Group B wrote any one of the five stories which formed part of the intervention. The findings of this study are that children’s writing as measured by SALT Software Subordination Index showed significant improvements in terms of length of statement. More sentences with main clauses accompanied by a subordinate clause were created particularly by late talkers. Pupils wrote considerably longer scripts than they tended to write typically. Sentences contained some vocabulary which had been taught as part of the narrative discourse intervention. Freeing children for working memory overload and concerns about spelling while retaining narrative retell structure appeared to obtain a much better written response than formerly form late talkers.
6.4  **Recommendations**

6.4.1  **Classification**

The following recommendations are made arising out of this study:

- That not all dyslexic children be referred to in the same way
- That late talking be identified as a syndrome in its own rite.

6.4.2  **Early Identification**

- That late talkers be identified as early as possible.
- New tests are devised with late talkers in mind at 18 months with particular emphasis on interaction with peers and receptive language
- That the threshold for acceptance of pupils into speech and language therapy at a young age is lowered.

6.4.3  **Early Intervention.**

- That oral language programmes are to target the early language difficulties of late talkers.
- Appropriate material resources are provided to enable parents to assist their child’s oral language development.
- Speech and Language services are based in schools rather than clinics so that teachers and pupils are afforded greater accessibility and help.

6.4.4  **Improvements to SALT**

- That an Irish database of typically developing children be created
- That SALT Software be linked with speech to text software

6.4.5  **A Whole School Approach**

- It is clear from this study that late talkers were not making progress in their classroom in terms of oral language and literacy. Class teachers were unclear
about how to provide greater speaking opportunities for them. The study shows that late talkers are unlikely to make progress unless specific targeted interventions of the kind outlined in this study are delivered. Narrative discourse ought to be an essential part of the Revised Primary School Curriculum 1999 for four to eight year olds. The intervention in this study could be adapted to the needs of pupils in each classroom and could be delivered throughout the whole school.

6.5 Conclusion

The late talking children in this study were not identified as late talkers by the early screening process or by the psychological service. They did not receive speech and language therapy and were not identified by the school system as having a speech problem until they were in first class. This study has shown that late talking children have a basic form of expressive language sometimes shortened and sometimes elongated with conjunctions “and” and “and then”. Late talking children are more prone to speech errors. They are more likely to produce utterance, organisational, grammatical, morphological and phonological errors. Their speech is characterised by a tendency to include word, phrase and sentence revisions and their speaking rate is slower that typically developing children. Late talkers cling to this basic form of speech and while it increases in quantity with age it retains that same basic structure with problems with ideas and organisation. It is a form of speech that appears to characterise their oral language, reading and writing. It is unlikely to improve unless targeted directly with specific tailored intervention. This study has shown that there is potential for improvements but improvements are unlikely to be effective in the long term unless opportunities can be found for late talkers to speak in their classrooms. Furthermore this study has shown that improvements can be brought about in oral language and also in the reading and writing of late talking children through narrative discourse intervention. It is important that the cueing structure used for narrative discourse is retained for narrative writing. This enables late talkers to incorporate more of their oral narrative in their written narratives.
SALT Software proved to be a useful diagnostic tool. It provided a wide range of information on late talkers’ expressive language. It highlighted areas of strength and weakness in considerable detail in the five domains of language. It provided the kind of diagnostic information which is essential for good educational planning and narrows the focus of the investigator to help identify which intervention programmes are likely to succeed. SALT Software monitored the progress of the intervention and enabled the researcher to say which aspects of expressive language had shown gains and which had not. It demonstrated that some marginal gains had been made in third party perspective story retell, added bound morphemes and phonological awareness etc. and that significant gains were made in the appropriate use of finite verbs and writing fluency. Significant gains in word recognition and reading fluency were highlighted by the Diagnostic Reading Test. SALT Software has its limitations too. It does not assess language comprehension. The database comparison group was too small in some instances to be secure about the findings. However on the whole SALT Software with modifications such as speech to text and an Irish database could be a very useful language assessment and monitoring tool for teachers.

The participant group was too small to enable findings and conclusion to be generalised beyond the group involved in the study. Further investigation with larger sample groups is required to make conclusions generalisable.

The changes achieved in this study were achieved within a timescale of five weeks. If the period of the intervention were extended to a term or even a school year, marginal gains might be extended to become significant and the gains which were significant might be extended to become very significant. It was recommended that this intervention be extended to the whole school so that gains made through the intervention are extended to the classroom situation to ensure continuity and to provide opportunities for late talkers to speak. In such circumstances the gains might be incalculable not just in terms of oral language and literacy but in terms of more intangible results such as love of literature, development of interests and hobbies, confidence and self esteem.
6.6 BIBLIOGRAPHY


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Rescorla, L. (2008) 'Late talkers show language weakness into adolescence', *ASHA Leader*, 13(13), 36-36.


## Appendix A

### BACKGROUND INFORMATION - FAMILY

<table>
<thead>
<tr>
<th>Mothers</th>
<th>Education</th>
<th>Parent Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent A1</td>
<td>Secondary Education</td>
<td>Mother struggled with reading until fourth class.</td>
</tr>
<tr>
<td>Occupation</td>
<td>Homemaker</td>
<td></td>
</tr>
<tr>
<td>Learning Difficulties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent A2</td>
<td>University Education currently studying accountancy.</td>
<td></td>
</tr>
<tr>
<td>Occupation</td>
<td>Office Worker Accounts</td>
<td></td>
</tr>
<tr>
<td>Learning Difficulties</td>
<td>None in immediate family but second cousin of participating pupil diagnosed with dyslexia. Second cousin is also participating in study.</td>
<td></td>
</tr>
<tr>
<td>Parent B.1</td>
<td>Second Level</td>
<td></td>
</tr>
<tr>
<td>Occupation</td>
<td>Office Worker Part-time</td>
<td></td>
</tr>
<tr>
<td>Learning Difficulties</td>
<td>Two cousins on father’s side diagnosed with dyslexia. Poor articulation slow responses were a feature of their dyslexia.</td>
<td></td>
</tr>
<tr>
<td>Parent B.2</td>
<td>University Education qualification in childcare. Four year course in Germany.</td>
<td></td>
</tr>
<tr>
<td>Occupation</td>
<td>Part time worker one day a week mostly homemaker.</td>
<td></td>
</tr>
<tr>
<td>Learning Difficulties</td>
<td>Dyslexia diagnosed in both sides of family – father of participating pupil and mother’s brother.</td>
<td></td>
</tr>
<tr>
<td>Parent B.3</td>
<td>Second Level</td>
<td></td>
</tr>
<tr>
<td>Occupation</td>
<td>Factory Worker</td>
<td></td>
</tr>
<tr>
<td>Learning Difficulties</td>
<td>Nothing ever diagnosed but diagnosing pupils only widespread in last ten years. None that family is aware of.</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix B

**BACKGROUND INFORMATION – PUPIL**

<table>
<thead>
<tr>
<th>Mothers</th>
<th>Milestones</th>
<th>Parent Response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parent A1</strong></td>
<td>Physical</td>
<td>Child met physical developmental milestones.</td>
</tr>
<tr>
<td></td>
<td>Language</td>
<td>Met developmental milestones in relation to oral language.</td>
</tr>
<tr>
<td></td>
<td>Delay</td>
<td>No delay reported.</td>
</tr>
<tr>
<td></td>
<td><strong>Parent A2</strong></td>
<td>Physical</td>
</tr>
<tr>
<td></td>
<td>Language</td>
<td>Met developmental milestones in relation to language.</td>
</tr>
<tr>
<td></td>
<td>Delay</td>
<td>No delay reported.</td>
</tr>
<tr>
<td></td>
<td><strong>Parent B.1</strong></td>
<td>Physical</td>
</tr>
<tr>
<td></td>
<td>Language</td>
<td>Had delayed speech development. Began to speak around two years of age. First sentence around two and a half years of age. Two word sentence.</td>
</tr>
<tr>
<td></td>
<td>Delay</td>
<td>Delayed sentence structure.</td>
</tr>
<tr>
<td></td>
<td><strong>Parent B.2</strong></td>
<td>Physical</td>
</tr>
<tr>
<td></td>
<td>Language</td>
<td>Was slow to get the words out. Began to speak around two and a half years of age.</td>
</tr>
<tr>
<td></td>
<td>Delay</td>
<td>Delayed speech development and slow to process language.</td>
</tr>
<tr>
<td></td>
<td><strong>Parent B.3</strong></td>
<td>Physical</td>
</tr>
<tr>
<td></td>
<td>Language</td>
<td>Was slow to talk. “Early to walk and slow to talk”. Not able to put sentence together before two and half years of age. Mixed up words at start. Words in wrong order.</td>
</tr>
<tr>
<td></td>
<td>Delay</td>
<td>Mixed up letters t and c. Delayed speech development.</td>
</tr>
</tbody>
</table>
C. Appendix C

PARENTS’ OBSERVATIONS ON ORAL LANGUAGE PRE INTERVENTION

|                     | Mothers | Oral Language | Parent Response                                                                 |
|---------------------|---------|---------------|---------------------------------------------------------------------------------
| Parent A1           | Verbal  | Her grammar is good. Has good grammatical structure      |
|                     | Responses|               | Uses tenses well.                                                                |
|                     | Use of tenses | Thought that pupil would be able to retell story well. |
|                     | Story Retell |                                               |
| Parent A2           | Verbal  | Her grammar is good and has good grammatical structure.  |
|                     | Responses|               | Uses tenses well.                                                                |
|                     | Use of tenses | Thought that child would be very well able to retell stories. |
|                     | Story Retell |                                               |
| Parent B.1          | Verbal  | Child can be lazy about pronunciation. Parent hadn’t noticed any problems with spoken grammar. |
|                     | Responses|               | Parent thought child was able to use tenses appropriately.                      |
|                     | Use of tenses |                                               |
|                     | Story Retell | Parent had been informed by psychologist that child was not able to retell stories accurately. |
| Parent B.2          | Verbal  | Child shortens some words. Parent thought child’s spoken grammar was good. |
|                     | Responses|               | Parent thought child’s use of tenses was accurate.                              |
|                     | Use of tenses |                                               |
|                     | Story Retell | Parent thought child would find stories retelling difficult. |
| Parent B.3          | Verbal  | Parent didn’t think child’s use of grammar was accurate and a tendency to use “what” for “that” as a conjunction. |
|                     | Responses|               | Parent hadn’t noticed any problem with the use of tenses in child’s speech.     |
|                     | Use of tenses |                                               |
|                     | Story Retell | Parent thought child would find story retelling difficult. |
## PARENTS OBSERVATIONS ON ORAL LANGUAGE POST INTERVENTION

<table>
<thead>
<tr>
<th>Mothers</th>
<th>Oral Language</th>
<th>Parent Response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parent A1</strong></td>
<td>Verbal Responses</td>
<td>Parent hadn’t noticed any change in child’s use of grammar. Has good grammatical structure.</td>
</tr>
<tr>
<td></td>
<td>Use of tenses</td>
<td>Child continues to use tenses well.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Parent thought child was retelling stories much better</td>
</tr>
<tr>
<td><strong>Parent A2</strong></td>
<td>Verbal Responses</td>
<td>Parent thought child’s grammar was about the same as before.</td>
</tr>
<tr>
<td></td>
<td>Use of tenses</td>
<td>Child continues to use tenses well.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Parent thought child was retelling stories better than before.</td>
</tr>
<tr>
<td><strong>Parent B.1</strong></td>
<td>Verbal Responses</td>
<td>Parent hadn’t noticed any change in child’s pronunciation or use of grammar.</td>
</tr>
<tr>
<td></td>
<td>Use of tenses</td>
<td>Parent hadn’t observed any change in child’s use of tenses.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Parent thought child was retelling stories better than before.</td>
</tr>
<tr>
<td><strong>Parent B.2</strong></td>
<td>Verbal Responses</td>
<td>Parent hadn’t noticed any change in child’s spoken grammar.</td>
</tr>
<tr>
<td></td>
<td>Use of tenses</td>
<td>Parent didn’t notice any change in child’s use of tenses.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Parent didn’t notice any change in pupils retelling of stories but thought child had a better attitude towards school work.</td>
</tr>
<tr>
<td><strong>Parent B.3</strong></td>
<td>Verbal Responses</td>
<td>Parent hadn’t noticed any change in pupil’s use of grammar but did notice child’s use of a broader vocabulary.</td>
</tr>
<tr>
<td></td>
<td>Use of tenses</td>
<td>Parent hadn’t noticed any problem with the use of tenses in child’s speech.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Parent though child was retelling stories better with the use of cues.</td>
</tr>
</tbody>
</table>
### Appendix E

#### PUPILS’ CLASSROOM ORAL LANGUAGE PERFORMANCE PRE-INTERVENTION

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Oral Language</th>
<th>Teacher’s Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A.1</strong></td>
<td>Verbal Responses</td>
<td>Pupil’s speech is normal. Pupil does not volunteer response Pupil might not give response when asked.</td>
</tr>
<tr>
<td></td>
<td>Articulation of Views</td>
<td>Pupil might articulate opinion if topic was of interest. Pupil very seldom articulates views.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Pupil would be able to retell a story.</td>
</tr>
<tr>
<td><strong>A.1</strong></td>
<td>Verbal Responses</td>
<td>Pupil’s speech is normal. Doesn’t put hand up unless certain of answer.</td>
</tr>
<tr>
<td></td>
<td>Articulation of Views</td>
<td>Pupil is very good at articulating an opinion and possesses adult attitudes.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Pupil would be able to retell a story.</td>
</tr>
<tr>
<td><strong>B.1</strong></td>
<td>Verbal Responses</td>
<td>Oral language has a big bearing on pupil’s problems. Pupil has colloquial grammar. Pupil never volunteers response always waits to be asked.</td>
</tr>
<tr>
<td></td>
<td>Articulation of Views</td>
<td>Pupil hardly ever articulates a view or opinion. Unlikely pupil understands much of what is discussed. Pupil makes very small contribution to classroom discussion.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Would only retell a story with great difficulty.</td>
</tr>
<tr>
<td><strong>B.2</strong></td>
<td>Verbal Responses</td>
<td>Pupil’s speech appears normal. Pupil responds to closed questions but finds open questions difficult. Pupil generally waits to be asked. Pupil appears slow to processing information.</td>
</tr>
<tr>
<td></td>
<td>Articulation of Views</td>
<td>Pupil tends not to offers a view or opinion on anything unless topic of particular interest.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Pupil would find story retell difficult.</td>
</tr>
<tr>
<td><strong>B.3</strong></td>
<td>Verbal Responses</td>
<td>Pupil has difficulty processing what he wants to say. Pupil has hand up 50% of the time.</td>
</tr>
<tr>
<td></td>
<td>Articulation of Views</td>
<td>Pupil not able to offer an opinion. Pupil takes ages to respond to questions.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Pupil would find it difficult to retell a story.</td>
</tr>
</tbody>
</table>
### F. Appendix F

**PUPILS’ CLASSROOM ORAL LANGUAGE PERFORMANCE POST-INTERVENTION**

<table>
<thead>
<tr>
<th>Child No.</th>
<th>Oral Language</th>
<th>Teacher’s Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.1</td>
<td>Verbal Responses</td>
<td>Teacher hadn’t noticed any change in pupil’s classroom performance. If anything pupil had got worse.</td>
</tr>
<tr>
<td></td>
<td>Articulation of Views</td>
<td>Teacher hadn’t noticed any change in pupil’s performance. If anything pupil had got worse.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Teacher was not aware of any improvement in story retell</td>
</tr>
<tr>
<td>A.1</td>
<td>Verbal Responses</td>
<td>Teacher hadn’t noticed that pupil was any more responsive than usual.</td>
</tr>
<tr>
<td></td>
<td>Articulation of Views</td>
<td>Appears more confident in expressing views.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Teacher not aware of any improvement in story retell</td>
</tr>
<tr>
<td>B.1</td>
<td>Verbal Responses</td>
<td>Pronunciation still unclear. Colloquial grammar still used.</td>
</tr>
<tr>
<td></td>
<td>Articulation of Views</td>
<td>It is doubtful that pupil understands what he hears. Pupil continues to be a listener rather than a contributor.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Wasn’t aware of any change in story retell</td>
</tr>
<tr>
<td>B.2</td>
<td>Verbal Responses</td>
<td>Pupil generally waits to be asked Pupil can tackle open question involving story retell.</td>
</tr>
<tr>
<td></td>
<td>Articulation of Views</td>
<td>Pupil continues not to offer a view or opinion on anything unless of interest.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Book reports have improved considerably</td>
</tr>
<tr>
<td>B.3</td>
<td>Verbal Responses</td>
<td>Pupil appears to have turned a corner in terms of confidence.</td>
</tr>
<tr>
<td></td>
<td>Articulation of Views</td>
<td>Pupil is more confident about offering an opinion. Pupil appears better able to respond to questions.</td>
</tr>
<tr>
<td></td>
<td>Story Retell</td>
<td>Book reviews delivered with far greater confidence in front of class.</td>
</tr>
</tbody>
</table>
G. Appendix G

TEXT ORGANISER

<table>
<thead>
<tr>
<th>Story Title</th>
<th>Date</th>
</tr>
</thead>
</table>

| WHO? | WHERE? | WHEN? |

| WHAT? | WHY? |
H. Appendix H
CUE CARD WHY?

actions

Why?
CONVERSATION TRANSCRIPT PRE-INTERVENTION

+ Grade: 2
+ Ethnicity: Irish
+ ParentEduc: 20
+ Context: Con
+ Subgroup: Group A
+ Location: St. XXXXX XXXXXXXX
+ Examiner: Mr. Neylon
+ Transcriber: Mr. Neylon
+ [FP] Fill Pause
+ [EU] Utterance Error
+ [EW] Word Error
+ [V:Present] Verb Present Tense
+ [V:Past] Verb Past Tense
+ [V:Future] Verb Future Tense
+ [SI-0] Sentence without subject or predicate or both
+ Database: Conversation
+ * Before a word means the word has been omitted
+ * Near the end of a word means the morpheme has been omitted
- 0:00

E How old are you?
C Seven, Eight-
E Eight years of age and when is your birthday.
C I haven’t a clue.
E Ok that's all right.
E Today we are going to spend five or ten minutes talking
and you can talk about anything you like?
E Ok and I will ask you a few questions as well.
E Would you tell me about something/s you have been doing
in school lately.
C (Mm) i'm doing>
C Today[SI-0]~
E Yes today.
C We were doing>
C I do/n't know not that much[EW:many] things[SI-1].
- 0:03
C Ah god!
C (Am) we were>
C (In the name of the father and)[FP] we were doing in the
name of the Father in our book[SI-1].
C We were drawing and that's all we was[EW:were]>
C And reading.
E Oh what were you reading?
C (Am ah).
E What did you read?
C (Am ah:02) the lion slave[LEX].
C The slave[SI-0].
- 0:06
E Is there anything else that you do in school that you like doing?
C (Ah) yeah Math/s_Matter/s.
E Ok right can you tell me a bit about that?
C We done (we done:02)[FP][EW:did] question/s[SI-1]~
E What kind of questions?
C (Like)[FP] sum/s like ten and ten is a>
C Write them an as>
C So we do[FP].
C We guess the number/s that we put (them)in sometime/s[SI-2].
C <Ah>.>.
E Yes.
C And that'/s all.
E Is ther anything else you like doing in school.
C Reading[SI-0].
E Ok can you tell me about that?
C We done[EW:did] Jason's_New_Rollerblades[SI-1].
C We done[EW:did] The_Slave[EW:Androcles_And_The_Lion][SI-1].
C And Buster's_Facts[SI-0].
C And Penny[SI-0].
::04
E Ok are there other things you do in school that you like that you haven't mentioned.
C (Ah)[FP] drawing[SI-0].
E Ok tell me about that.
C We had to draw a moose yesterday[SI-1].
E And what can you tell me about that?
C The moose is all[EW:very] fast[SI-1].
::04
E And what colour are they?
C (They're)[FP] they're brown (they're brown)[FP] and when they eat they swallow it[SI-3].
C And then they threw[EW:throw][V:Past] it back up and then they swallow[SI-2].
C And then threw[EW:throw][V:Past] it back up and then they swallow it[SI-1].
E Ok P_E do you like that?
C Mm.
E And what do you do during P_E?
C We play soccer[SI-1].
C We play tennis [SI-1].
C We do skipping, we do (:02) jogging and that's all [SI-2].
E And you like that do you?
C Yeah.
E What do you like about it?
C Soccer cause we're allow/ed to play that [SI-1].
C And were allow/ed (to be able) to score (ah) goal/s [SI-1].
C Yeah and we're>
C And (and) [FP] forward/s (are able to) score (the) [EW]
goal/s [SI-1].
C And winn/in [PERR]>
::04
E Do you remember we had a long break recently?
C No.
E We had a whole week off school do you remember that?
C Yeah.
E What did you do during that week?
C I went to England [SI-1].
E Oh lovely?
E And can you tell me about that?
E How did you go there?
C Plane [SI-0].
E Can you tell me about that?
C It was fun because I got a sweet [SI-2]~
E Ok.
C First sweet/s and a Coke [SI-0].
::02
E Right and what was it like in the aeroplane?
C It block/ed my ear/s [SI-0].
E Mm.
C And it was loud [SI-1].
E Ok.
C And that'/s all [FP].
E Ok and what did you do when you got to London.
C (Ah) London [FP] [SI-0].
C We (we) watch/ed the telly then we went to bed [SI-2].
E Ok and did you do anything while you were in London.
C Yeah we went to Supermac's [SI-1].
C We went to :02 [FP] the toy shop [SI-1].
C We went to the market [SI-1].
C We went to Supermac's and we went to a posh place [SI-2].
E Can you tell me about the posh place?
C (Am) [FP].
E What was that like?
C (Amah) [FP] (but) we didn't go in it [SI-1].
C We just saw that[EW:it] (out) when we were walkin[PERR][SI-0].
E And what was it like?
C It was cool[SI-1].
E Right and what was cool about it?
C Cause there was line/s and there was flag/s[SI-2].
E Ok.
E Where else did you go in London?
C That's all what I said[EW:told][SI-1].
E Right what's your favourite holiday apart from that one?
C (Mm) Lanzarotte[SI-0].
E Oh right when did you go to Lanzarotte?
C (Oh) I do/n't know it was a long time ago[SI-2].
E Was it last summer?
C Yeah.
E Right and how did you get there?
C A plane[SI-0].
E And tell me about the plane journey.
C It was fun[SI-1].
E Right.
C It was the same as the other plane[SI-1].
C As England[EW:English] plane[SI-0][V:Past].
E Ok and what did you do when you got to Lanzarotte?
C We went to the pub[SI-1].
E Right.
C I got a can o Coke (and a Coke)[SI-1].
C (And:02) I got very good crisp/s[SI-1].
E Right.
C (And:02) then we went to bed[SI-1].
E Right.
C You know one oclock in the morning[SI-0].
E Oh right it was late when you got there.
E And what did you do for the rest of the time while you were there?
C We went to the beech[SI-1].
C (Am) we went to a game shop[SI-1].
C We went to the icecream shop.
C We went to the swimm/ing pool and we went to:02[FP] the sweet shop[SI-2].
C And that's all.
E Can you tell me about the game/'s[EW:amusements] shop.
C <Game/s shop>[SI-0].
E What did you do in there?
C I play/ed a gun game and I play/ed a rac/ing car game[SI-2].
E Tell me how you played the gun game?
C I was a good guy and all the other/s were bad guy/s and I shot them[SI-3].
C (And am) I went to another[EW:next] level[SI-1].
E Ok.
C And then I done[EW:did] it all[SI-1].
E How many levels did you get to?
C Two[SI-0].
E And were there more than two levels?
C I did'n't get to the third one[SI-1].
C I do/n't know.
E And you said there was a rac/ing game.
C Yeah.
E What was that like?
C I came first cause I bang/ed[LEX:bump] into people and I bump/ed into someone[SI-3].
C And they went[LEX:drove] off and there's[EW:was] was one more[LEX:other] (left) com/in[PERR] first[SI-1].
C I ah>
C Then I (then I)[FP]>
C He got out of the way and then I driv/ed[EW:drove] it quickly[SI-2].
C And then I bash/ed him out of the way and then I won[SI-2].
C I came first then[SI-1].
E And you said you went to the pool as well.
C Yeah.
E Can you tell me about that?
C I jump/ed in[SI-1].
C I done[EW:did] a canon ball and then I swam under it[SI-1].
C (Mm:02) we'se[EW:we] play/ed beach ball in there and (:03) we play/ed (:02) [FP] soccer in there[SI-2].
C But we did/n't keep the ball[SI-1].
C We had to leave it there (and:02 am)[SI-1]~
C (Che*) that's all what[EW:that] I done[EW:did] in there some people>
E Ok did you go to the beach?
C Yeah.
E Can you tell me about that?
C I play/ed soccer[SI-1].
C We had a tournament[PERR][SI-1].
C We had a tournament,*a soccer tournament[SI-1].
E Oh right.
C And I[EW:we] won[SI-1].
E Ok.
C Against my Dad[SI-0].
E And who else was playing.
C My uncle James and (02 my) Kelvin and Elliot [SI-0].
E All right very good.
E Is there anything else you could tell me about that?
C Me>
C Elliot was on my team and Kelvin was on my Dad and my uncle's team [SI-2].
C And we won the tournament [SI-1].
E Excellent ok.
E Do you have any pet/s at home?
C Yeah a dog [SI-0].
E Can you tell me about them?
C We feed her [SI-1].
C We brush her [SI-1].
C We put her in the bath and we leave her outside [SI-2].
C (And:02) we look after her [SI-1].
C We give [EW: take] her a walk [SI-0].
C That's all what [EW: that] we do with her [SI-2].
E And do you feed her?
C Yeah.
C We feed her and we give her (ah) water sometimes
milk [EO] [SI-2]~
E Ok.
E What kind of food do you give her?
C (Huh:02) fish (ah) that's only thing/s [EU] [SI-0]^ 
C Fish.
E Have you any other pets?
C No.
E Did you ever have any other pet?
C Yeah a dog [SI-0].
E Another dog~
C When I was small when I was one [SI-2].
E What can you tell me about that dog?
C I don't know I forget.
C (Yeah but) Daddy told me we kick/ed her out because she
(was) keep [EW: kept] [V: Past] push/ing me [SI-3].
C She push/ed me down to [EW: on] the ground load/s [EW: lots]
of time [EW: times] [SI-1].
::03
C And I split my head before from [EW: because] her when I
was one [SI-2].
::04
E That was very interesting xxxxx.
E Thank you for sharing all those stories with me they were
very interesting.

- 11:56
J. Appendix J

NARRATIVE STORY SELF SELECT PRE-INTERVENTION

$ Child, Examiner
+ Language: English
+ Gender: M
+ DOB: 12/23/2000
+ DOE: 3/6/2009
+ CA: 8;2
+ Grade: 2
+ Ethnicity: Irish
+ ParentEduc: 20
+ Context: Nar
+ Subgroup: Group A
+ Location: St. XXXXX XXXXXXX N.S.
+ Examiner: Mr. Neylon
+ Transcriber: Mr. Neylon
+ [EW] Word Error
+ [EU] Utterance Error
+ [FP] Fill Pause
+ [PERR] Pronunciation Error
+ [SI-O] No Subject or Predicate or Both
+ [V:Past] Verb Past Tense
+ Database: Narrative Story Retell
+ * Before a word means the word has been omitted
+ * Near the end of a word means the morpheme has been omitted

- 0:00

+ [BeginDawn_of_the_Dead]
E And where do you live?
C I have/n't a clue where I live[SI-2].
E Today xxxxxxx is going to tell us about a film he saw.
E Which film would you like to start with?
C Dawn_of_the_Dead.
E Ok would you tell us about that because I never saw that film.
C It'/s all about zombies and there's>
C (At the end there's) at the end there's[EW:were][V:Past] people all dy/ing and then the army come[EW:came][V:Past] and kill/s[EW:ed][V:Past] them all[SI-3].
C And (p*)>
C The first one what[EW:that] (ama) turn/ed into (an am an am)[FP] zombie (ah) it was Dawn/'s (Dawn's)[FP] cousin[D][D][SI-0].
C And then he (ch*) start/ed bighten[PERR][WE:ing] everyone and near the end there/'s[EW:was][V:Past] this pole[SI-2].
C And there/'s[EW:was] this (l*)(this)(the ah) zombie try/n[PERR][EW:ing] to bight him[D][SI-1].
C So they got the pole and stabb/ed him right in the belly[D][SI-1].
E Oh.
C And he'/s[EW:was][V:Past] was alive and they got a hurl and whack/ed[EW:struck] their head[EW:s] off[D][D][SI-0].
E Ok gosh sounds very scarey.
E And did anything else happen in the film?
C Yeah when it first start/ed.
c This little girl they thought it[LEX:she] was drunk[D][SI-0].
C The boy and his friend she[LEX:they] thought it[EW:she] was drunk[D][SI-0].
C And then they try/ed to (ama am)> C Did/n't know what she was so they (then) (they) bight/ed[EW:bit][V:Past] one of them[D][SI-1].
C But they[EW:she] did/n't turn into a zombie so their Dad came[D][SI-1].
C Cause they whack/ed her and they caught him[D][D][SI-1].
C (Amah)*do *you know what you play music with and the sharp bit[D][SI-0].
C They (they they) spin[EW:spun][V:Past] that around chopp/ed off their neck[D][D][SI-0].
E Scarey~
E And was there anything else in the film you did/n't tell me?
C Yeah.
C (The pub am ah) they went in the pub but they could/n't because it was locked[EU].
C So (so) (the*)>
C Someone smash/ed the window their friend [SI-1] and>
C Then (amah) they went in[LEX:to] their friend[SI-1].
C The electricity went[EW:turned] off so in[EW:during] the night the light/s came back on[SI-1].
C And (Dave), David (ah ah) went in to try and turn off the light[SI-2].
C And turn/ed the outside one on and there was zomb/ies all around the window[SI-2].
C So (they) he pull/ed down the blind/s and (so) he turn/ed them off[SI-2].
C And then the (lo*)>
C The street light/s went[EW:turned] on and then they got a gun[SI-1].
C And (and)[FP] he was a bad (g*)>
C He (he) was a bad aimer[EW:shot] right[SI-0].
E He was a bad what?
C He was a bad aimer[SI-0].
E Oh right.
C And then he shot at him went right through his eye ball[SI-0].
C Cause he turn/ed into a zombie[SI-1].
E And was there anything else?
E Sounds very interesting.
C So they went behind the bar right and people were all coming[SI-1].
C The zombies were>
C There was a trap down there (was amah)[SI-1].
C There was this door down there so they went down there[D][SI-2].
C And (am and) they went right down to the end so[FP].
C And then there was this lift go[EW:went][V:Past] back up there back up (am) into the (am) place[SI-3].
C And then the army came and (and the army came) and (go*) bring[EW:brought][V:Past] all the gun/s[SI-2].
C And shot them[SI-0].
E Oh.
E Um very interesting film.
E Was there anythig else in the film you left out.
C (Ah) their Dad came and her Dad came[SI-1] right~
C And (did) the brother thought he was a zombie[SI-2].
C So they went down to his house and (and ah) seen[EW:saw] if he was all right[SI-2].
C And they (want*)>
C They want/ed to go (right) see if the they could kill the zombie[SI-2].
C So the zombi/es came into their house and they bit the grandad[SI-2].
C And he turn/ed into a zombie and try/ed to bite them but they[EW:he] did/n't bite them[SI-2].
E Is that the whole story?
C No these's a lot but I forget them[EW:it] all[SI-2].
E Was there any other film you liked?
+ [EndDawn_of_the_Dead]

+ [BeginThe_Army_Movie]

E You mentioned James_Bond and The_Army_Movie and Twenty_Four.
C And Lost.
E Which one of those did you like?
C (Um) Army_Movie.
E Could you tell me about that cause I never saw that movie.
C There's this lad and his brother he[EW:they] got roll/ed over [LEX:crushed] by an army tank[SI-1].
E Oh right~
C And then there was this bang and they went down to see it and (am) it was a tank trying to bust into something[SI-3].
E Right~
C And they got their tung tank and esplod/ed it[SI-2].
E Right~
C There was the (the) man who was very strong he died cause (ama) a tank whack/ed him[SI-4].
C Know when they spin around?
C It whack/ed him[SI-0].
E Oh my god!
C Whack/ed him and chopp/ed his neck off[SI-1].
E Was there anything else that happened in that movie that?
C Yeah.
C They had>
C There was this lad and (they were trying to) the bad guy try/ed to top his>
C They were haven a fight when they were trying[EW:tried] to chop their neck/*s off but the lad the good lad chopp/ed ed his neck off with the gun[SI-4].
E Was there anything else?
C At the end (am) there was this (am ah) tunnel and the bad guys were trying to open it but they did/n't[SI-3].
C But they won the good gug/s cause the good guys (am thee* and:02 am)>
C The plane/s (but) done[EW:dropped] a big bomb and (and done am ah) sploded[PERR] all the tanks[SI-2].
E Anything else in that film?
C (Oh:02) and (huh:04) I forget.
C Been a long time ago.
E Was there any other one of those films you mentioned there about Lost.
E Could you tell me something about it cause I never saw that film?
C Ah shee they>
C On the first part they were on a plane and they crash/ed[EW:crash] landed and then (they) (fou*) the lad (who then the lad am ah) got off the plane[SI-2].
C Know the (the) what make/s it fly was still going around and around and he got blown right into it[SI-1].
E Oh my goodness and what else happened in that movie?
C They found a gun this from the second part (EO) (they found a gun) and they heard of *a big (am ah) war [SI-1].
C And (some they they) they found this top and there was a gun on it [SI-1].
C And they slept there for two week/s and (and) [FP] they found out what it was [SI-1].
C It was only (am ah) tape recorder [SI-1].
E And what happened then?
C There was a dungeon (am) they went down to it and they count/n't open it [SI-3].
C So they got a sledge hammer and whack/ed [EW: struck] it [SI-1].
C And then it open/ed [SI-1].
C Two lad [EW: lads] went down there (a very very strong lad) [SI-1].
C He was/n't in the plane and he (he) [FP] try/ed to kill them [SI-2].
C They/'re saying "Who'/s coming down the elevator" [SI-1]?
C And they did/n't know so they got their gun/s and try/ed to kill him and they did.
E Ok very, very good.
C (Mm) they got [EW: had] a baby and they got *a knife open/ed her belly and cot [EW: cut] the baby out [SI-2].
E Did anything else happen?
C There was> C They were on a boat.
C They were on a helicopter and *the helicopter was running out of (amah) diesel and (ah) the island (right it) [FP] disappear/ed [SI-2].
C So it did it disappeared.
C When they were going back they turn/ed around and it just disappear/ed [SI-2].
C So there was this lad and he jump/ed right down into the (into the) sea [SI-2].
C And he die/d in there cause the (the) thing the helicopter fell down onto him [SI-2].
+ [EndThe_Army_Movie]
+ [BeginSpirit_of_the_Attic]

E Very Good you told me you read the Spirit_of_the_Attic as well.
C Yep.
E Could you tell me about that?
C The chair, they put chair up into the attic and (it was) it stopp/ed wibbling [EW: wabbling] around.
C And there was this girl sleeping over with a boy and next morning the (the) girl woke up and said "I've[EW:had] [V:Past] a bad dream" I had a bad dream.
C And:02 they put (am ah amhamham)[FP] their Dad was deaf and he could/n't hear nothen.
C But the Mom did.
E And what else happened?
C So the Mom and the boy look/ed up there and then they saw/ed[EW:saw] the chair/s wi* wablen.
C And they woke up their Dad but he still did/n't wake up <right>.
C Cause (am ah) he was deaf.
E And did anything else happen?
C Huh I did/n't[EW:have] read all of it yet.
E Thank you very much for all those stories I enjoyed them.
- 12:11
E Tell me the story of Pukins please?
C Oh I forget.
C Pukins had her own way and (ah when she when she go*)
when she got in trouble she alway/s had her own way[SI-3].
C And she yell/s loud[EW:ly] and throw/*s apple/s.
; :02
C When she was mad she alway/s made face/s and (and) threw
apple/s and (and) yell/ed loud/*ly[SI-4].
C (Sh) when she (was am)alway/s got in trouble she>
C In the morning she (she) et ice cream/s[EW:cream] and she
did/n't eat her vegetable/s[SI-2].
C And she trow[EW:threw] it to the cat[SI-1].
C She'/d[EW:she] never pick/ed up her cloth/es and she put
her toy/s all(:02) bad[SI-1].
C She play/ed roller blade/s (roller blade/s) in (in) the
house an (got up) went to bed really really (um) late[SI-2].
C And woke the owl/s up[SI-0].
C One day she was walking in the park[SI-1].
C She saw (am) ah (leopard) leprechaun (I don/n't know)[SI-
1].
C (Ah) and she said (who:02 huh) "hello" and (and:02) >
C "Are you a leper"[LEX:gnome] she said[SI-2]?
C (An) a magic leopard[Lex:gnome][SI-0].
C And she got three wish/es and she (she) got cowboy boot/s
and a crown and (her) she want/ed to be the prettiest
flower in the world[SI-3].
;:03
C She (she) got the she got the crown and(:05) and (ah huh)
she want/ed to be the prettiest flower in the world
[SI-2].
C And he put her into a pot and put muck[LEX:clay]
into[LEX:around] her new boot/s[SI-2].
C And (and) she got to be in the>
C So that'/s>
C And he put water on her hair[SI-1].
C Then>
C I do/n't know what that is.
= {pupil pointed to picture}
;:03
C And she had to wait very long in (in) the sand[LEX:clay]
(and) for hour/s and hour/s and hour/s[SI-1].
;:02
C And she (she) turn/ed into (she turned into) a flower and
she still wait/ed[SI-2].
C And wait/ed and wait/ed.
C Until he>
C When it rain/ed she said "Come into[LEX:under] my (my)
flower[LEX:petals]"[SI-3].
;:02
C And she[LES:he] put[EW:took] his magic hat off and said
"Put all your yell/s and your face/s and (ah)"
;:02
C And yell/ed[EW:s] face/s and mad[UE]>
C And he turn/ed[LEX:put] her (into her) back together
again[SI-0].
;:02
C And then she only kept the one apple[SI-1].
- 4:29
+ SI: 1.58
L. Appendix L

CONVERSATION TRANSCRIPT POST-INTERVENTION

$ Child, Examiner
+ Language: English
+ Name: XXXXX
+ Gender: F
+ DOB: 12/23/2000
+ CA: 8;6
+ Grade: 2
+ Ethnicity: Irish
+ ParentEduc: 20
+ Context: Con
+ Subgroup: Group A
+ Location: St. XXXXX XXXXXXX N.S.
+ Examiner: Mr. Neylon
+ Transcriber: Mr. Neylon
+ [EW] Word Error
+ [EU] Utterance Error
+ [EO] Organisational Error
+ [PERR] Pronunciation Error
+ [OMISS] Word Omission
+ [COLL] Colloquialism
+ [LEX] Lexical Error
+ [FP] Fill Pause
+ Database: Conversation
+ * Before a word means the word has been omitted
  + * Near the end of a word means the morpheme has been omitted

- 0:00

E We're going to talk this morning about your scrap book.
E We have some work in front of us that you did xxxxx in
the calssroom.
C Yeah.
E That you did in your Scrap_Book.
C Snail.
E Tell me about your Scrap_Book and what you did in it.
C I done[EW:did] a snail in my Scrap_Book so I did[SI-1].
C (And:02) a flower (and:03 huh :03 mm)>
E Could you tell me how you did the snail.
C We colour/ed it in and then we cut it out and then we put
the plat thing on and then we (pu*) put our names on it
(dy)[SI-4].
E Ok did anybody help you with it?
C No.
E Did you do it all by yourself?
C Yeah.
E Ok where did you get the picture of the snail?
C Oh Mrs_Kane print/ed it out[SI-1].
E The next thing you did was-
C A flower.
E Ok tell me about that.
C (Be eeh) Mrs_Kane print/ed it out and then we colour/ed it with dots, green dots, blue dots, yellow dots and brown dots[SI-2].
E And have you ever seen a flower with that many dots?
C (Mmmm) yeah.
E Where did you see that flower.
C (Mmm:06 am).
E Was it just the one you made?
C (Hum) yeah.
E Ok you also did this picture here. 
E Can you tell me about this picture?
C It's Halloween[SI-1].
C Mrs_Kane cut it the out.
E What are those?
C They'/re house/s.
C This is a house and this is and Mrs_Kane cutt/ed[EW:cut] these out[SI-3].
C Then we stick[EW:stuck] these on then we put the witch on and we put the moon on an then we put out name/s on it and we colour/*ed it[SI-5].
E What colours did you use?
C (Huh) I colour/ed it yellow, red an blue.
E And why did you choose those colours?
C (Ah) Do'nt know cause always (in un is) the sun's goen down[SI-2][EO].
C It's yellow and red and blue.
E Very good ok you also did another picture here could you tell me about that?
C (Am) we cutt/ed[EW:cut] (it we cutt/ed[EW:cut] the pic*) the star out and then we colour/ed it yellow and then we put some glitter on it and (then we) then we stick/ed[EW:stuck] the name on to it[SI-4].
E Good.
E This one here then tell me about that how did you do that?
C We coloured it for (mm mm), his (leaf) leave/s (am) orange and I don't knowxxxxx[SI-1].
= {Sounded like I give up}
E Where did you get the leaves?
C Mrs_Keane print/ed them out and then (then) we colour/ed them in[SI-2].
E What colours did you use for those?
C (Yel*) brown, orange and orange and (hum) do'nt know what colour is I forget[SI-1].
C Bronze!
C Yeah bronze.
E Why did you use those colour/s?
C Do'nt know.
E Was there any reason for it?
C (Humm) no.
E When did you do those pictures?
C (Hum).
E What time of the year was it?
C Do'nt know.
E Was it before Christmas?
C No Easter.
C <I think>.
E <Ok>.
E You did some more work here could you tell me about that?
C Oh this (was:02 mmmmm oh this) was for the leav/es so it was[SI-1].
E And what was it?
C (Am).
E Tell me about it.
C We had to write a story, a poem[SI-1].
C down down here come/s the leav/es down down here come the leav/es[SI-2].
C The leav/es are chang/ing colour/s[SI-1].
C It is at autumn[SI-1].
C The leave/s are orange, yellow and gold brown, (brown)[SI-1].
C And do'nt know what "b""y" is[SI-0].
E Ok right could you tell me about this picture here?
C (Mm) we had spunge/s and we stampt/ed/ed[EW:stamped] them down.
E Right.
C With gold and orange.
E Ok and what's that kind of painting called?
C (Hum) do'nt know what that'/s call/ed.
C Spunkey!
E Ok.
E You also did <this one here>.
C <Oh dear>.
E Tell me about that picture.
E What's that?
C (oh) tree and all the leaves were up on top xxxx and they're falling down[SI-2].
E Ok so what time of the year was that?
C (Hum: 02) august, august.
E Oh right ok.
E You have some very unusual colours on the trees can you tell me about them.
C (Mm:05).
E Why did you have black leaves?
C (Mmm) I don't know it.
E Do you like black leaves.
C Yeah.
E That's an unusual colour isn't it?
C Yeah.
E You did two other pictures here can you describe those to me.
C We done[EW:did] a squirrel with red and black and an eye[SI-2].
E Why did you choose those colours?
C (Mmm) cause I wanted to[SI-1].
E Right are there any red squirrels?
C Yeah.
E Right.
E Are there squirrels with any other colours?
C Yeah.
C Brown(:02) and black I think[SI-1].
E So you did another one over here?
C Snowman that was on[LEX:at] Easter[SI-1].
C Yeah we had to colour him in (aand we had to colour him in) and first we were[LEX:went] on the computer and then we (we am we) were allowed to (am doos) we can[EW:could] do designs on him and that *was what I done[EW:did][SI-4].
C And then we coloured them[SI-1].
E What?
C We done[EW:did] designs on him[COLL].
C On the computer and then we coloured him in[SI-1].
C On the photocopier.
E I like your picture it's lovely very interesting design.
E What colour/s did you choose for the snowman.
C (Hum yell*) yellow bow and red glove/s, a red yo yo, red glass/es, blue hair, (orange) orange waist coat and blue there.
E I have never seen a snowman with a waist coat.
C Ha!
E What do snowmen usually have?
C Buttons buttons.
E And do they have a bow tie.
C Yeah.
C No no.
E And what do they have?
C (Hum).
E Do'/nt know.
E Could you tell me about this one here?
C Valentine's Day.
C We had to colour them all in[SI-1].
E Colour all what in?
C The heart/s.
E Who did you give that one to.
C Mommy and Daddy.
E Can you tell me about the next thing you did?
C A snowman on Easter.
E Tell me about that.
C We colour/ed it blue no orange, green, orange, green and brown (le*) hand/s (brown brown hands) and a black hat[SI-1].
E Anything else you put on the snowman.
C Black stone/s (mm oh) black (oh) mouth.
E Anything else?
C (Am) and orange glove/s.
E Could you tell me about this picture?
C (Mnn) this is Christmas[SI-1].
E Ok tell me about that.
C We had to do (we had to do) a house and Christmas tree and (a) snow and Santa[SI-3].
C He'/s there.
E Ok.
C (Hum).
E And where is Santa?
C Up there.
E Why is he up there?
C Yeah.
E Why is'/nt he on the ground?
C (Uhuh) he'/s going down now.
::05
C This is St_Patrick's Day[SI-1].
E Tell me about St_Patrick's Day.
C (Hum) we had to colour him in and cut him out then[SI-2].
E And what is that?
C (Mm) the leav/es[LEX:shamrock] for St_Patrick's Day.
E We do'/nt call them leaves though, do we?
C No.
C We call them St_Patrick's Day[SI-1].
E How did you do this picture here?
C (Hum).
C (Hum we) we got wet paint and then we (am) paint/ed it and then we got green and purple blue and white[SI-3].
E And how did you do the paint/ing.
C (We put water all) we put water on it on the paint/s aaand (aand) then we paint/ed it[SI-2].
C Then it came out different colour/s[SI-1].
::04
E Ok where did you put the water?
C (Oh) we put the water on the paint.
E And how did you put the paint on to the picture?
C (Oh it's) the paint was (on the) (on the pi*) on the paint brush/es and we dipp/ed into the paint and then we brush/ed it along[SI-3].
E You used paint brushes?
E Ok we have the last one here can you tell us about that one.
C Sheep/s.
C Sheep.
C We done[EW:did] sheep/s[EW:sheep][SI-1].
C We had (them) cardboard (there) and we use/d black for the leg/s (the) their tail (an) and (ah) face and we painted the grass green[SI-3].
E Right did you use anything else?
C No that's all.
E Ok now you went on a school tour recently could you tell me about that?
C Yeah.
C (Mmm) we we went to City_Limits (aand hum City_Limits) aand we went to (ah am) the playground (and) and the flatable/s[EW:inflatables] and LAZERQUEST[SI-4].
C We went to Lazerquest then[SI-1].
E Ok can you tell me about City_Limits?
C (Hum) City_Limits was fun?
E What's in City Limits cause I was never there can you describe it to me what's it like?
C There was inflatable/s there (was s um um) lazerquest and there *was game/s[SI-1].
E Ok games as well.
E Now could you tell me about the Inflatables?
C The inflatable/s were all bounc/ing castle/s and there was a really big slide and all the boy/s went down it[SI-3].
E Ok was that the only thing that was in the inflatables a slide?
C No there (is there is) was a bouncing castle[SI-1].
C There was (am) a slide bouncing castle and (hum) there was a baby one[SI-2].
E And what did you do on the bouncing castle.
C We bounced[SI-1].
E Anything else did you play games of any kind?
C Hum yeah catch.
E And how did you do that?
C We bounced (why) why[EW:while] they were catching so we did[SI-1].
E Anything else about that?
C And (and) they had to try and catch us while they were bouncing[SI-2].
E Tell me about Lazerquest?
C Lazerquest where we had to shoot people and wherever[LEX:whenever] they shoot (shoot) you, you go red[SI-3].
E How do you play the game?
C Oh you have to hold a gun and shoot (shoot ah) people who are/n't on your side[SI-3].
E Ok and how do you score?
C (Ah) if you have the most point/s[SI-1].
:: 03
E And how did you score?
C (Am we) we lost (so we did) cause they shot us the most time/s[SI-2].
E And why didn't you hide.
C (Am) do/n't know.
E You also played some games you told me?
E Could you tell me about the games because I have/n't seen them?
C (Hum tha) they were fun[SI-1].
E What games did you play?
C (Hum gun games) gun game/s.
E How did you play those tell me?
C There was gun/s (with) beside the game/s and we had to load the (the) gun/s and then we had to start shooting[SI-3]?
E And what did you have to shoot?
C Bad guys bad armies.
E And how did you win the game what did you have to do to win it?
C Oh you have to shoot the bad guys[SI-1].
E Ok.
C There'/s [EW:was] only two good guy/s in it and (load a) load/s a[EW:of] armi/es.
E So did you do what did you do?
C No we hid/ed [EW: hid] (we hid/ed) and (we shoot) we shoot/ed [EW: shot] them [SI-2].
E Ok any other games you played?
C (Hum) yeah I play/ed a card game [SI-1].
E Ok tell me how you played that what game was that?
C Card/s and ah>
E How did you play that.
C (Hum) there'/s [EW: was] steer/ing wheel [SI-1].
E There was what?
C a steering wheel.
E Oh yes.
C And we turn/ed when we were at the corner and I won [SI-3].
E Pardon?
C I won [SI-1].
E But how did you win what did you do to win?
C (Hum am) I pass/ed um all out and (hum hum all and) I crash/ed into them [SI-2].
C That's all.
E Ok was there any other game you played?
C Hum yeah.
C There was this space thing (there was this space thing) and when it's [EW: was] ever going up or going down we follow/ed going down or up [SI-3].
E Now you said also that you played soccer could you tell me about that?
C Soccer how?
E That you liked soccer.
C Oh yeah.
E Can you tell me about that?
C (Hum) I do kick the ball and you score goal/s and (:03 hum) >
C If your in the final/s you (you) can (if your in the final you can) hold a trophy [SI-2].
$ Child, Examiner
+ Language: English
+ Name: XXXXXX
+ Gender: M
+ DOB: 12/23/2000
+ CA: 8;6
+ Grade: 2
+ Ethnicity: Irish
+ ParentEduc: 20
+ Context: Narrative SSS
+ Subgroup: Group A
+ Location: St. XXXXXX XXXXXXX N.S.
+ Examiner: Mr. Neylon
+ Transcriber: Mr. Neylon
+ [EW] Word Error
+ [EU] Utterance Error
+ [EO] Organisational Error
+ [PERR] Pronunciation Error
+ [OMISS] Word Omission
+ [COLL] Colloquialism
+ [LEX] Lexical Error
+ Database: Narrative SSS
++ Before a word means the word has been omitted
++ Near the end of a word means the morpheme has been omitted

- 0:00

+ [BeginShiverham_Hall]
E xxxxx would you tell me the story of Shiverham_Hall?
C Shiverham_Hall, had ice cold bed/s and ice cold
shower[EW:showers] and (then) ice cold bath/s and jacuzzi/s
[SI-4].
C (And hu am:04 ham who)>
C Dont know what to say now.
C Mr_Slate, Mr_Simkins, Mr Quiver and Miss Gauntley
(Miss_Gauntlet) Mr_Gauntlet Miss_Doublet (Miss_Doublet)
that's all[SI-1].
C (Am) Mr_Slate was greedy and (am greedy) selfish (am :05)
and (mad) bad[SI-3].
C Mr_Quiver was the hotel manager and Mr_Simkins help/ed
Mr_Slate[SI-2].
C And where did that happen?[SI-1]?
= {asks himself the question very quietly}
C Oh it happen/ed (hum) where (am oh god hum:03) where did
(that happen) the story happen?[SI-2]?
C The story happened in Shiverham_Hall[SI-1].
E Anything else?
C They had ice cold bath/s, ice cold shower/s, and ice cold
bath/s no beds[SI-1].
C (Um:02) when the story happened?
C (When:03 hah:10) do/n't know anything else.
C What happened (what happened am)[SI-1]?
C Mr_Slate was going to bed then Mr_Quiver was (going)
getting Mr Gauntley, Mr Gauntlet and Mr Doublet and they
try/ed to scare him[SI-3].
C Miss Gauntley wail/ed around the house and Miss[EW:Lord]
Gauntlet had a sword throught his chest[SI-2].
C Miss[EW:Lord] Doublet (had had) took his head off and
that's all[SI-1].
C And why did they want to frighten him?
C Cause he was going to (he was going to b he was going to)
slam down Shiverham Hall and make a new hotel[SI-2].
C And then his great aunt (great aunt) Mabel heard and then
she came to Shiverham_Hall and (she saw them) she gave him
a big sloppy kiss and then every night she would alway/s
tuck him in, give him his favourite soup and give him a
sloppy kiss every night[SI-6].
C That's all.
E And what happened after that?
C (Um that's) then he (he) ran away and ripp/ed up his
(con*) contraction/s[LEX:contract][SI-2].
+ [EndShiverham_Hall]

+ [BeginHurricane_Season]

E Tell me the story of the Hurricane Season.
C The story is called Hurricane_Season[SI-1].
C Right.
: 06
C Why?
C Who was in the story?
C Grace, grandma, grandad and mum and dad.
C Why?
C Grace want/ed to sleep with granny and grandad (and) in
the trailor[SI-1].
C Where?
C In the trailor.
C When?
: 07
C When they were having lunch[SI-1].
C What happened[SI-1]?
C Then Mammy and Daddy said "Yea"[SI-1].
C And then they went[SI-1].
C And then (when) a lad in a base ball cap said "There's going to be a hurricane com/en"[SI-2].
C But then the hurricane chang/ed direction (and changed directions)[SI-1].
C Then (then they) they had to get out of it but they were/n't able[SI-2].
C Then they went into their car[SI-1].
C Then the car would'nt start and then they phon/ed their Dad[SI-2].
C (And:02 dad and then:04 dad) and then he was stuck in traffic[SI-1].
C And then they had to cross the road but there's[EW:were] crocodile/s (crocodiles) then they went over them[SI-3].
C And then they went into the ware house[SI-1].
C And then grandpa (grandpa's) he got (um) a nail hammer[LEX:bar] and he bash/ed the door down[SI-2].
C That's all.
E Anything else.
C And then they phoned Mum[SI-1].
C And then they came and then got them[SI-1].
C They (then) they slipp/ed down[SI-1].
C The river they slipped down the river then and that's all[SI-1].
C Grace was smart cause when the hurricane came she told gran (granpa) and grandad (where) to go into the warehouse and (for smart and) scar/ed at the hurricane[SI-4].
E Very good.
+ [EndHurricane_Season]

+ [BeginLondon's_Burning]
C This name of the story is called London's_Burning[SI-1].
C Who (the) Elizabeth, John, the king, Kitty, Mum and Dad.
C Why?
C Why why why why why why?
C When John was going to bed he said to Mum and Dad he wanted a candle but Mum said "Your too young to have a candle" so she got Kitty[SI-6].
= {Pupils requires work to be corrected}
C And then she got Kitty (then she got Kitty and she got Kitty) and then he gave it to Elizabeth[SI-2].
C And John snuck down and (that snuck down and) (got got am
snuck down and) got a candle and then (he wen*) he fell
asleep[SI-3].
C And then.
= {Child interrupts to ask about what to do next}
C Now when when did it happen[SI-1]?
C When John fell asleep he smelt[SI-2].
C And then the baker boy had got a job to do for the
baker[SI-2].
C The king (and the king) gave him a job and said to him
"Put out the fire" but he did/n't do that[SI-4].
C He fell asleep and then a spark of fire went out onto the
hay[SI-2].
C And then (then am:03 then then) he got really hot and
then he woke up and (and) said "Fire"[SI-3].
C And then (there was) John woke up and (and) smelt fire
and then he went down to Mom and said "Fire"[SI-3].
C But Mom and Dad said "Go back to sleep"[SI-2].
C And then Dad came up and said (then Dad came up quickly)
your right, London's burning, get dress/ed quickly"
[SI-5].
= {interruption from a child with work to be corrected}
C And what happen/ed[SI-1]?
C What happen/ed (um)[SI-1]?
C And then Mon and>
C Will I say that part[SI-1]?
C Mom and Dad told him to go back to sleep and (and and)
then Daddy came and said "Wake up, London is burning get
dressed quickly"[SI-6].
C And then (then) he got dress/ed quickly and went down
stair/s[SI-2].
C And (and hum ah) then he went outside[SI-1].
C And then there was a big fire and then the wind blew it
toward/s their house[SI-2].
C And then they climb/ed the rooftop/s and the cat and
their Mom went first and then (the and then) Dad jump/ed on
then John did and then their Dad did[SI-5].
C And then they climb/ed the rooftop/s and then John got
lost (and John got lost)[SI-2].
C And then the king found him and he brang[EW:brought] him
to his Mom and Dad[SI-2].
C And then John thought it was his fault but it was'/nt
cause when he was alseep his Mom and Dad took the candle
away from him and then his Mom said "The baker, the baker
boy done it"[SI-6].
C And then (am ah Elizabeth and John) Elizabeth and John danc/ed around Kitty and Kitty (am ah) Kitty chas/ed them[SI-2].
C And (and) then (he) his Dad came over to him and said "One day London (one day London) will be beautiful again"[SI-3].
E Very good.
C That's the end.
E Anything else.
C John was silly because he snuck down and got a candle and (am) he was scar/ed am and that's all[SI-4].
E Well done, xxxxx.
- 14:41
E What are we going to do?
C We are going to read a story about Pukins Gets Her Own Way.
E Would you turn to the first page and tell me the story.
C Pukin Gets Her Own Way.
C When she does'/nt get her own way she yell/s she scream/s and she throw/s apples.
: 04
C She make/s face/s she throw/s apples and she yells.
C (She mmmorning) for braekfast she has ice cream and for dinner time she does'/nt[EW:did'/nt][V:Past] eat her apple/s[LEX:vegetables].
C She does'/nt clean up her clothe/s.
C She gets toys whatever she wants[EO].
C She rollerskate/s in the living room.
C She goes to bed late.
C One day she was walk/ing in the park she war/ed[wore] her party dress/es[dress].
C And then when she was walking along she saw/saw a gnome, garden gnome.
C And then she said "I want three wishe/s".
C And I want cowboy boot/s.
C Then she want/ed (then she want/ed am a king) a queen/s hat.
C Lrd huh.
C Then she want/*3ed to be the *most beautiful flower in the world.
C Then she had to and then she then the garden gnome put put on water on to her.
C Then she had to wait for hours.
: 03
C And then hours and then even more hours and then she turned into into a flower.
C And then she want/ed to be a person again.
C And then then the garden gnome did'/nt let her then he did let her.
C Then the[it] rained and then the garden gnome/d[gnome] had going to the flower.
C And then he chang/ed the person[LEX:flower] back into a person.
C And then that's d'end.

- 3:43
**O. Appendix O**

**CONVERSATIONAL SAMPLE OF PERSONAL PRONOUNS**

Conversation Transcript 1  
3/3/2009

<table>
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<th>Personal Pronouns</th>
<th>Total Utterances</th>
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Total Frequency  
125  
75
Dear Parents,

I am completing a master’s degree in digital media in education. The topic I have chosen for research is “An Investigation into the Effects of Narrative Discourse Intervention on the Language Skills of Primary Pupils with Language Acquisition Problems” I wish to select your child as a participant in the research. The research will involve some extra testing and the use of some new teaching methods. It may also involve the completion of a questionnaire. You and your son or daughter will benefit from your participation. The research will be conducted under the auspices of the University of Limerick. I would like to reassure you that confidentiality will be maintained and you or your child’s name will not be mentioned in the documentation. Permission has also been obtained sought from the Board of Management

In order for your son/daughter to be part of the research you must sign the form below.

Yours Sincerely,
Mr. Neylon

St. Oliver Plunkett N.S.
Sports Consent Form

I consent to allow my son/daughter to participate in the Research being conducted by Mr. Neylon into language acquisition

Name of Parent/Guardian: ____________________________________________

Date: __________________________

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Q. Appendix Q

INTERVIEW WITH PARENTS POST-INTERVENTION

Name of Parent: ____________________________________________

DATE: ______________________________________________________

1. Which of the following do you have?
   Primary Education ☐
   Secondary Education ☐
   University Education. ☐

2. Which of the following describes your occupation?
   Homemaker, ☐
   Office Worker, ☐
   Professional Person, ☐
   Factory Worker ☐
   Other ☐

3. Did either you or your husband have any of the following learning difficulties?
   Language Difficulties ☐
   Literacy Difficulties ☐
   A Specific Syndrome such as Dyslexia etc. ☐

4. Do any of your relatives have any language or literacy problems?
   Yes ☐
   No ☐

5. If yes what is the nature of their difficulties?
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

6. Was _____________ screened for language development at about three years of age?
   Yes ☐
   No. ☐

7. If yes what was the outcome?
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
8. Did pupil name meet all her physical developmental milestones?
   Yes ☐ No. ☐

9. If no which milestones did s/he not meet?
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

10. Did __________ meet all her milestones with regard to language development?
    Yes ☐ No. ☐

11. If yes which milestones did s/he not meet? Why?
    ________________________________________________________________
    ________________________________________________________________
    ________________________________________________________________

12. When did you first become aware that __________ had literacy difficulties?
    ________________________________________________________________
    ________________________________________________________________
    ________________________________________________________________

13. Did __________ use the cue cards at home each school day to retell the stories we did in school?
    Yes ☐ No. ☐

14. If no why not?
    ________________________________________________________________
    ________________________________________________________________
    ________________________________________________________________

15. How did she retell the stories in your opinion?
    ________________________________________________________________
    ________________________________________________________________
    ________________________________________________________________
16. How would you describe her story retelling now?

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

17. Was s/he able to read the stories when s/he took the book home to read?

Yes □ No. □

18. If no how did you handle this?

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

19. By the end of the session would you say that she was able to read the book herself?

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

20. Did you think it was a worthwhile exercise?

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

21. If so how do you think it benefited your child?

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

22. Do you think that it would be worthwhile continuing with these exercises?

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________

23. Do you think the story telling could be improved in any way either in general or in relation to your child?
Yes ☐ No. ☐

24. If yes in what way?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

25. Do you have any other comments on the work undertaken with your child over the last five weeks?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
1. How would you describe his/her performance in class?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

2. Is s/he a good listener?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

3. Does s/he volunteer responses regularly or does s/he wait to be asked?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

4. Is s/he able to articulate her views and opinions well?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

5. Does she complete tasks fully and on time?
6. How would you describe his/her organisational skills?

7. Can she make a quick and smooth transition from one subject to the next without undue delay?

8. If she wastes a lot of class time is there anything to be done to help her with application?

9. What would you say is his/her main problem?
10. Does s/he understand what is going on in class?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

11. What other problems do you think s/he has if any?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

12. Does she have a good sight vocabulary?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

13. How would you describe her word attack skills?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

14. How would you describe her reading?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

15. How is her writing and spelling relative to other pupils in her class?
________________________________________________________________________
16. Is s/he able to call information easily?

________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________  

17. Has _________ any other strength?

________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________  

18. Has _________ any other weaknesses?

________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________  

19. What is your impression of her oral language skills e.g. speech production and narrative retell?

________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________  

20. Does s/he like school? Does s/he try to please the teacher?

________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________  

21. Is there anything else about ______________ that is important that you would like to mention?

________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________  
________________________________________________________________________
Questions will be followed up during interviews with further questions as the situation demands.