THE EFFECT OF ILLUSTRATIONS ON THE ABILITY OF CHILDREN TO DRAW INFERENCES WHILE READING NARRATIVE TEXTS

By

Pamela Irene Mary Protheroe

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Dedication

To my friend, Geraldine Stanaway, whose unfailing curiosity, insight and sense of humour have been a delight and an inspiration to me for over forty years.

Abstract

Materials used to teach reading in New Zealand schools, as elsewhere, generally include illustrations to help learners develop reading skills. The present research tests the claim that the availability of pictures can hinder rather than help the complex constructive processes of reading and considers whether or not boys are more at risk than girls. It does this by considering how pictures affect the ability of learners to practice making inferences and how the use of pictures in instructional material might be one factor that could affect the development of an ability to integrate the skill of making inferences with the other skills that are performed during reading.

The construction of a mental model while reading gives rise to making inferences and depends on the integration of such inferences. This process leads to an enhanced memory of the text and assists comprehension. Four questions were raised: To what extent do 7 – 9 year old readers draw inferences from pictures rather than text? Is there any difference between male and female readers of this age and in each of these reader groups in how illustrations affect their ability to draw inferences from text? Do pictures hinder 7 – 9 year old readers who can decode text well and have a high level of vocabulary knowledge but do not comprehend well (referred to throughout as 'difference poor readers') in their attempts to incorporate general knowledge in their comprehension of text? Do pictures hinder 7 – 9 year old good readers in the same way?

A repeated measures study was designed; 48 children read four stories each, rotated between 4 groups (good readers and poor readers, male and female) so that each story was read with and without pictures. Each child read 2 stories in one condition in the first session and the other 2 stories in the other condition in the second session. The order in which the stories were read was also rotated. The children gave oral answers to questions designed to probe for evidence of inference making after each reading with books open and then re-told the stories with books closed.

Results indicated that for these participants, the male difference poor readers were more likely than any in the other groups to make more inferences from the text without the pictures; for some the response also indicated that the nature of their reading experience was profoundly affected. The good readers also tended to make fewer inferences with pictures as did half of the female difference poor readers. The other half seemed to make very few inferences unless pictures were present but these inferences were more influenced by the text than the pictures.

These findings suggest that if the aim is to teach comprehension of text then learning materials might be more effective if they did not contain illustrations.

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Above all, I owe everything to the schools, the pupils and their parents who agreed to participate in this study but who, for reasons of privacy, must remain nameless. Without their willing co-operation, nothing could have been done.

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Chapter 1 - Introduction

1.1 Purpose of the study

The materials used to teach reading in New Zealand schools, as elsewhere in the western world, generally include illustrations. It is assumed that these illustrations will help in the development of competent reading skills. The present research tests the alternative claim that the availability of pictures can hinder rather than help development of the process of reading and in addition considers whether or not boys are more at risk than girls.

An impression that boys seemed more prone to the negative effect of illustrations on their attempts to learn to read, which was formed while teaching, was supported by research available at that time but which focused on learning to decode the text (Diamond & Beaumont, 1974; Vellutino, 1987). It has also been borne out by later research into male and female differences among children learning to process spoken and written discourse (Burman, Booth, & Bitan, 2008; Mason & Just, 2006).

The focus of this research is on the effect of pictures on the ability of beginner readers between the ages of 7 and 9 to make inferences from narrative texts. The readers who participated in this study were good decoders of text; half were male and half were female. In addition, half of each gender group was good at comprehension while the other half could comprehend to some degree but were less skilled.

A child's limited world knowledge could be seen as justifying the use of illustrations in order that the child can arrive at a full understanding of the text. However, a picture may not help the child to improve one or more of the sub-skills needed in competent reading because reference to the picture can change the nature of the process the reader needs to practise and so interrupt the development of an ability to integrate all the skills that are usually performed during competent reading.

Early reading difficulties are found to be prevalent and to persist. In spite of later interventions, the gap between good and poor readers not only remains but often

increases throughout schooling (Daneman, 1996; Fletcher & Lyon, 1998; Martino, Norris, & Hoffman, 2001).

In the U.S.A., the problem has been shown to have little to do with socio-economic factors as a third of all poor readers come from college-educated families; it is estimated that 95 percent of all children can be taught to read (Moats, 1999). Teachers sometimes assume that social status, home background or factors other than teaching methods and materials are to blame for a child's difficulty in learning to read. If the poor reader comes from a supportive background and a well-educated family, then it is useful to look carefully at learning materials.

Remedial material used with poor readers usually has many illustrations since the focus is on the 'product' of reading. That is, the child needs to show he or she has understood the story. Pictures provide information to help the child do this. However, the current study contends that the focus should be on the process, not the product. Teaching materials seem to focus on helping the learner produce 'correct' answers and the product is evidence of comprehension. If teaching materials were to focus on the 'process' then accuracy would assume less importance. So, if children were to practise the skills of making meaning from the text, then it is useful to consider whether or not illustrations interfere with them getting adequate practice at doing this.

In order to test this, four questions were raised:

1. To what extent do 7 – 9 year old readers draw inferences from the pictures rather than the text when both are present?

2. Is there any difference between male and female readers of this age and in each of these reader groups in how the illustrations affect their ability to draw implicit inferences when reading narrative texts?

3. If a picture is present, does it hinder 7 – 9 year old difference poor readers (those who can decode text well but comprehend text poorly – see Section 1.4.6) in their attempts to incorporate general knowledge in their comprehension of a text, i.e. to draw 'implicit' inferences from the text?

4. If a picture is present, does it hinder a 7 – 9 year old good reader who usually comprehends well from incorporating relevant general knowledge in his or her comprehension of a text, i.e. to draw 'implicit' inferences?

These questions were designed to provide some insight into whether the difference between learners who comprehend well and those who comprehend poorly might be due, in some cases, to differences in responses to the use of illustrations. Since male readers are showing up in educational statistics as performing less well than female readers, these questions asked whether or not there were different reactions to the use of illustrations between boys and girls.

Drawing inferences is the key skill one needs to practise in order to learn to comprehend text, and since difference poor readers are given learning material with pictures to help them improve their comprehension, question 3 needed to be addressed. In order to answer this question, participants who were difference poor readers (see Section 1.4.6 below) were required. Deficit poor readers – those who cannot decode (see Section 1.4.5 below) – were not suitable for the experiment since their understanding of the text would be affected by their inability to perform the bottom-up skills required more than by their ability to draw inferences.

Readers who have learned to decode text should be gaining skills at making inferences by the time they are at least 7 or 8 years old, so participants of this age were chosen. At this age they could still be considered to be 'learning' to read even though their skill at decoding was well established. This would also be the age when the need to practise the skill of making inferences would be vital to their progress in learning to comprehend texts.

It was decided to focus on narrative texts, which would be the genre most familiar to this age group. Participants would be asked to read stories with illustrations and without.

48 children took part in a repeated measures study. They read narratives in two conditions - with and without illustrations. The participants were equally distributed across four groups: good readers and poor readers, male and female. The

dependent variable was whether or not the readers made inferences from narrative text. The independent variables were the conditions in which they read the narratives – with or without illustrations – as well as sex and reader group.

Both the quantitative and the qualitative analysis of the results provided support for the hypothesis that the use of illustrations hindered the male poor readers in regard to making inferences from text. The results were less clear in regard to the female poor readers, some of whom seemed to need the illustrations to prompt them into making inferences. The results for the good readers indicated that the presence of illustrations resulted in both the boys and the girls making fewer inferences.

1.2 Structure of the Thesis

This thesis is presented in 7 chapters plus a section for references:

1. Introduction: general overview of the objectives of the study, its structure and motivation as well as an explanation of terms used;
2. Background -The present scene in teaching reading in regard to the use of illustrations;
3. Background - Mental model building theories of reading;
4. The research questions and the experiment – Method and design developed to answer research questions;
5. Quantitative results and discussion;
6. Qualitative results and discussion;
7. Conclusion and recommendations – suggestions for future research and implications of this study for application.

References

There are 14 appendices.

1.3 Motivation for the study

Motivation to conduct this study came from observations made while the author was teaching young children to read and from the results of investigating the research available to support the use of illustrated material in teaching reading skills. This was supported by concerns expressed by institutions of higher education, governments, employers and parents about literacy levels in general and reading ability in particular.

When the aim of a reading lesson was to concentrate the learner's attention on the text, it was noticed that the illustration often distracted attention from the text. For example, some young learners cannot understand the way three dimensions are represented in two dimensions and are puzzled as a result. In one instance, the position of a chicken was interpreted by one child as being on top of a person's head instead of standing some distance behind the person. When the child found the picture mystifying or 'misread' the picture so that the information they took from it was at odds with the text, then this diverted attention from learning to comprehend the text. The need for children to learn to interpret how three dimensions were represented in two dimensions in order to 'read' pictures could not be dealt with without undermining the aim of the lesson which was to teach them to comprehend text. Hagen & Jones (1981) show how difficult 'reading' pictures can be for children. This was acknowledged by Pressley (1977), who claimed that children read pictures inefficiently as shown by the work of other researchers using eye-scan data, and by Smith (1985a), who claimed that children needed to develop their skills at interpreting pictures as much as they needed to develop their skills at reading text.

Illustrations were also found to affect some of those children who are very interested in the illustrations and can interpret them easily and rely on them for an understanding of the story. These children seemed unable to begin to make a meaning in response to the text when the illustration was removed. For these children, illustrations were not so much a distraction as a crutch.

It was also noticed that some children who could decode the text fluently and recognise words easily when the illustration was covered, stumbled over the words or

simply read them incorrectly when they could see the illustration. Research into attention and performance gave some insight into why this might be the case and suggested that if the areas of the brain that deal with visual processing are engaged, then this interferes with the functioning of areas of the brain that deal with linguistic processing (Diamond & Beaumont, 1974; Ortony, 1979; Segal & Fusella, 1970). Studies such as these suggested a model for reading that involved a link between the area of the brain that specialises in decoding text and that which interprets and makes inferences about the text, and that this link would be disrupted in learners if text and pictures appeared together. A young leaner would have to spend too much attention on either the pictures or the text so that attention to both would not be possible at the same time. Later studies done by Robertson, Gernsbacher, Guidotti, Robertson, Irwin, Mock, & Campana (2000) supported these findings (as cited in Mason & Just, 2006).

At certain times narrative texts build up suspense in order to motivate and give pleasure but if the outcome is illustrated in the picture then the aim of the discourse is thwarted. Even if such a picture appears on the page after the text, children get into the habit of turning over the page before they have finished reading the text just to find out what happens. These sorts of reactions to pictures frustrate the teacher when the aim is to help the child learn to appreciate the pleasure of reading.

A number of studies have supported the impression that pictures are counterproductive when teaching reading but these studies concentrated on the effect of pictures on learning to decode text. In a search of the literature I have failed to uncover evidence to show that pictures help children learn to decode text. This was a surprising finding considering the extent to which illustrations are used in the teaching of reading. There is also a gap in the literature concerning the effect of illustrations on the development of the cognitive processes needed for successful reading comprehension, and this finding has led to the desire to conduct this study.

1.4 Explanation of terms

In order to make things clearer, certain terms that will be used throughout this study will be explained briefly in this section.

1.4.1 Bottom-up processing or lower-level reading skills

Typically a young reader is taught by a combination of the phonics method and the whole word technique which involves learning a sight vocabulary. When learning phonics, children are taught the sounds that these letters generally represent. These children can then use a 'sounding out' technique for words they do not recognise. This method is considered by some to present difficulties in English because there are over two hundred 'rules' but even more exceptions to these rules (Smith, 1985b). Nevertheless, there are enough regularities for most children to be taught to read this way.

In the texts used with beginner readers, the vocabulary is usually such that the reader will have some knowledge of the meanings of most of the words because he or she will have encountered them in speech. 'Knowing' a word involves establishing links between form and content. The content is already established as a result of the child encountering the spoken form in a meaningful context. So, as a reader, the child has to link that content to a different form – the written form.

For example, a child will know what the 'sun' is and recognise a picture of it, but needs to learn to recognise the written form and link that to their concept of the sun. It is thought that presentation of the written form with a pictorial representation of the sun will help the child learn to do this. However, research has shown that the use of the picture with the written form can prevent the child remembering the written form (Wu & Solman, 1993).

1.4.2 Psychological Blocking

Research indicates that learning to perform the 'bottom-up' or 'lower level' processes is more successful when illustrations are not used. Samuels (1970) reviewed a great deal of this research and concluded that the pictures must be distracting children from the text or perhaps the children were following the principle of least effort. However, Wu, & Solman (1993) concluded that 'psychological blocking' was to blame. They found the same difficulties with the use of pictures as did previous researchers but suggested a different cause. When a new stimulus is taught, learning

is more successful without a known stimulus being present. Apparently, the presence of the known stimulus blocks the learner from remembering the unknown stimulus. For example, in the case of a child learning to read the word ‘sun’, the picture of the sun is the known stimulus and its use would block the memory of the unknown stimulus - the written form.

A picture is very useful for teaching unknown vocabulary and a child can learn the spoken form of a word in this way. However, once the spoken form is established, use of the picture to help teach the written form is not an effective teaching aid. Using the written form alone results in a better memory of that form (Wu & Solman, 1993). The research into the negative effects of using illustrations to teach lower-level reading skills is plentiful and conclusive and stretches back at least fifty years (Anderson, 1970; Paivio, 1969; Samuels, 1970).

1.4.3 Top-down processing or higher-level reading skills

In order to derive meaning from the text, a beginner reader must learn to use his or her linguistic knowledge. For example the reader will use the rules of grammar as well as knowledge of the semantic properties of individual words and how these combine to give meaning to the larger text. Readers need to become familiar with the structures of sentences, or syntax. Processes that deal with these aspects of sentences are involved in understanding ‘who did what to whom’ (Long, Johns, & Morris, 2006). Also, success at deriving meaning from a text helps with word recognition because a meaningful context can give clues to the meaning of unknown words and extend the meaning of known words. However, even if a child understands individual words and groups of words in a sentence and how they relate to each other, this does not mean that he or she understands the text as a whole.

1.4.4 Inferences

Central to the process of reading and to the process of learning to read, is the making of inferences. In any written text, there will be information that is implied but not explicitly stated and cannot be taken literally from the text. However, the reader uses literal information from the text and integrates this with his or her own store of

knowledge and experience to make knowledge-based inferences which link up these ideas. As a result, no two readings of a text will be identical.

Even when the background knowledge and experiences of the reader and the writer are very similar, it cannot be said that any text has been understood exactly as the writer meant it to be. At the very heart of comprehension is the invocation of background knowledge as the information in the text is processed. This process is a two-way activity; the reader needs to generate an inference to build an accurate text representation, but an accurate text representation is needed for inference generation. The relation between inference generation and text integration is a strong one (Mason & Just, 2006).

Background knowledge can be either general world knowledge that the reader has gained from experience or prior knowledge from the text itself or a combination of both. This knowledge – however it is gained – is combined with the encoding of information currently in focus in the discourse (Zwaan & Rapp, 2006).

Knowledge-based inferences can provide missing information, resolve discrepancies and predict unmentioned facts or events and there have been several attempts to classify the various types of inferences (Mason & Just, 2006). For the purposes of this study, the readers are probed for evidence that they can make *evaluative* or *elaborative* inferences. The term 'elaborative' is used here for inferences that add details that are necessary for comprehension although it is possible to make elaborative inferences that simply add to the reader's enjoyment of the narrative. Evaluative inferences are made when the reader wishes to know 'why' something happens or what motivates characters in a story.

There is no definitive answer to the question of whether inferences are made on-line while the reader is in the process of comprehension or off-line during reflection. There is evidence that some 'types' of inferences, such as evaluative ones that explain why states, events, and actions are mentioned in the text, may be made on-line by competent readers (Graesser, Singer, & Trabasso,1994). Since the present study aims to gain an insight into the effect pictures have on young learners, the

participants were given every chance to make inferences during their first reading, but subsequent re-reading was allowed and encouraged.

1.4.5 Deficit poor readers

Deficit poor readers are unable to decode the text successfully or have a lack of vocabulary (Levin, 1973; Wiener & Cromer, 1967). They cannot perform well at any of the lower-level reading skills. Such readers are not included in this study.

1.4.6 Difference poor readers

A difference poor reader, on the other hand, has these lower-level reading skills but is unable to comprehend a text (Levin, 1973; Wiener & Cromer, 1967; Yuill & Oakhill, 1991). For the purposes of this study the difference poor readers had poorly developed comprehension skills; none of the participants were totally unable to understand what they read.

The term 'difference poor reader' may seem unnecessarily awkward, but the term was coined by the above-mentioned researchers and used in child literacy because it is difficult to give these readers a label which accurately reflects their reading ability. If they are labelled as 'poor comprehenders' then this term could equally well apply to readers who have poor decoding skills and lack adequate vocabulary. They cannot be called 'poor readers' because they read fluently and usually consider themselves good readers. Yuill & Oakhill (1991) point out that these readers are often proud of their reading skills because their fluent decoding of the text can be more accurate than the decoding of those who comprehend well. These readers do not have a deficit as far as reading the words is concerned but they are somehow 'different' from the other poor readers due to their very high level of competence in decoding text and knowledge of vocabulary. There seems to be every reason to expect that they would understand well and yet they do not.

Research suggests that the inability of the difference poor reader to understand a text is not due to a general memory deficit. Difference poor readers seem unable to do what good readers do. That is, they are unable to use relevant general knowledge

to make sense of information that is only implicit in a text. This inferential processing helps not only the good readers' understanding of, but also their memory for the text (Oakhill & Samols, 2005; Yuill & Oakhill, 1991).

In a review of studies into adult difference poor readers (Long, Johns, & Morris, 2006), it was found that they have accurate word-level and sentence-level processes: they can encode the structural relations between concepts at the level of a sentence, use context to select the meaning of any ambiguous words, and remember information already presented in the text. Nevertheless they are unable to construct a coherent discourse model. Researchers have looked into many other aspects of reading ability in the search for a cause for difference poor readers being unable to integrate the high-level interpretive processes and, after decades of trying to find the answer, researchers still find the reasons unclear. No one considers the fact that such readers have usually been given illustrated texts to help them improve their comprehension skills and that perhaps this material might be contributing to the problem.

1.4.7 Mental models or situation models: contents, structure and construction.

The term 'mental model' will be used in this study. The term 'situation model' is sometimes used for the same concept (Graesser & Bertus, 1998). Mental model theories, as applied to reading comprehension, are theories of comprehension that depend on the reader representing situations described in the text by constructing inferences.

Experiments conducted in 1972 by Bransford, Barclay, & Franks (as cited in McNamara, Miller, & Bransford, 1996) have shown a difference between propositional representations and mental models. For example, participants were required to memorise this sentence:

"Three turtles rested on a floating log, and a fish swam beneath them."

After a period of time, these participants could not be sure whether they had learned that sentence or this one:

“Three turtles rested on a floating log, and a fish swam beneath it.”

The experimenters maintained that memory confusions were to be expected since only one proposition distinguished one sentence from the other, namely whether the fish swam under the turtles or under the log.

However, subjects who memorised the next sentence did not confuse it with the one following:

“Three turtles rested beside a floating log, and a fish swam beneath them.”

“Three turtles rested beside a floating log, and a fish swam beneath it.”

It can be seen that these sentences differ by the same proposition that distinguishes the first two and, according to a propositional analysis, these sentences should be as easily confused as the first two. But they were not.

This experiment supported the idea that the readers had constructed a mental model for these sentences which made them distinguishable – the turtles are now beside the log and so it makes a difference to the mental image that the readers have constructed whether the text says the fish swims beneath ‘them’ or ‘it’. The participants remember the mental image that they constructed initially and so remember the fish swimming under the turtles. This makes it much easier for them to tell that the second sentence is not the one they originally read.

In the years since this experiment indicated that constructive processes were involved in reading, there have been many investigations of the inferences constructed by readers. Mental models can contain perceptual information that leads to the construction of a mental image, as well as non-perceptual information (Garnham & Oakhill, 1996). For example, ‘goals’ and ‘causal relationships’ are two types of information gained from mental models that would not be perceived as an image (McNamara, Miller & Bransford, 1996, pp. 494).

Garnham (1993) calls for a theory of text and discourse comprehension rather than a theory of inference making. He sees mental model theories as the answer because

they suggest that constructive processes are a ‘crucial part’ of text comprehension. He points out that these processes contribute to the making of inferences during comprehension but they do not constitute it.

Since this constructive process involves abandoning ideas and substituting new ones as the reader tries to build a mental model that is accurate, many of the inferences made on-line while reading the first time will be changed or even abandoned and replaced by others. This is one of the reasons why the issue of whether inferences are made on-line or off-line is not germane to this study (see Section 1.4.4 above and Section 3.7 below). The idea of ‘making’ an inference might give the impression that there is a single moment when the inference is made but this does not reflect the actual process or the need for ‘fuzziness’, which make it necessary to reconsider the question of whether or not some inferences are ‘automatic’ (Garnham, 1992).

1.4.8 Discourse processing

Discourse processing is not simply a combination of the information provided by the text plus information brought to the experience of the text from background knowledge. More important than these separable components is the interplay between them, which yields a mental representation of the described situation (Zwaan & Rapp, 2006). This is the ‘key’ issue in the teaching of reading.

When they are learning to comprehend what they read, children are not learning a set of skills independently of each other. At the heart of the comprehension process is this vital ‘interplay’ that they need to practise and to become skilful at performing. The components of the process cannot exist independently and then be put together once each is mastered.

Illustrations are used for many reasons, but one reason is to provide a ‘meaning’ for the text while the young reader is considered too unskilled to perform the bottom-up and the top-down processes all at once. As discussed previously, pictures can be shown to interfere with learning to decode text, but it is the purpose of this study to find out if they also interfere with the ‘interplay’ described by Zwaan & Rapp (2006).

This study aims to test the hypothesis that this continuous two-way process - where linguistic information interacts with background knowledge and then background knowledge interacts with linguistic information and so on - may not occur if the child uses the illustration to help comprehend the text. Evidence is sought to show whether or not the use of pictures may prevent the learner reader from learning to integrate all the complex cognitive processes required for successful reading of text without illustrations by finding out whether or not pictures interfere with the making of inferences.

1.4.9 Monitoring

This study also hopes to provide an insight into whether or not 'monitoring' is adversely affected by the presence of pictures. Appreciating a text as a whole requires that the sentences are perceived as being linked, so the reader must learn to do at least the following: appreciate the structure of the text; recognise the main ideas; make appropriate inferences to link up the ideas; and monitor his or her comprehension process as reading proceeds (Harris & Coltheart, 1986; McNamara, Miller, & Bransford, 1996; Yuill & Oakhill, 1991).

It is important that readers learn to focus on the text but an illustration might distract an inexperienced reader from doing this. This focus is essential because linguistic cues have a direct influence on the ways that readers process and comprehend discourse.

Lexical and structural cues help integrate incoming information (Zwaan & Rapp, 2006). Zwaan and Rapp see language as a set of processing instructions that tell the comprehender what information should be activated, what information is no longer important and should be deactivated and where to focus attentional resources in the immediate discourse. Readers need to be able to remember information in the text and use it to help with their understanding of the text as a whole at any point later in the text. This entire process requires the reader to monitor carefully how all the sub-processes are integrated.

If the presence of a picture disrupts or prevents attention to lexical and structural cues, then the incoming information will not be monitored efficiently. Unimportant information that should be suppressed may not be discarded while important information that should be enhanced may not be attended to. The current study provides evidence that certain readers monitor more effectively without pictures than with them by comparing how well they attend to important information and disregard unimportant information in each condition.

Although top-down processes of comprehension are not possible without the bottom-up processes, these do not occur serially or sequentially, even in beginner readers (Yatvin, 2002; Yuill & Oakhill, 1991). A reader needs to access long-term memory for world knowledge as well as working memory for parts of the text just read, and to integrate the two. A complex, interactive process is recognised in a model of learning to read which sees the acquisition of reading competence as a constructive and holistic activity. Central to this activity, and the key to success in gaining competence, is the learner's ability to practise and monitor the problem-solving process of making inferences. The very goal of reading comprehension as explained by Gernsbacher, Hallada, & Robertson (1998) in their description of the 'Structure Building Framework' model, is to build mental structures which are coherent and require at least three processes – laying a foundation; mapping onto that any new information that relates to it; building an entirely new substructure if the new information is not related. This final process results in most mental models being made up of several branching substructures. These structure building processes are controlled by suppression and enhancement which depend on the reader's ability to monitor these processes.

Although such a model is based on conclusions drawn from behavioural measures, a new source of information about comprehension – neuroimaging –supports it. Research into the understanding of discourse processing in general, and the neural underpinnings of the construction of a situation model in particular, have recently become possible through the use of Functional Magnetic Resonance Imaging scanning techniques. So far the role of making inferences in the process of creating a situation model while reading has been shown to involve a complex array of cortical

regions in the brain and supports the previous behavioural findings that comprehension is indeed interactive and holistic (Mason & Just, 2006).

1.5 Summary

This study was initially motivated by the frustration encountered when teaching reading and having to use illustrated material. Research into the use of pictures supported these feelings of frustration in regard to many aspects of teaching bottom-up reading processes but did not illuminate the effect of pictures on the development of top-down processes. The current study provides evidence that the use of illustrated materials hinders practise at inference making. This is an important result since the ability to make inferences is vital to the holistic process of constructing a mental representation when reading and is at the very heart of comprehension. Children must be allowed to practise reading as an interactive holistic activity right from the very beginning. Methods and materials need to be re-examined in light of this. Also, more research needs to be done into the effects of the use of pictures on the development of skill in the top-down processes involved in reading.

Chapter 2 - Background: The present scene in teaching reading in regard to the use of illustrations

2.1 Male literacy results worse than female literacy results

Hoff (as cited in Sokal, 2002) states that boys generally trail behind girls by 1.5 years as far as reading performance is concerned. Sokal (2002) also refers to statistics from the U.S. Department of Education and the government of the U.K. and shows that this situation exists in the United States, Canada, England and Wales. Similarly, girls in New Zealand consistently outperform boys on almost all indices related to language and literacy (Praat, 1999). Standardised tests have shown that literacy, more than any other area of learning, shows the biggest gender gap and that this gap is continuing to grow with boys falling further and further behind (Hyatt, 2002).

According to 'Education Counts' (2006) boys in New Zealand had far worse results in literacy than girls between 2001 and 2005 and as far as literacy is concerned there was no significant change in the mean achievement of girls and boys in year 11 at secondary school in New Zealand between 2001 and 2005 and that the gap between them at this later age still remains one of the largest gender differences favouring girls to be observed internationally. The boys show no signs of catching up. In addition the two poorest skills in year 11 at secondary level for the four years between 2001 and 2005 were making straightforward inferences and retrieving information. Unfortunately, no detail is included as to how this was measured. However, making inferences is the key to comprehension and comprehension is required if a reader is to retrieve information, so it could reasonably be concluded that lack of ability to make inferences leads to difficulty with retrieving information.

This discrepancy between the achievements in literacy of boys and girls, and the general dissatisfaction with literacy skills among secondary students is not a new development. Many decades have been spent trying to find reasons for this problem as well as solutions to it.

2.2 Reading difficulties persist throughout schooling

A study in the United States found that seventy-five percent of children who were poor readers at eight years of age were still poor readers at the age of fourteen (Fletcher & Lyon, 1998). Daneman (1996) found it 'striking' that differences in reading ability were not only pervasive and persistent but that they became more pronounced with more years of schooling. The plight of difference poor readers follows them to tertiary college where their ability to decode text without understanding is seen to have become automated (Martino, Norris, & Hoffman, 2001).

2.3 Skilled reading enhances memory and vocabulary

Seigneuric & Ehrlich (2005) claim that the skill of reading comprehension improves with practice and that it contributes to the development of working memory capacity. In addition, there is a reciprocal effect: increased working memory capacity leads to improved reading comprehension and, as comprehension improves, it influences the rate of growth of vocabulary knowledge. The authors conclude that although the complexity of a task affects working memory capacity, improved skills can ease the burden. This ever-increasing reciprocal effect could partially account for why the gap between those who can and those who cannot comprehend keeps widening throughout schooling, a fact that was so striking to Daneman (1996) as mentioned above in section 2.2.

According to Cook, Limber, & O'Brien (2001), the generation of inferences while reading is vital to reading comprehension. Without being able to generate inferences, learners will be unable to improve their reading skills and so be unable to benefit from the contribution to working memory capacity, and the growth of vocabulary that such skills can make. Failure to generate inferences can result in incomplete comprehension or miscomprehension and these researchers point out that it is important to consider, when developing models of reading comprehension, the conditions under which it is reasonable to assume that inferences will be generated. If pictures can be shown to curtail inference generation in young readers, then it could be expected that their ability to comprehend would also be curtailed.

Yuill & Oakhill (1991) conducted studies of the difference between nine-year-old students who can and cannot comprehend and concluded that this difference depends on the learners' ability to make 'implicit' inferences, or to incorporate relevant general knowledge in their attempts to understand a text. The authors also cite other studies that suggest that beginner readers who make inferences are better at remembering what they have read because the process of making an inference helps retrieve memories of the text. This is supported by previous research carried out by Stevik and others (Stevik, 1976). They concluded that memory benefits from actively searching out, discovering and depicting. So, in remembering, the learner generates a new image and this is resistant and long lasting and depends on what Stevik called one's 'inner criteria'.

2.4 Difference in reading ability not due to general memory ability

Yuill & Oakhill (1991) compared the ability of nine-year-old good and poor comprehenders to remember literal information with their ability to remember information that required drawing an inference. The participants answered questions from memory first and then with the text available to them. When answering from memory alone, the good readers outperformed the poor readers on both inferential and literal questions. This led to the conclusion that an improved mental model of the text resulted from inferential processing and this aided memory in general.

This research also showed that the difference between the good and poor readers was larger for inferential than for literal questions, whether or not they had the text to refer to, with the good readers doing much better at this. However, there was no difference between the groups when answering literal questions with the text to hand. The conclusion was that the results could not be explained by saying that the poor comprehenders had a general memory deficit.

Good readers are more likely to use relevant world knowledge to help them grasp implicit information in a text, or to make an inference. This helps them to understand what they are reading. However, the actual process of making such an inference also helps them remember what they have read (Yuill & Oakhill, 1991) and this enhanced memory helps them understand the text as a whole.

Oakhill, Hartt, & Samols (2005) discuss several reasons why working memory problems are unlikely to be the fundamental cause of comprehension problems. They found in one study that poor comprehenders did not monitor well even when memory demands were low. In another experiment they found that working memory was not a significant predictor of success in detecting errors in the text but that differences in how well the readers constructed mental models of the text and their ability to make an internal image were more likely to provide explanations. They cite other researchers and their own previous studies and provide other reasons for not 'blaming' memory deficits. For example, the level of interest can affect monitoring performance as can brief periods of training. Most interestingly, they suggest that even if poor comprehenders have problems with their memories, they may be able to learn how to overcome these if circumstances are favourable and so improve their comprehension in spite of memory deficits.

From the point of view of this study, these results support the idea that mental model building is vital and helps overcome memory deficits. Also, anything in the learning materials that might prevent young readers from making a mental image – such as the presence of pictures, especially for boys – would be especially detrimental. The areas of the brain used for visual perception are the same as those used for creating mental images and making inferences; the male brain takes longer to reach a state of maturity conducive to all these functions working together than does the female brain (Burman, Booth, & Bitan, 2008; Mason & Just, 2006). This is discussed at greater length below in Section 2.10.

2.5 Why learning to make inferences is educationally important

Whenever educational achievement depends on students understanding written texts, and remembering the information in those texts, then the poor readers who cannot make inferences will be disadvantaged. The ability to make inferences, vital to the comprehension of a text, is important for learning in areas beyond those considered part of the literacy curriculum. Therefore the skill of making an inference when reading a text is a skill that is vital to general educational success.

A report from the Organisation for Economic Cooperation and Development (OECD) confirms that in thirty countries boys are lagging behind girls at Secondary School with the gap greater in New Zealand than in any other developed country (Hartvelt, 2009). In New Zealand (NZQA, 2008) the National Certificate of Educational Achievement results showed girls were outperforming boys by wider margins as girls got older. There may be a multitude of reasons for this situation, but it seems reasonable to expect that reading ability is one of them. If the boys who struggle to understand illustrated texts do so because the illustrations actually cause the problem by interfering with the practice of making inferences, and if they are given even more illustrations as a way of helping them overcome the problem, then this is the result one would expect. The OECD report does not recognise the use of illustrations as a possible contributor to this situation, and Hartvelt (2009) blames the rate of divorce.

2.6 Insights from adult difference poor readers

In a review of studies into adult difference poor readers it was found that they have accurate word-level and sentence-level processes (Long, Johns, & Morris, 2006) and yet they are unable to construct a coherent discourse model. It is the purpose of the current study to suggest one reason why this might be so.

One possible conclusion from the results of the current study is that the use of illustrations may have seriously interfered with the practice of making inferences for some of these adults when they were beginner readers and, if this is at least a possibility, then more research is required. A lack of skill at making inferences could have interrupted the cyclical nature of constant improvement gained through practising text comprehension. It may be that after years of using pictures, the readers did not develop the necessary skills to understand text – i.e. making inferences and constructing mental models. Remedial reading schemes for poor readers include highly illustrated materials with the text often presented in a comic strip format or as part of a visual computer display which can include moving pictures as well as static ones. This is done to help the readers to understand the text but, in

light of the results of this study, the present focus on the 'product' of reading in reading instruction might need to shift to a focus on the 'process'.

2.7 Remedial help and difference poor readers

In an attempt to help difference poor readers, researchers have suggested approaches such as Reciprocal Reading and Reciprocal Teaching Transitional Strategy Instruction (Palincsar & Brown, 1985). This latter approach, as is typical, does not mention illustrations and it sees the making of inferences as just one skill among many that readers need to practise along with learning to self-summarise, predict, self-question, visualise and monitor. Dewitz & Dewitz (2003) found, however, that there was a problem with this approach and saw it as a 'blunt instrument'. They suggested that it should be refined and should focus on inference instruction. They claim that if the beginner reader learns to make inferences then the other skills will follow. This is because the making of inferences drives meaning construction.

In their analysis of how ten-year-old difference poor readers actually read, Dewitz & Dewitz (2003) found that they read aloud with fluency, accuracy and with expression yet had difficulties making inferences and, if they did draw an inference, would elaborate too much on it from their own background knowledge. The authors' remedial programme, which focussed on making inferences, resulted in students achieving significant gains of two or more years of growth in reading ability. The excessive elaboration decreased and the ability to make well-monitored inferences increased. The authors did not include information about how long they worked with these students. They also did not address the issue of the use of illustrations or mention whether or not they had used them in their programme. Their work does, however, support the view that the making of inferences is central to comprehension and should be the focus of remedial help.

2.8 Why pictures are used in materials designed to teach reading comprehension

In research conducted since the end of the 1970's, it is difficult to find any studies that test the impact of the use of illustrations on learning to read in general and on developing comprehension in particular. In the United States, a National Reading

Panel was set up as a response to national concerns about the numbers of children failing to learn to read. This panel focused on the available research on teaching children to read. The report that this panel published does not mention the use of pictures or illustrations (National Reading Panel, 2000).

It seems that educationalists have accepted that pictures are a positive influence on children learning the skills required for processing oral discourse and this has extended into using pictures to help them learn to read. This may be due in part to the view that the matter was seen by some to have been decisively concluded thirty years ago. Guttmann, Levin & Pressley (1977) claimed that enough evidence was available to convince any who remained skeptical of the positive effects of pictures on children's prose learning. One of the main sources of such evidence, and typical of it, was an experiment conducted by Pressley (1977) in the United States. His participants were children from the ages of five to eight years. He gave them stories in three formats: with pictures that fully illustrated the situation described; with pictures that partially illustrated the situation described; with no pictures at all. The 'partial pictures' did not include items probed for by the comprehension questions.

For example, in a story about a family gathered to eat a Thanksgiving dinner, the partial picture format did not show the turkey that was mentioned in the story; the people in the picture obscured it. The children were then asked what the family was eating. The children with the partial picture and the children with no picture had the same low level of success answering this. However, the children with the picture that showed the turkey were said to have 'learned' the material better because their level of success at answering this question was much higher. The same results were found for all the stories. This experiment led to the conclusion that of all the children across the age groups tested, only those with the fully illustrated material showed that they had 'understood' the story by answering the questions correctly. Since this time, pictures have been used with the focus on helping young readers to 'understand'. Teachers are pleased that the children can demonstrate that they have understood correctly. The emphasis is not on practising the process of making a meaning for themselves, where errors would be expected and tolerated. The emphasis is on the product not the process.

It is a common technique for teachers to instruct young readers to look at the picture if they do not understand the text. The aim of such lessons is accurate comprehension as a result of reading the text and looking at the pictures. Children who could answer comprehension questions correctly by doing this would satisfy their teachers that the aim of the reading lesson had been achieved. Whether they had gleaned their understanding more from the picture or the text is not seen as an issue. However, if the aim is to teach children to make inferences from text alone using their own background knowledge then illustrated materials could be detrimental to the practise of the processes involved in achieving this aim.

The skeptics that Guttmann, Levin & Pressley (1977) mention probably include the researchers reviewed by Samuels (1970) who came to the almost unanimous agreement that pictures, used as adjuncts to printed text, do not help young learners to understand the text. Also, skeptics like Doctorow, Wittrock, & Marks (1978) considered the various models of learning to read and concluded that although retrieval of world knowledge and elaboration of meaning from text were independent processes, they were complementary and interdependent parts of the generative processes involved in understanding text. In addition, Willows (1978) conducted experiments that showed an inverse relationship between reading ability and susceptibility to visual distraction and concluded that the complex illustrations which often appear in reading material for learners are not helpful to them. If the learner knows a word, then the pictures are not necessary and are a pointless distraction. However, if a word is not known then the reader may be misled by aspects of the picture that are not closely related to the meaning that the reader is trying to find. Indeed, if a reader does not understand a word, then the instruction to look at the picture might not be helpful because it is not clear which part of the picture should be used; this becomes even more problematic if the word or words in the text that puzzle the reader cannot be illustrated.

2.9 Teaching children to 'visualise'

Pictures are now accepted without question as invaluable in materials used to teach all aspects of reading – even when teaching children to visualise.

The use of illustrations is borne of the belief (Pressley, 1977) that children cannot create their own images to improve their understanding of a text. Pressley believed that he could train eight-year-olds to form mental images, and he used examples of 'good' images as part of this teaching. So pictures remained as part of his model of reading instruction, even when the aim was to help the readers create their own images.

The motivation for the present study arose from the belief that children can easily create their own internal images if given the chance. This belief is supported by observations made when teaching reading to all ages, including five-year-olds. Smith (1975) supports this belief; he points out that children will have no difficulty constructing images if the possibility is there. He goes on to observe that many of the pictures used in illustrated teaching materials may be quite difficult for a child to interpret. Pressley himself summarises several investigations claiming that children 'read' pictures inefficiently and need to be trained to interpret representations of three-dimensional space in two dimensions (Pressley, 1977).

However, Yuill & Oakhill (1991) do not think it is necessary to provide examples of 'good' images and suggest that it would be better for young readers to integrate text by using internally generated cues. They make the point that although the difference poor readers are helped to understand by using external cues such as pictures, they should not learn to rely on them as this leaves them unable to tackle text without them.

2.10 Sex differences in the neural processing of language among children

Functional magnetic resonance imaging (fMRI) allows researchers to identify areas of brain activity involved in discourse processing. Previous uses of scanning technology such as PET, did not allow the measurement of short cognitive processes at the time

they occurred. Now, however, with the use of fMRI, researchers can isolate activity in the brain that they then argue is linked to specific cognitive processes. This has advantages over behavioural research because it is a direct measure of processing activity in the brain during discourse comprehension (Mason & Just, 2006) and can reveal new aspects. Nevertheless, researchers have only recently begun to use the strengths of neuroimaging to help in the understanding of discourse comprehension. So far it has provided a new way to study old theories as well as suggesting new theories.

Burman, Booth, & Bitan (2008) used fMRI scanning to characterise the nature of sex differences in processing language during the period that children learn to read. Their aim was to identify the developmental basis for sex differences in performance. Boys were better able to listen to language input and process linguistic information if they were not presented with visual linguistic information. Girls were equally able to process linguistic information with or without visual presentation of information. It is suggested that this difference may be a matter of maturity and might disappear as the development of sensory processing in boys catches up to sensory processing in girls. While visual processing is still immature in boys it seems to require more attention from them, thus distracting from their ability to attend well to the linguistic aspects of what is otherwise a visual input.

In other words, boys tend to take longer from a maturational viewpoint before they can do these two things at the same time: process the visual presentation of the words and create an internal image, vital to making mental models when reading narratives. According to Burman, Booth, & Bitan (2008), a suite of brain areas is involved in generating an internal visual mental model during discourse processing and the functioning of these areas is hampered when boys are faced with processing visual linguistic information; one must assume that the additional activity of processing an illustration would make the situation worse, especially since ‘reading’ a picture is difficult for many young learners. Both boys and girls use all the requisite brain areas together when the discourse is received aurally, however. The advantage girls have educationally, then, is probably partly due to the need for boys to mature

longer before being given reading instruction as well as the need boys have for less visual distraction while reading.

2.11 Perception and the ability to create images share attention space in the developing brain

These findings bear out the earlier findings from behavioural studies. For example from studies of attention it has long been appreciated that boys tend to be more prone to sight distractions than girls (Mackworth, 1970). That is, visual stimuli took most of the boys' attention, so that they were less able to process other input. Weber, Hochhaus, & Brown (1981) investigated the ability of people to process visual stimuli while visualising internally and found that perception develops first and then the ability to create images develops and for a while both these abilities share attention space in the brain. They found that most nine-year-old children could not build a mental model and process visual spatial arrangements simultaneously but by the age of twenty, the two abilities were working more independently. Kosslyn & Shwartz (1981) reviewed a body of evidence that supported the idea that the same specialised mechanisms are needed to perceive an external image as to create an internal one. This is supported by fMRI evidence that shows conceptual processing as grounded in perception with a common representational system underlying both (Barsalou, Simmons, Barbey, & Wilson, 2003).

So the more a young reader processes the illustrations the less they will be able to conceptualise and the less they will be able to make an inference or build a mental model. Willows found that children who are good readers tend to ignore the illustrations when they are reading (Willows, 1978).

2.12 Boys particularly vulnerable to visual distraction

The difficulty that boys have in using their skills at understanding discourse when faced with visual processing may persist longer with some boys than others, for whatever reason; there are always individual differences among learners. However, it seems reasonable to suspect that boys who have had more experience listening to verbal discourse have had more experience with comprehension and can use their enhanced skills once the decoding of text becomes more automatic and is no longer

a sight distraction for them. These boys might tend to be less distracted by the pictures because they do not need help with understanding what they read. However, if they find pictures particularly alluring, they may be distracted by them for this reason.

It would also seem reasonable to suspect that the boys who take longest before they are able to visualise internally while reading would also have longer to develop, during reading, habitual brain patterns that would be detrimental and likely to become entrenched. These are the boys who would, by necessity, become reliant on the pictures probably because both the visual presentation of the words and use of pictures prevent them using their visual ability to create the mental model so vital to understanding narratives. The suite of brain areas discovered by the fMRI research into discourse processing is prevented from being used, and only some of the brain areas are available. Unless the whole suite is activated and working together as it does when boys listen, then these boys cannot practise the interactive processes necessary to understand written text. This may be the source of their particular vulnerability, which does not seem to affect most girls who manage to use the whole suite of brain areas when faced with written text.

Teachers of beginner readers are trained to hold up the pictures in books when they are reading aloud to children. As a result, the opportunity for these vulnerable boys to practise their comprehension by using their visual centres to help them build mental models may be missed. It may be the case that unless boys are read to without pictures or are exposed to enough verbal discourse to practise comprehension processes without visual distractions, experiences in the classroom might not provide them with much opportunity to use the entire suite of brain centres that the girls seem able to use at this age when processing both discourse and visual stimuli. The use of fMRI research would be a useful tool to find out exactly what effect illustrations have when children are learning to read and especially how this differs between males and females.

2.13 The role of the right hemisphere in drawing inferences

The right hemisphere of the brain, which is specialised for visual processing, is involved in the cortical network associated with drawing inferences. The left hemisphere takes over the visual processing of words once the young reader perceives them as language – usually by the time the child has been learning to read for about a year; problems result for some children if this 'switch' is not made (Bakker & Vinke, 1985). Research is only just beginning to map out this network (Mason & Just, 2006). The authors review the research and point out that so far the use of new scanning techniques has had surprising results. For example, novel metaphors cause primarily visual-spatial activation in the brain. This gives visual imagery processes an unexpected role in discourse processing – that of instantiating or interpreting metaphors. If young male readers are using their visual-spatial processing resources to interpret pictures, then it seems likely that they would be particularly confounded by novel metaphors.

The important finding is that there is a "consistently emerging pattern in discourse processing research; during discourse processing, a complex set of cortical networks are dynamically recruited depending on qualities of the text and the reader's goals" (Mason & Just, 2006, p.781). Right hemisphere activity was found to be most robust during the processing of narratives – all the more reason to suggest that reading stories aloud to boys without providing pictures might be a very effective way to have them practise using their internal visual-spatial processes in making mental models. This might be especially useful for boys who are not exposed to much discourse outside of the classroom.

2.14 The current debate about reasons for low literacy achievement

The use of illustrations in materials for the teaching of reading is accepted without question and does not seem to feature in any discussions or 'reports' into the reasons for low literacy achievement generally or the poor performance of boys in particular. The current study suggests that this use contributes to the reasons that so many children are failing to learn to read both in New Zealand and abroad and should become part of the current debate about literacy teaching.

Although there is a body of research, mostly from forty or more years ago, showing the detrimental effects of pictures on the teaching of the bottom-up skills involved in reading, this research focuses on deficit poor readers – those who cannot decode. The focus of the current study, however, is on difference poor readers – those who can read aloud fluently but who understand very little of what they have read. Their ability at decoding can be exceptionally fluent and accurate. At the present time the debate about the reasons for so many poor decoders alternates, as it has done for almost a century now, between blaming whole-word or phonics teaching techniques as well as socio-economic factors. However, no one seems to be able to show why, even though they seem to have mastered all the other skills necessary for reading, the good decoders rarely overcome their inability to make sense of what they read (Long, Johns, & Morris, 2006). The present study sees the use of illustrated learning material as being responsible for at least some of this inability.

A recent illustration of these issues comes from a New Zealand radio discussion on the 'Nine to Noon' programme on 9 October, 2008, on National Radio New Zealand. Three educational experts discussed the issue of the poor level of literacy in New Zealand and the stubborn and widening gap between good and poor readers. The reasons suggested by these experts for this situation typify the present views in education about why this situation persists.

Alison Halkyard (2008) was one of the experts; she is working with High School students between the ages of thirteen and fifteen who have difficulties with reading and, from her comments, seem to be deficit poor readers. She pointed out that some of her students come from 'good' homes and from successful primary schools. They have been read to by conscientious, affluent parents and have access to books. She says the parents have been advised by the teachers of these children that they will 'get better'. She suggests that the 'Reading Recovery' programme should be reviewed and changed. Also she calls for an increase in funding to help students who are not traditionally seen as being at risk because funding provided by the government to help improve reading skills is aimed at schools where students come from low socio-economic backgrounds.

Pat Newman (2008) from the Principals' Association in Northland and the Far North, claimed that in his area more than 1 in 5 students are struggling with reading and that he thinks this is getting worse. He tended to blame socio-economic deprivation in families and cultural differences between home life and school life. He suggested more literacy development with non-fiction texts and constant assessment to monitor progress.

Professor Tom Nicholson (2008) from Massey University affirmed that statistics show a downward trend in literacy achievement in New Zealand and that the gap between good and poor readers has increased over time. He said it was hard to know the cause but suggested using more phonics and spending more time in class on reading but admitted that this would not be the 'silver bullet' for everybody who was having trouble. He said it was time to think 'outside the square' and come up with more radical solutions. Professor Nicholson also said parents should not be blamed and what was needed was a change in the way of teaching reading as well as extra resources. He agreed with Alison Halkyard about the 'Reading Recovery' programme and said the enormous investment in that programme was not justified by the results. He claimed that there were various interventions being tried but they were showing no results; he concluded that a whole new way of teaching and a radical change was needed.

The use of illustrations in teaching materials was not mentioned by any of the contributors to this discussion. Samuels (1970) suggested that the last thing fish might notice about their environment might be 'water', and so the last thing educators might notice about reading materials for young learners and older remedial readers, might be the use of pictures since this has, for so long, been an enduring feature of them. Pictures are taken for granted and accepted and their presence remains unnoticed and so goes unquestioned and unchallenged by educationalists.

2.15 Collating the data from the studies reviewed above

Fletcher & Lyon (1998), Daneman (1996) and Martino, Norris, & Hoffman (2001) claim that differences in reading ability were pervasive and persistent and became more pronounced throughout school so that even at tertiary college difference poor readers still decoded text without understanding. However, Seigneuric & Ehrlich (2005) found that practice could help improve comprehension skills and at the same time develop working memory capacity, suggesting that such readers could be helped.

The generation of inferences while reading was shown to be fundamental to reading comprehension by Cook, Limber, & O'Brien (2001). Yuill & Oakhill (1991) provide evidence to show how the ability to comprehend depends on the learner's ability to make 'implicit' inferences while Oakhill, Hartt, & Samols (2005) explain why working memory problems are unlikely to be the fundamental cause of comprehension problems. Stevik (1976) concluded that memory, so vital when understanding a text, benefits from making mental models and depends on an individual's personal store of knowledge and experience.

Although some young difference poor readers may have problems with general language ability, this may not account for the reason behind a lack of comprehension skill among all such readers since it does not explain the plight of adult difference poor readers (Long, Johns, & Morris, 2006) who are unable to construct a coherent discourse model in spite of having good general language ability..

Dewitz & Dewitz (2003) found that if the beginner reader learns to make inferences then the other skills will follow. This is because the making of inferences drives meaning construction.

Guttmann, Levin & Pressley (1977) claim that pictures have a positive effect on children's prose learning because the items mentioned in a story are better remembered if the children have a picture. This is a focus on the product rather than the process. Skeptics of this view were reviewed by Samuels (1970). They agreed that pictures, used as adjuncts to printed text, do not help young learners to

understand the text. Willows (1978) showed an inverse relationship between reading ability and susceptibility to visual distraction and concluded that the complex illustrations do not help children learn to read.

Doctorow, Wittrock, & Marks (1978) concluded that retrieval of world knowledge and elaboration of meaning from text were independent processes but, most importantly, they were complementary and interdependent parts of the generative processes involved in understanding text.

Smith (1975) argues that children can easily construct images but that many children find pictures difficult to interpret. Pressley (1977) agrees that children need training before they can interpret representations of three-dimensional space in two dimensions.

In order to encourage children to create internal images, Yuill & Oakhill (1991) do not recommend providing examples of 'good' images. They suggest that children should be encouraged to integrate text by using internally generated cues. Even though the difference poor readers are helped to understand by using external cues such as pictures, the danger lies in such readers coming to rely on them so that they are unable to tackle text without them.

As far as differences between male and female brains are concerned, light is being shed on this area of study by functional magnetic resonance imaging (fMRI). Burman, Booth, & Bitan (2008) used fMRI and found that boys were better able to listen with understanding if they were not trying to read the words at the same time. Girls, however, were equally able to understand in both conditions. They speculated that this may be due to differences in the rates at which boys and girls mature in which case boys would eventually catch up. These findings bear out earlier findings such as those provided by studies of attention. Mackworth (1970) showed how visual stimuli took most of the boys' attention, so that they were less able to process other input.

Weber, Hochhaus, & Brown (1981) found that perception develops first and then the ability to create images develops and for a while both these abilities share attention space in the brain. Kosslyn & Schwartz (1981) reviewed research and concluded that

the same specialised mechanisms are needed to perceive an external image as to create an internal one. This is supported by fMRI studies (Barsalou, Simmons, Barbey, & Wilson, 2003). These findings help explain why Willows (1978) found that children who are good readers tend to ignore the illustrations when they are reading.

The right hemisphere of the brain, which is specialised for visual processing, is involved in drawing inferences while the left hemisphere takes over the visual processing of words. Some children continue to use the right hemisphere to read text and this causes difficulties (Bakker & Vinke, 1985). Mason & Just (2006) review the research and note that novel metaphors cause primarily visual-spatial activation in the brain which gives visual imagery processes a definite role in discourse processing and that right hemisphere activity was most robust during the processing of narratives.

2.16 Summary

There are probably many things that contribute to the low level of reading achievement among New Zealand students, which is affecting more than 1 in 5 and is perceived as getting worse with a persistent and ever-widening gap between good and poor readers. The debate about why some good decoders have poor comprehension skills has revolved around issues such as children's ability to comprehend spoken language and socioeconomic status. These factors affect some of the children but do not account for poor comprehension among children with good language skills and high socioeconomic status. The use of illustrations has not been considered when reasons are sought for this situation. Although a similar situation in the middle of the last century caused researchers to focus on the use of illustrations in reading material and for them to find, almost unanimously, that their use was detrimental to learning to read, these findings seem to have been ignored and the use of illustrations is no longer questioned either in New Zealand or abroad.

The debate about the usefulness of illustrated reading material seems to have been resolved by those who claimed pictures helped children understand text better by showing that learners' memory for items mentioned in the text is better if they see a picture of them. The claim of the current study is that the focus in teaching reading

comprehension should shift from the ‘product’ of reading to the ‘process’. The aim of teaching reading comprehension should be for the learners to practise ‘how’ to understand.

Boys are failing to learn to read at rates far greater than found with girls and there is a particularly wide gap between the reading achievement of boys and girls in New Zealand. This has implications for learning generally since understanding text improves a student’s ability both to use working memory and to remember what he or she has just read. Research has provided no satisfactory answers as to why older difference poor readers seem to have mastered all the requisite reading skills but remain poor at making inferences and at understanding what they have read.

Sex differences in the processing of language among children has been confirmed by fMRI scanning techniques and has given support to behavioural research which suggested that boys were less able to create internal mental models when faced with processing an external visual stimulus. Suggestions for improving comprehension skills have included a focus on making inferences and training children to make internal visualisations but have also included showing pictures to help children see what they should be imagining, which does not show an appreciation of the fact that children, especially boys, are hampered by trying to do both at the same time. Other studies see pictures as ‘helping’ children to understand but detrimental if the learner becomes too reliant on them.

The fMRI studies have also supported the behavioural finding that competent reading involves a dynamic complex set of processing skills that changes in its makeup and in the way the components interact depending on the qualities of the text and the reader’s goals. The current study suggests that if the learner uses illustrations as an adjunct to the text then this would alter the very nature of this composition and the nature of the interaction and result in the reader not practising the required processing skills in the most advantageous way.

Chapter 3 - Background: Mental model building theories of reading

3.1 Introduction: The relevance of mental models in this study

Zwaan & Rapp (2006) have stated that the interplay between linguistic cues in the text and the information brought to the text by the reader is different for every individual and is the essence of the nature of comprehension. Background knowledge can be general world knowledge that the reader has gained from experience or prior knowledge from the text itself or a combination of both. This knowledge then "combines with the encoding of information currently in discourse focus". (Zwaan & Rapp, 2006, p. 726). This combination helps the reader to build a mental model that contains elements not specifically mentioned in the text.

Understanding is not simply a matter of taking a literal interpretation of the meanings of the words in the text. The meaning is not 'there on the page' to be found; meaning requires an interaction of information from text with background knowledge. Since all readers have different background experiences, they will all have slightly different interpretations of the same text. The inferences that they make may be influenced to a greater or lesser degree by their background knowledge or their processing of the linguistic information. These inferences are the key to comprehension. The construction of a mental model is seen as an incremental process (Garnham & Oakhill, 1996). As the mental model is created from information in the text, so that model is then used as part of the context for interpreting the text that follows and so on.

This study focuses on how well learner readers practise this process of creating a mental model when they read with or without pictures. There are, of course, other reasons why some children are poor at making mental models and, therefore, poor at comprehension while being good at decoding text. Nevertheless if any learner is more able to create mental models without pictures as compared to when they read a text with pictures, regardless of what their other issues may be, then it would seem wise to remove the pictures while at the same time addressing those other issues.

Inferences can be essential for understanding or they can be elaborative and simply provide details that add to the readers' enjoyment through providing a richer mental model. The success of their inference-making depends on how well these learner readers monitor this process and how successful they are at building mental models to help them to enjoy and to understand what they read. The process is dynamic and cyclical. Inferences help build mental models and mental model building helps readers make inferences. Sometimes as the building proceeds, previously made inferences need to be reconsidered and changed and this in turn leads to a change in the mental model. Pondering on a story even after the reading is finished can result in readers still engaging in this process.

It is important that learner readers are flexible when building the mental model and that they remain alert to signs that their model might need to be adjusted or even totally re-built. These readers need to monitor the construction of the mental model in light of information from the text.

Discourse processing is not simply a combination of the information provided by the text plus information brought to the experience of the text from background knowledge. "More important than these separable components is the interplay between them, which yields a mental representation of the described situation, termed as mental model or situation model" (Zwaan & Rapp, 2006, p. 727). This is the 'key' issue in understanding text, a point made in Section 1.4.8 and repeated here because it is crucial to understanding the focus of this study.

It is important to remember this when teaching reading. Children are not learning a set of skills independently of each other. They need to appreciate the nature of the process they are learning to perform; the components of that process cannot exist independently and then be put together once each is mastered. Illustrations are used for many reasons, but one reason is to provide a 'meaning' for the text while young readers are considered too unskilled to perform the bottom-up and the top-down processes all at once. This study asks whether this use of illustrations hampers learner readers in regard to making inferences. If so, the consequence would be that illustrations interfere with young readers learning to integrate all the complex

cognitive processes required for successful reading. The nature of the 'interplay' will vary depending on the type of text and the goals of the reader and the reader's own personal knowledge and so on. It is not the same process every time.

3.2 Readers' goals affect their mental model building

For the purposes of this study, the term 'mental model' will be used in preference to 'situation model' and will be taken to include aspects created by the reader of a narrative such as the setting, the characters and the events. There have been numerous mental model theories proposed to explain how any type of communication is understood and most of them include the creation of a mental model as a dynamic process depending on the goals, the skills and the unique experience of the receiver of the message (Gernsbacher, Hallada, & Robertson, 1998; Graesser & Britton, 1996; Graesser, Singer, & Trabasso, 1994; Kintsch, 1988). In the case of reading, this includes the type of text. While there has been no need to adopt any particular theory over another for this study, findings and insights from the theories expounded by these researchers have informed the design and will be mentioned in this chapter in conjunction with their contributions.

In the experimental part of this study it was difficult to reproduce the goal of a typical reader of a narrative text who may have in mind enjoyment and perhaps even relaxation. However, efforts were made to encourage the participants to have a goal as similar as possible to this idea of 'recreation'. The design of this study will be presented fully in Chapter 4 and it will be seen that an effort was made to minimise stress. In addition to this, children usually choose books that interest them – ones where they want to find out what happens. This gives them a reason to make the effort to understand, and to remember what they have read as they go along. Although it was impossible to set up the study so that readers were able to choose the story to be read, an effort was made to give the readers a reason to try to understand the story. They were motivated to make an effort to remember the text by being fore-warned that there would be questions, albeit ones they could answer by looking back at the text.

3.3 Knowledge-based inferences

No particular taxonomy for the labelling of inference types has been chosen for use in this study as there is not much agreement in the literature on this issue. In the interests of clarity and simplicity the inferences sought and discussed in this study will simply be called ‘knowledge-based’ and include ‘elaborative’ and ‘evaluative’ inferences which are necessary for a successful understanding of the text. Not all such inferences are ‘necessary’ but the ones probed for in this study will be. An ‘evaluative’ inference is made by a reader in order to give a reason for something happening in the story when the text does not provide this information. For example, if someone puts on boots and a fur coat before leaving their house, one might infer that it is cold outside and probably either wet or snowy. If the crunching noises the person makes as they walk down their path ‘break the morning silence’, the reader might make an elaborative inference that shows a residential scene with snow and ice covering gardens and fences and so on. For a child in Britain, this mental model would be different in detail from the mental model built up by a child in Canada or in Otago. No doubt each child would need to change this mental model and provide more relevant details if the text then mentioned a horse-drawn milk cart. These details would come from the child’s knowledge of history.

In order to make a knowledge-based inference, a reader activates background knowledge from long-term memory and then encodes a subset of this in his or her meaning representation of the text. This meaning representation includes the information from the text as well as from the referential mental model. A competent reader activates relevant specific knowledge from personal experiences, memories of reading other texts, and previous parts of the text being read. Also, the competent reader may use generic knowledge structures such as schemata, scripts, frames and stereotypes so long as these are relevant. The more familiar a background knowledge structure is, the smaller the burden that is placed on working memory during comprehension because familiar knowledge can be automatically activated (Graesser, Singer, & Trabasso, 1994).

3.4 Activation of background knowledge

The activation of background knowledge can result in the reader automatically activating generic knowledge, which may or may not be appropriate. The reader needs to monitor carefully whether or not this knowledge hinders or helps in understanding the text. For example, a word in a title may lead to a reader anticipating a scenario that is at odds with the text that follows. 'Her First Ball', a short story by Katherine Mansfield (1922), might cause a modern reader to anticipate a story about a ball game rather than a formal dance. Careful reading of the opening paragraphs will, however, show that the generic knowledge about ball games is not appropriate and the reader would suppress the activation of such background knowledge and endeavour to try to solve the problem as to what sort of 'ball' the author is referring to by paying close attention to clues in the text.

For a reader who is familiar with the author and knows the era that she writes about, the word 'ball' would probably activate the reader's knowledge about formal dances a century ago and, if this knowledge is comprehensive, help set the scene for a good understanding of what happens in the story. However, if the level of knowledge about old-fashioned balls is scant, this may also lead to difficulties with comprehension. For example, the story includes men signing up for dances on the ladies' dance cards and this could be a detail that might puzzle a reader with only a scant knowledge of old-fashioned balls and would require extra attention to the text in order to understand the events in the story. If the reader imagines a modern dance as the context, then this behaviour would seem strange and the inference might be made that the characters are eccentric. Careful monitoring would help the reader to realise that this is not a dance set in the present century in New Zealand.

3.5 Monitoring and the search for meaning

A reader who is misled by the title 'Her First Ball' and anticipates a ball game would need to construct a novel knowledge-based inference. His monitoring skills would alert him, as he reads, to the fact that something has led him astray and he would embark on the incremental, cognitive cycles of searching memory and accumulating information from various sources that readers embark on when the inference needed

is a novel one. As Graesser, Singer, & Trabasso (1994) suggest, this sort of searching for meaning sometimes places too much of a burden on working memory for it to occur on-line. As a result, this reader may do poorly on answering comprehension questions about the story. Nevertheless, as a learner, this reader has practised a very useful cognitive process in his attempts to improve his ability to understand text.

Another reader who is not led astray and therefore makes his knowledge-based inferences online is able to use familiar knowledge which he 'slots in' automatically, thus not over-burdening his working memory. As a result the reader has an accurate and reliable memory of the events in the story.

3.6 Pictures provided to help with comprehension

When readers do not provide correct answers to questions that test their comprehension, educators consider it helpful to provide illustrations. A young reader of 'Her First Ball' is not going to need to go through the processes of monitoring and searching for memories of appropriate knowledge if the story is presented with illustrations showing an old-fashioned ball, and the men signing the ladies' dance cards. Teachers consider it vital to set the scene for stories where the readers are unlikely to appreciate the scenario when they begin to read. As a result, in studies aimed at testing whether or not pictures assist emergent readers to comprehend it is found that they do (Guttmann, Levin & Pressley, 1977; Nicholas, 2007).

A picture or two might help young readers to understand the story more correctly but they would also prevent practice at this cyclical building of a mental model – this interweaving of knowledge from long term memory and short term memory. The reader who assumes the story is about a ball game is on his way to learning how to recognise when his mental model is 'wrong' and when and how to correct it. It is this monitoring skill that he needs to practise. If he could turn to a picture in his search for meaning then he would not practise monitoring his mental model building in the same way but he probably would be able to answer the questions about the story more accurately.

3.7 The effect of the issue of whether or not inferences are made on-line when collecting data

As will be shown, it would be expected that the inferences probed for in this study would be made on-line by any reader actively seeking to comprehend so long as background knowledge permitted. However, such inferences might also be made off-line upon further reflection about the text during the question session (see Section 1.4.4). This study does not claim to be probing for inferences made on-line. Since mental models change as the reader monitors them, the very act of considering the questions might cause an inference to be made and the participants are able to look back at the story while the questions are being asked. In addition, with books closed, they are asked to retell the story and some inferences may be made at this point and the mental model the reader used when answering the questions may change at this point and the retelling could easily present a different understanding than was presented by the answers to the questions. What is being probed for is whether or not the readers make inferences to the same degree with pictures as without them and this process would continue throughout the session not just during the first reading.

3.8 Vital Interplay between processes results in construction of a mental model

The problems that difference poor readers have in comprehension often arise from deficits in the processes involved in constructing mental models, which requires the integration of successive ideas (Oakhill, Hartt, & Samols, 2005). In order to successfully integrate these ideas the reader needs good comprehension monitoring skills.

Kintsch (as cited in Graesser & Bertus, 1998) uses the term ‘situation model’ rather than ‘mental model’. He distinguishes between surface code (exact words and syntax), the textbase (meaning), and the situation model. The situation model for a narrative includes such things as the characters, the spatial setting and the events. In the process of understanding a text, competent readers build multilevel representations that need to be carefully monitored. Situation models, or mental models, integrate information from the text with information from the reader’s world knowledge (Rinck, Bower, & Wolf,1998).

3.9 Monitoring comprehension essential for competent reading

The skill of comprehension monitoring is seen as essential for competent reading because it is the process by which readers evaluate the state of their comprehension of information. Oakhill, Hartt, & Samols (2005) viewed the quality of the reader's mental model of the text as having an influence on comprehension over and above that of the reader's working memory. They hypothesise that the construction of mental models takes place in Long-term Working Memory supported by studies conducted in 1995 by Ericsson & Kintsch (as cited in Oakhill, Hartt, & Samols, 2005). However, Kintsch (1998) and Sadoski & Paivio (2001) found that at least one aspect of the difference between good and poor comprehenders was the imaginal component of the mental model of a text (as cited in Oakhill, Hartt, & Samols, 2005).

There is accumulating evidence that the skills involved in developing mental models are vital components of comprehension monitoring skills. As discussed in section 2.4, Oakhill, Hartt, & Samols (2005) focussed on trying to find out why some developing readers showed poor comprehension monitoring skills. Their experiments were designed to test theories that suggested the fundamental cause was an inefficient working memory. Their findings do not support this theory and they also cite past work with young difference poor readers in which the readers' comprehension skills were improved after brief periods of training. They see working memory skills and comprehension monitoring skills as making independent contributions to differences in ability to comprehend. It may be, however, that the more practised a reader is in monitoring their reading comprehension, then the less strain they may put on their working memory.

These researchers conclude with the hypothesis that differences between good readers and difference poor readers are due mainly to their ability to construct a well-monitored mental model of the text as a whole and to their skills at conceptualising images in response to text, but are not due to their memory capacity.

The question of whether or not poor monitoring is a cause or a consequence of poor comprehension is a lively topic of debate. Longitudinal studies (Oakhill, Cain, & Bryant, 2003) suggest that it is a cause.

3.10 Spontaneous construction of spatial models

In a replication of the sentence-recognition paradigm of Bransford, Barclay, & Franks (Section 1.4.7), Jahn (2004) found that spontaneous construction of spatial mental models is more probable with texts in which there is causal relevance. He suggests that this may even be true of other spontaneous elaborative activity during text comprehension. For example, it would be more likely for a reader to make a spontaneous spatial model of the scene with the turtles if they could not swim and so needed to be on the log, or if the fish that was swimming beneath them were a shark that was likely to eat them.

Rapp & Taylor (2004) point out that it is not clear from past research whether or not readers spontaneously or automatically use linguistic cues when constructing mental models. Nevertheless, the use of cues for such elements as space and time can be seen as a natural process during reading comprehension. Such a use of linguistic cues shows how mental models are constructed and updated during the reading of narratives because they "inform expectations about space, time, characters, objects, causality and story settings" (Rapp & Taylor, 2004, p. 999). If, however, an illustration makes such expectations redundant, then practise at using linguistic cues in this way will be affected.

3.11 The need to learn to use suppression mechanisms

In investigating adult readers who do not comprehend well, Gernsbacher &Faust (1991) found that they had inefficient suppression mechanisms so that unnecessary details in pictures accompanying texts easily led them astray. Gernsbacher & Faust concluded that it would be useful to find out if suppression and enhancement were under a reader's control in order to determine if greater control could be taught. If this is an issue with adult readers, it is probably an issue with beginner readers; those who have poor suppression mechanisms might be more at risk from pictures, especially when they contain irrelevant images.

Evidence that children using picture books are remembering the information in the pictures and not the information in the text can be gleaned from the fact that "...when

pictures do not illustrate the passage correctly, subjects tend to recall pictorial rather than linguistic information" (Denis, 1984, p. 390).

Beginner readers need practice at creating images while they read, because there is a link between creating an image in response to text and remembering the text. Without a good memory of the text, a reader's comprehension is affected (Yuill & Oakhill,1991). The actual construction of a mental model makes aspects of that model more memorable.

Finally Dewitz & Dewitz (2003) found that the best way of helping a good decoder who could not comprehend was to get the reader to focus on the text and to learn to visualise. They found that the poor decoder's critical problem was that he did not make inferences. Once the reader did make inferences and learnt to visualise, he was able to understand what he read.

3.12 Other aspects of mental models

If a child reads a text about a birthday party and reads that 'Linda blew out the seven candles with one breath', the child can use his or her knowledge of birthday celebrations to infer various perceptual attributes of the scene. These might not actually be 'perceived' but they would be attributes of the scene that could be instantiated. For example, a child could infer that the candles were small and were on a cake and that Linda was sitting at a table probably surrounded by family and friends and so on. This helps with comprehension of other things that follow in the text, which might require instantiation of this information.

In addition, the reader may gain non-perceptual information from the model. If the text indicates that Linda is anxious to finish eating, the reader could infer that she wanted to open her presents, or perhaps play party games. The information contained in the mental model is important for non-perceptual elements such as the feelings of the protagonist.

The text might add information that would require a radical readjustment of the mental model. This might lead to a change in the perceptual and/or non-perceptual

aspects of the mental model. For instance, it might turn out that Linda is twelve years old and that her family is poor and she suddenly gets up and runs out of the room. Once this information is gleaned from the text, the reader might infer that Linda is upset by only having 7 candles and is about to cry and wants to rush off before she hurts someone's feelings. Flexibility as well as an acceptance of ambiguity would be helpful traits for the reader.

However, the inferences made depend on the child's own store of experiences – Stevik's "inner criteria" (Stevik, 1976). A sensitive child might infer that Linda wants to spare others' feelings. A more self-centred child might infer that Linda is angry and is actually storming out in a fit of pique. No two readings would be identical but, as more evidence was supplied by the text, the better reader would move closer to the intended meaning of the writer. A more assertive reader would be more likely to impose his or her own views in spite of evidence to the contrary.

These adjustments while reading, and this reference to one's inner criteria, are basic to the experience of any reader who does not have an illustration. The young reader who starts off with a picture of a deprived child, obviously near to tears, in a dingy setting with an unattractive cake would not experience the changing and shifting of ideas that a reader without an illustration would have to make.

3.13 Summary

While reading narratives, readers construct inferences and try to build mental models either on-line or off-line depending on the burden this places on working memory. Readers do this in their quest for meaning and how they go about it depends on their 'goals'. They need to learn to monitor their comprehension by suppressing irrelevant information from a variety of sources. Most important to achieving comprehension is the interplay between the elements involved rather than any specific one of them since they are both complementary and interdependent. The nature of this interplay changes depending on the type of text and the goals of the reader and results in a cyclical up-dating that involves retrieving items from memory in order to construct inferences. Differences between readers who comprehend well and those who do not are not usually a result of memory deficits among the poor readers; the difference is

more often due to the poor readers' inability to create a mental model. A mental model can contain imagined representations of all five senses in addition to including insights into the states of mind of the characters. Building such a mental model is a skill that is easily taught to young children.

Chapter 4 - Method and design developed to answer research questions

4.1 Experimental questions arising from the literature review

It has been established from the literature search that the construction of a mental model while reading not only gives rise to making inferences but also depends on the integration of such inferences and that this process leads to an enhanced memory of the text and, therefore, assists comprehension. From personal experience in teaching reading to young learners it was observed that the presence of pictures interfered with a learner's ability to make inferences. Also it seemed that the majority of readers who were adversely affected were male. Since the process of making inferences is central to comprehension, this led to the hypothesis that the availability of pictures can hinder rather than help the development of the process of reading and that boys are more at risk than girls.

In order to test this hypothesis, it was decided to focus on the degree to which these readers made inferences in response to narrative texts with and without pictures and to compare this to three other groups of readers – male good readers, female good readers and female difference poor readers. As a consequence, an experiment was designed to answer the following questions and to test the predictions:

1. To what extent do 7 – 9 year old readers draw inferences from the pictures rather than the text when both are present?

Prediction: When pictures are present, it is expected that these readers will show a tendency to draw inferences from the pictures rather than from the text. However, this tendency is expected to be greatest for the male difference poor readers.

2. Is there any difference between male and female readers of this age and in each of these reader groups in how the illustrations affect their ability to draw implicit inferences when reading narrative texts?

Prediction: It was predicted that the females would score more highly on inference making based on the text when reading in the 'Text and Picture' (T & P) condition than would the males. Mackworth (1970) investigated dimensions of attention to see what affects the amount of attention paid to a stimulus in cases of divided attention. She found that males are more susceptible to sight distractions and that attention capacity depends on how practised the subject is. Therefore, due to their lack of practise at making meaning successfully while reading, it was expected that this difference would be more pronounced between the male and female difference poor readers.

3. If a picture is present, does it hinder 7 – 9 year old difference poor readers (those who can decode text well but comprehend text poorly) in their attempts to incorporate general knowledge in their comprehension of a text, i.e. to draw 'implicit' inferences from the text?

Prediction: Among the difference poor readers, it was expected that few if any implicit inferences would be drawn in the 'Text only' (T only) condition and that inferences in the 'T & P' condition would be drawn from the pictures, not the text.

4. If a picture is present, does it hinder a 7 – 9 year old good reader who usually comprehends well, to incorporate relevant general knowledge in his or her comprehension of a text, i.e. to draw 'implicit' inferences?

Prediction: It was predicted that among the good readers, more implicit inferences would be made in the 'T only' condition than in the 'T & P' condition. Also it was expected that the presence of the pictures would result in some inferences being drawn from the pictures rather than the text. However, since it has been shown that good readers usually ignore the pictures (Willows, 1978) it was expected that this would not be as great an effect as it would be with the difference poor readers.

4.2 Aim of question 1

Question 1 was designed to help capture the degree of reliance by difference poor readers and good readers on the illustrations for an understanding of the story being

read. It is fair enough, if a picture accompanies a story, for a reader to draw inferences from the picture either because the picture distracts them or because they are following the principle of least effort, as suggested by Samuels (1970) when he was discussing research into children learning to decode text. In fact teachers expect learners to do this. This only becomes counter-productive if the 'aim' of a lesson is to improve comprehension of text, which requires practise at making inferences from text. If the aim is to have the learner draw inferences from any source, then making inferences in response to illustrations would be useful. The materials used in the present study were designed so that an inference from the pictures could be distinguished from an inference from the text. Careful attention to the text would lead to a different inference being drawn than careful attention to the picture. The experiment was designed to discover not only if inferences were drawn per se when learners read illustrated narratives, but whether these inferences were from the pictures or drawn from the text. It would be useful to ascertain if any of the readers – male or female, good or difference poor – made a significant number of inferences from the pictures instead of from the text when both were presented together.

4.3 Aim of question 2

Background information gleaned from educational statistics (Chapter 2) as well as gender differences highlighted by psycholinguistic studies (Chapter 3), supported the personal impression formed during teaching that boys have difficulties with reading more often than girls do. Question 2 was posed in order to discover whether or not the use of illustrated reading material might be contributing to this gender difference. In order to try to answer this question, it was decided that half of the difference poor readers and half of the good readers would be female and would participate in the same experiment as the males. The research literature stretching back four decades demonstrates that the poor performance of boys learning to read in relation to girls is a recognised problem for which many solutions have been suggested and tried. However, there is no evidence that the problem has been solved, since the discrepancy seems to be getting worse. The use of pictures as an aid to teaching reading comprehension has not been discussed as making a contribution to the problem but only as a possible solution. Since boys seem to like to look at pictures,

the pictures are seen as motivational and are considered especially helpful for those who are struggling to read. Remedial teachers consider visual aids as indispensable in their efforts to teach reading comprehension.

4.4 Aim of question 3

From experience with using illustrated reading materials it was not clear whether difference poor readers might be relying on the pictures to help them understand because they could not draw inferences from the text, or whether they could draw such inferences but were being distracted from the text by the pictures. This question was posed to address this issue. If the first case were true and they could not draw inferences, then it would be expected that they would not draw inferences from the text in either condition – reading with or without illustrations.

If, however, the latter case were true and they had the ability to draw inferences, then these readers would be expected to draw inferences from the text in both conditions, but to draw more of them when there were no pictures. If pictures were shown to interfere with a young reader's ability to draw inferences from the text, then they would be shown to be preventing practice at the skill of drawing inferences from text. Such a result would challenge the use of pictures in reading materials when the aim of the teacher was to improve a reader's comprehension skill.

If these readers made more inferences based on the text when pictures were present, then this would support the idea that pictures were helpful when teaching young learners to make inferences and to improve their comprehension skills.

The experiment was designed so that inferences, made on-line while reading or off-line while answering the questions, could be counted and a comparison could be made of the counts of inferences in the two conditions, with and without pictures.

4.5 Aim of question 4

It was decided that good readers should also be included in this study. Since these readers could comprehend well, they must have the ability to draw inferences from text. It was expected that these good readers would be immune from the distraction

of pictures and would be able to pay equal attention to the text in both conditions – with and without illustrations. Such a result would be useful if the answer to question 3 supported the idea that difference poor readers were able to make inferences but were distracted by pictures from making inferences from the text. If this were the case then it could be concluded that a characteristic of a reader who comprehends well would be immunity from such distraction. This would help support the case for using text-only learning materials with difference poor readers so they would not have the distraction of pictures.

Consequently, it was decided to design an experiment where the ability of the good readers to make inferences from the text could be measured when they were reading with and without pictures as adjuncts to the text.

Although it was not expected, there was also the possibility that the good readers would not be immune from the distraction of the pictures. If this was found to be the case, and if they made fewer inferences based on the text when pictures were present, this would provide even more reason to remove the pictures from reading material aimed at improving comprehension skills.

If, however, it were found that the good readers made more inferences from the text in the presence of pictures, then this would show that pictures were helpful to the exercise of this skill.

4.6 Method

In order to address these questions a repeated measures study was devised. The independent variables included the conditions – with or without pictures - in which four original stories would be read by each participant as well as sex and ability. The dependent variables were the inferences that the participants would make while reading.

4.6.1 Participants

Twenty New Zealand primary schools in Wellington, Petone, and Upper Hutt were contacted by letter to see if any of them would be interested in participating in the

research. A brief description of the purpose for the research and the method that would be employed was provided. Four of these schools indicated that they would participate. At this point an arrangement for a visit was made during which a copy of the following materials was presented to each school: the stories; pictures; questions; the information letters to parents, Principal, and Board of Trustees; permission forms to be signed by these parties.

The schools had the following decile ratings: 6, 7, 8 and 10. A decile 1 school is in the 10% that has the highest proportion of students from low socio-economic backgrounds; a decile 10 school is in the 10% that has the lowest proportion of such students. In New Zealand, a school's decile rating affects its allocation of centrally-funded resources.

Each school was asked for male and female participants between the ages of 7 and 9, who were fluent decoders and good at comprehension plus an equal number of male and female participants who were also fluent decoders but poor at comprehension. All the participants had English as their first language. The schools provided, between them, the 48 participants required for the study. Two schools provided 12 each, another school provided 16 and the remaining school provided 8.

The participants who could decode well but not comprehend well will be referred to as 'difference poor readers'. They are of particular interest since it is common for them to be given reading material with pictures in order to help them develop their skill at comprehension. Since drawing inferences is the key skill one needs in order to understand text, then it is of particular interest if pictures are found to interfere with these readers' ability to make inferences. The answer to Research Question 3 focuses on this issue.

Once the schools had agreed to take part, the schools and the parents or caregivers of the participants provided their written consent for the participants to be included in this study in accordance with the ethics procedures required by Victoria University of Wellington. The researcher and her supervisors gave contact details so that they could be contacted in the event of any of the participants having any questions.

Participants were free to withdraw from the study at any point. As it turned out, none withdrew.

The participants were selected so as to produce 4 groups of equal size. The average age and age range for each of the four groups was as follows:

- Male good readers – 8 years 3 months (7 years 5 months to 8 years 11 months)
- Female good readers – 8 years 4 months (7 years 4 months to 8 years 11 months)
- Male difference poor readers – 8 years 3 months (7 years 4 months to 9 years 0 months)
- Female difference poor readers – 8 years 2 months (7 years 4 months to 8 years 9 months)

4.6.2 Limitations of the study

As far as sample selection was concerned, there were difficulties in regard to finding a large sample of children who fitted the requirements. Initially it was hoped to have a smaller spread of ages and to confine the sample to children between the ages of 7 and 8. It was also hoped that the study could include 96 children, 24 in each group. However, in order to obtain a sample this large from just one year group it would have been necessary to access between 16 and 20 schools. Not every school could find many children who suited the requirements of the study. In the area of Wellington that the researcher could access, primary schools tend to be small. One school was willing to take part but did not have enough suitable children to warrant the time that was needed to secure ethical consent and to organise the gathering of the data. It had to be accepted that time limited the number of schools that could be included and so the number of children also had to be reduced and the age range had to be extended.

For the same reasons, a random choice of schools and a random choice of participants were not possible. Twenty of the largest schools in the area were approached and only 5 were willing to be considered. The number of participants put forward by each of the 4 schools chosen was either the total number of children who fitted the requirements, or very close to it. The study was limited to the schools in the area that were not only willing to take part but who had enough children of the right reading ability. One of these schools had designated the year as one where the teachers would be focussing on reading comprehension and ways of improving it, so the Principal was particularly supportive. There were 2 other schools where the principal was supportive but the Board of Trustees did not want any additional research interrupting school life.

The fact that children would have to be withdrawn from classes had two main effects on the design of the study – the length of each session and the number of sessions. The researcher was mindful that she should not interrupt the children's usual learning to any great extent. Also, in order to gain approval of parents, teachers and members of the schools' Boards of Trustees, it seemed advisable to limit the number of times the children would be withdrawn, the amount of time they would be withdrawn and to keep disruption of their learning to a minimum. It was decided that just two sessions lasting no more than 15 minutes each would be the most likely to be acceptable to all concerned, including the participants themselves.

As when dealing with any human participants, there might be factors that have upset the children such as ill-health or tiredness. Although these factors can affect their performance during the research sessions, having more sessions might not guarantee more reliability, so it was decided to have only 2 sessions. This seemed preferable to only one session where the participants would read one story with pictures and one without.

Also, the length of time for each session was limited and this meant that the stories had to be quite short. It was felt that 2 stories would be better than 1 in case the subject matter for any story was particularly unappealing to the reader. If time had permitted, a design of 4 sessions, each lasting half an hour and requiring the

participant to read one longer story of about 600 words in each session might have been used. However, such a design would have required each school to have suffered significant disruption and it may not have been possible to find schools, parents and trustees who would have been willing to allow it. In addition, this design might have led to the participants losing interest and enthusiasm for sessions that were longer and more demanding.

4.6.3 Developing the research setting

All the teachers were given written details about the nature of the study and the requirements for the chosen participants and were also spoken to individually about the study. The class teachers distributed and collected the letters and permission forms in order to preserve the privacy of the children in regard to their addresses. No children were seen until their permission forms were returned. At each school a teacher co-ordinated the times for the visits so that the withdrawal of the children from classroom activities would not be disruptive. It was essential that the children would not feel they were missing anything vital or anything that they particularly enjoyed in order to spend two fifteen-minute sessions outside the classroom.

The professional judgement of the class teachers was relied upon in regard to selecting good readers and difference poor readers. All the schools use a combination of assessment materials that are standardised nationally as well as their own choice of assessment tools to monitor reading achievement. When they were year 3 and 4 students (between the ages of 7 and 9) these participants had all been assessed using the Supplementary Tests of Achievement in Reading (known as STAR) which allow the teachers to make accurate judgements regarding word recognition as well as sentence and paragraph comprehension. Children are given a score on their performance which relies on their age. This score is then used to help teachers decide whether or not children need remedial help. A score below a certain level indicates that the child needs extra help. The difference poor readers who participated in this study were chosen from those children who scored low enough to require remedial help in regard to comprehension but who scored highly on word recognition. The good readers who participated in this study were chosen from the

group of children who gained scores in the top band for comprehension and word recognition. Those who fell between the top scoring band and the lowest band were not included in this study.

Teachers also had other indications of how well these children could read. Children in this age range have started their third or fourth year at school; they start school in New Zealand on the day they turn 5, or the nearest day to that possible, so are 7 years old in year 3 and 8 years old in year 4. These participants had all passed through what is called the 'six-year net' assessment process which, among other things, helps teachers identify those whose progress indicates that they will need extra help with reading in the future. The year 4 students among the group would also have had the Progress Achievement Tests in reading vocabulary and comprehension. As a result, their teachers have access to a substantial record of their reading ability.

In selecting the difference poor readers the teachers' professional judgement was trusted. Children who could decode fluently were required and by their third or fourth year in school it is very obvious who the fluent decoders are. These children, however, should show difficulties in comprehension and the teachers selected on that basis that these would be the readers seen as needing remedial help in regard to comprehension as a result of their testing. These are the children who will be given the remedial reading material which relies on illustrations to help the children understand. These, then, were just the children required for this study.

These schools belong to the local cluster group of schools and the follow the national curriculum and endeavour to assess students' abilities in a comparable manner. It is easy for students to move to new schools as a result since their assessments would be readily comprehensible to the teachers at their new schools. It can be assumed, therefore, that the choice made by the teachers in regard to students who were good or poor at comprehension would be comparable.

These children were chosen mainly to fulfil the requirement of being a 'good' reader or a 'difference poor' reader and represented a range of past experiences, various

family and socio-economic backgrounds and prior learning experiences. For the purposes of this study it was only important to see what they were like at the time the study was conducted. No one ‘type’ of student was required since it has been noted that reading problems do not seem confined to students from one sort of background, or with any particular family or educational experience, as discussed in Chapter 2.

4.6.4 Developing the stories and questions

Narrative texts are the genre most familiar to this age group, so it was decided to use stories. However, it was decided not to use published materials for two main reasons: it would be difficult to guarantee that none of the participants had read the story before; it would also be hard to find 4 stories that were the same length and followed similar formats both in regard to the text and in regard to the illustrations as well as the relationship of the illustrations to the text.

Four original stories were devised and each story was used in both conditions - with and without pictures - in order to compare how illustrations might affect young readers when it comes to drawing knowledge-based inferences using information from the text combined with personal experience and knowledge of the world. Each story contained approximately 260 words and was presented in a booklet. The researcher had attended several creative writing courses at a university and had had four short stories published (three in a literary journal and one in an anthology of women writers) so she wrote the stories herself.

The stories when presented without pictures had the same amount of text in the same font and font size on each of the four pages as appeared in the illustrated versions. The booklets were smaller, being printed on B4 paper rather than on the A4 that was used for the illustrated stories. There were no blank spaces in lieu of pictures; text filled each of the four pages in the way that is normal for books without pictures.

Two narratives featured male protagonists and two featured female protagonists. The text for all four stories plus questions for each story can be found in Appendix 1.

The illustrations were produced in colour by a retired Deputy Headmistress of a Primary School in England, and there were four pictures per story. The illustrations contained elements that were not in the text to help ascertain when participants were relying on the pictures for understanding rather than on the contents of the text. For example, in Story A there was a dog in the pictures but not in the text.

The illustrations were designed so that a 'good' or workable inference could not be drawn from them alone as an answer to a question. If a reader drew either a well-monitored (see Section 1.4.9) or workable inference, then this would have required the reader to combine information from the text with information from their long-term memory which in turn would have been based on their personal experiences and knowledge of the world. The answers to the questions did not show this process in action if the inferences were drawn from the pictures or taken 'literally' from the text. (An example narrative is provided in Table 4.2 and an example of the questions can be found in Table 4.5.)

A left or right presentation of text/pictures may favour either language centres or visual centres depending on the direction of the reader's gaze (Kinsbourne, 1973). In order to avoid this effect, pictures and text were given vertical presentations on each page. Page 1 appeared on its own once the reader opened the booklet. It was faced on the left by the blank of the inside of the front cover. Pages 2 and 3 faced each other, and page 4 came on its own at the end, faced by the blank inside cover of the booklet. In other words, the pages were arranged as pages often are in children's books. Pictures were below the text on page 1, in middle of page with text above and below on pages 2 and 4, and above the text on page 3 in all story booklets. Reproductions of the illustrations and how they appeared in relation to the text can be found in Appendix 2. An example is provided in Table 4.3.

Each story was devised to fit a certain format so that there would be a similarity between the stories.

A format was devised for the plot of the stories and the types of questions that would be asked so that the need to make inferences would be comparable between the

stories. None of the questions could be answered by looking for the answer in either the text or the pictures. The format is shown in Table 4.1 below. A sample of one of the narratives without illustrations is then shown in Table 4.2 followed by the same narrative with illustrations in Table 4.3.

Table 4.1: Format for devising the narratives and probing for inferences

1. Probe for accessing background knowledge – did the story evoke personal experiences?
2. Main character (MC) has been doing something before the story started – what?
3. MC now wants to go somewhere or wants to do something – what / why?
4. Why another character does something
5. Where is MC, they or 'it' / What happened to MC, they or it?
6. Speculate
7. Elaborate – what X looked like or would look like
8. Speculate
9. Where is X?
10. Why MC did X / where is MC / what happened to MC?
11. Speculate
12. Why X is / does? How did X…..?
13. Speculate on incident at the end.
14. Retell with book closed

For each story there would be one question that would require an inference that was considered particularly difficult to make. Any reader able to answer this successfully would demonstrate an ability to construct inferences particularly useful for making good mental models. For Stories A, B and C, the difficult question was number 13 in each case. For Story D it was question 12.

Table 4.2: Example narrative text only

'A': "Jason's Surprise Meeting"

Page 1:

Jason waved goodbye to his team mates on the bus and walked off along the road. Two pretty girls that he knew were coming towards him. He smiled and nodded at them thinking how good he must look in his rugby shirt, but they both laughed as they walked by him.

Page 2:

It had been muddy on the field and Jason didn't realise what his face and hair looked like. He frowned, glanced back at them, and then walked smack into a tree.
'Hey!" came a voice near his feet.
Jason bent down and looked in very small hole in the trunk.
'Hello," he replied. 'Who's there?'
'The Tree Fairy, who else?'

Page 3:

'Ha!' said Jason. 'And I'm Jonah Lomu. There are no such things as fairies.'
'Well, Jonah, watch where you're going or else!'
'Or else what?' sneered Jason.
'Would you like me to show you?' The voice was suddenly deeper and Jason felt just a little bit nervous.
He gave a short laugh. 'Alright. Go ahead and try.'

Page 4:

'Jason! Wake up!' It was his mother's voice. He opened his eyes and saw her worried face with lots of tree branches, blue sky and clouds behind it.
'You should watch where you're going!' she said. 'It's a good thing I looked up from the sink and saw you.'
She helped him up and he followed her through the gate feeling dizzy and breathless. He thought he heard a small voice laughing, but when he turned around to look, the hole had disappeared.

As explained above, the stories without illustrations were printed in the same size font as the illustrated versions but they were printed on B4 size paper rather than A4.

Table 4.3: Example of an illustrated narrative

Jason waved goodbye to his team mates on the bus and walked off along the road. Two pretty girls that he knew were coming towards him. He smiled and nodded at them thinking how good he must look in his rugby shirt, but they both laughed as they walked by him.

It had been muddy on the field and Jason didn't realise what his face and hair looked like. He frowned, glanced back at them, and then walked smack into a tree.

"Hey!" came a voice near his feet.

Jason bent down and looked in a very small hole in the trunk.

"Hello," he replied. "Who's there?"

"The Tree Fairy, who else?"

"Ha!" said Jason. "And I'm Jonah Lomu. There are no such things as fairies."

"Well, Jonah, watch where you're going or else!"

"Or else what?" sneered Jason.

"Would you like me to show you?" The voice was suddenly deeper and Jason felt just a little bit nervous.

He gave a short laugh. "Alright. Go ahead and try."

"Jason! Wake up!" It was his mother's voice. He opened his eyes and saw her worried face with lots of tree branches, blue sky and clouds behind it.

"You should watch where you're going!" she said. "It's a good thing I looked up from the sink and saw you."

She helped him up and he followed her through the gate feeling dizzy and breathless. He thought heard a small voice laughing, but when he turned around to look, the hole had disappeared.

4.7 Experiment Design

The following section covers aspects of the quantitative design. The research adopted primarily a quantitative approach with qualitative data being used to supplement and complement quantitative findings.

In order to protect the privacy of the participants, they are referred to in the datasheets and in the results below using code numbers. Male good readers are called ‘MA’ and then given a number between 1 and 12. Similarly, female good readers are labelled as FA plus a number between 1 and 12. Male difference poor readers are labelled MB plus a number between 1 and 12. Female difference poor readers are labelled FB plus a number between 1 and 12.

The organisation of this repeated measures study was that the participants read 2 stories in one condition (with or without pictures) and then, at least 2 weeks later, 2 more in the other condition. After reading each story they answered 13 questions about the story; they were encouraged to refer back to the stories if necessary in order to answer these questions. Then, with books closed, they retold the stories. This required two 15-minute sessions for a total of 30 minutes for each participant. One researcher (the author) administered all the sessions.

Conditions were rotated across children in two groups (A and B), in order to ensure a balanced design. Within each group each child experienced a unique combination of presence or absence of pictures and order of presentation of stories. A table showing the allocation of stories and conditions for all the participants can be found in Appendix 3. Table 4.4 below shows how the stories and conditions were allocated to the male good readers; all the groups followed this pattern.

Table 4.4: Rotation of stories and conditions across a group.

Note: the four stories were labeled A, B, C and D. If a story was presented in the 'Text plus Picture' condition, then 'p' is appended to the story label.

12 Good Readers					
Condition	Participants	Session 1		Session 2	
1	MA1	Ap	Bp	C	D
2	MA2	Bp	Ap	D	C
3	MA3	Ap	Cp	B	D
4	MA4	Ap	Dp	B	C
5	MA5	Dp	Ap	C	B
6	MA6	Cp	Ap	D	B
		Session 1		Session 2	
7	MA7	A	B	Cp	Dp
8	MA8	B	A	Dp	Cp
9	MA9	A	C	Bp	Dp
10	MA10	A	D	Bp	Cp
11	MA11	D	A	Cp	Bp
12	MA12	C	A	Dp	Bp

Each school was allocated a section of the Table and the participants were assigned to a condition randomly within that section. That is, once the teachers had produced a list of participants, each reader was assigned a condition randomly from the section of the chart that applied to their school. For example, the first school supplied 16 readers, four in each group, so these readers were assigned a condition from numbers 1, 2, 3 and 4 on the table before they arrived for their sessions along with

the first part of their code names – MA, MB, FA or FB. Children were sent for their sessions at a time convenient for them to leave their classrooms so, chronologically, FA4 (condition 4) might be tested before FB2 (condition 2).

4.7.1 Probing for evidence that inferences were made

Questions were asked after each reading prior to the reader being invited to retell the story from memory. The first question elicited whether or not the reader had been reminded of anything he or she had experienced personally. The next twelve questions were 'probes' for evidence of the reader making either a 'workable' inference, albeit one that did not show careful monitoring, or a 'good' inference that did.

In order to reflect the incremental nature of constructing a workable mental model, the design of the experiment allows for the inferences to be made on-line while reading, or off-line when the questions are asked or off-line during the retelling of the story (see Sections 1.4.4 and 3.7). In other words, evidence for inferences would also be counted if the evidence was not provided by the answer to the question that probed for it, but appeared in an answer to another question or in the retelling of the story. Some questions required inferential interpretation of information within a sentence or paragraph. Others required inferential interpretation of information within the entire passage, or a 'global' inference.

Some questions were designed to elicit implicit inferences necessary for successful comprehension and these included inferences that required the reader to elaborate, for example spatially. Other questions probed for elaborative inferences that required background knowledge related to the passage, but which was not included in the passage and not necessary for successful comprehension (Question 7). Other questions were designed to elicit an evaluative inference that required the reader to speculate on reasons for a decision or an incident in the narrative.

Question 7 was later dropped from the scoring for all 4 stories due to a difficulty in scoring the responses objectively. There were, however, other difficulties with this question; in two stories the elaboration requires describing something shown in the

illustration while in the other two stories the item is not shown, so this question was not probing for the same process in all stories. All the other inferences were knowledge-based, that is the reader could use knowledge from the text (either from the passage in focus or from earlier passages), stereotypical background knowledge, and knowledge from personal experience. Question 7 did not require a knowledge-based inference but was more an elaborative inference based on the reader's creative imagination only.

It also became obvious that since the elaboration probed for was not necessary for successful comprehension, readers tended to just think of something when asked and it seemed rather pointless to include it. Once this question was dropped, the experiment yielded results for 11 inferences per story. Since each reader encountered two stories in each condition (text only or text and pictures) this gave a total of 22 possible inferences per condition. Nevertheless, responses to Question 7 were later considered in the qualitative analysis and some inferences probed for by other questions were sometimes revealed by students' answers to Question 7.

There was one question per story that was a particularly difficult one to answer unless the reader had built up a reliable mental model. This question is indicated in bold for each story as shown in Table 4.4. Aside from their titles, the stories are labelled as A, B, C or D to simplify reference to them in the text of this thesis.

Table 4.5: Example of questions

Story A: “Jason’s Surprise Meeting”

Questions:

1. Does this story remind you of anything you’ve done in your life?
2. What do you think Jason was doing just before the story started?
3. Where do you think Jason was going when he got off the bus?
4. Why do you think the girls laughed at him?
5. Where, exactly, was the tree?
6. Was there really a tree fairy? (Ask for reasons for opinion).
7. Describe the Tree Fairy **or** What do you think a tree fairy would look like – give me plenty of details.
8. Where was Jason’s mother when she saw him?
9. What do you think Jason’s mother was doing when she saw him?
10. What had happened to Jason just before his mother saw him?
11. Where was Jason when his mother spoke to him?
12. Why was Jason dizzy and breathless?
13. **Who was laughing at Jason at the end of the story?**

The questions can be considered ‘difficult’. This is because this study is not aimed at testing comprehension ability but whether or not these readers attempt to create an inference from their world knowledge guided by information from the text. Sometimes a comprehension question can be answered by a simple repetition of items from the text which was, indeed, what some of the participants did. This was not considered an appropriate response for the purposes of this study.

For example, if we are reading the poem ‘Jabberwocky’ by Lewis Carroll and are asked, ‘What gyred and gimbled in the wabe?’ we can answer ‘the slithy toves’ without a clear idea what these ‘toves’ are or what they are doing or, indeed, where

they are doing it but our answer would show ‘correct’ comprehension. Nevertheless, a ‘good’ reader will make some mental model in spite of the problems the vocabulary presents due to a knowledge of grammar and a response to the sounds of the words. It is this underlying process that these questions are designed to probe for.

Much of what children read when they have a paucity of vocabulary must present a similar experience to that had by any adult reading ‘Jabberwocky’. Gradually, as these children encounter the vocabulary in other contexts, they form an increasingly accurate concept of what the words mean. If a competent reader were required to answer the previous question ‘accurately’ they might have to refer to the illustration to find out what ‘slithy toves’ were. However, without an illustration they would go through a process of making an inference. For example, knowledge of other adjectives that sound like ‘slithy’ might help – ‘slithery’ and ‘sly’ and so on.

Participants who answered by simply repeating items from the text were not scored as making an inference and they were not answering the question if they did so because the questions were designed to avoid this sort of answer. The responses sought are not explicitly given in the text but require an inference – a ‘good’ inference being one that combines information from the text with knowledge of the world. The participants needed to solve the ‘puzzle’ presented by each question, or to show that they were going through the appropriate process of trying to solve it even if they got it ‘wrong’.

4.8 Procedure for each session

The readers were asked to read the text silently since there is some evidence that active vocalisation while reading interferes with memory for the text (Stevik, 1976). Also this was an attempt to make the reading experience similar to the experience of a reader who is reading for amusement, not as a demonstration of decoding skills.

The main aim was to encourage the participants to feel that their purpose in reading was to achieve enjoyment rather than to demonstrate their ability as they might do in a test. Nevertheless, as will be shown in the next section in more detail, they were told that they would be required to answer questions about the story, albeit with the

text open. They were told they would be questioned to try to give them the specific goal of comprehending the story. According to Smith & Hancox (2001), if the reader has a 'goal' when reading then he or she will read with greater 'depth'. They were told they could use the text while answering in order to avoid the attendant stress associated with the need to memorise any information.

The same researcher worked with all the children and had no contact with any of the readers outside of the actual sessions. Each school provided a quiet room and each participant was seen individually in that room in their own school. The sessions were digitally recorded using the researcher's digital Sony 'Handycam' video camera and built-in microphone. A mixture of 30 minute one-sided discs and 60 minute two-sided discs were used to record the data; the child's 'code' name was recorded orally at the end of each session and written on the individual disc container.

Video was used in order to capture, where possible, direct evidence of reliance on the illustrations. For example, some children pointed at the pictures when answering and some even held up the picture for the investigator to see. The answers were given orally rather than being written by the children to off-set the fact that some of the children might have difficulties expressing themselves in writing and this would interfere with the usefulness of the data collected.

The digital recordings also captured the body language, facial expressions and gestures that the children made as part of their efforts to communicate their understanding of the stories. In an effort to communicate what they were 'seeing' in their heads, some children mimed the actions of the characters in the stories and this provided data for qualitative analysis. The video recording did not capture any visual feedback from the experimenter to the readers.

4.8.1 Ensuring participants understood the task and reducing stress

All the readers had been made aware of the nature of the study through their teachers and their parents. The use of the digital video camera had been mentioned in letters to the school and the parents but, in case the participants were unaware of it, the researcher made some effort to ensure that each reader would feel

comfortable about being recorded as detailed here: After the child was greeted and the researcher had introduced herself, the child was seated and given a booklet. The presence of the digital camera was mentioned. The participants were informed that recording their answers would free up the researcher from having to write their answers down. Also the participants were assured that only the researcher and her teacher would see and hear the digital recording.

All instructions were delivered according to a 'script' which the researcher had memorised in order to speak as naturally as possible to the children but at the same time ensuring that the children were all treated the same. The researcher emphasised that this was not a memory test and that they could relax, enjoy the story and refer back to it when answering the questions afterwards. In other words, the participants would be given time to think – time to make their inferences.

The following instructions were given by the researcher before each child read the first story in both sessions: "Now, if you'd like, please read the story quietly to yourself first. You can take as long as you like. Afterwards I shall ask you a few questions but you will be able to look back at the story if you can't remember anything. It's not a memory test. Any questions you'd like to ask?"

The following instructions were given by the researcher in both sessions after each child finished reading each story: "OK – now I'm going to ask some questions. You can look back at the story and re-read it before you answer. You can take your time – there's no hurry." (If during answering the child seemed to be rushing, or trying to answer from memory, they were reminded that they could look at the story and there was no rush and that they could take as long as necessary.)

The following instructions were given by the researcher, in both sessions, before each child read the second story: "Now we're going to do the same thing again. Read this story and then I'll ask you questions again and you can look back at the story when you answer them. Remember, you can take your time – there's no rush."

The script continued with the reading of the questions. These questions are not shown in the transcriptions but any deviations by the researcher from simply reading

the questions as shown (see Appendix 1 for all transcriptions and Table 4.6 for an example) was transcribed in bold italics when the participants' answers were transcribed.

After each child had read the story silently, he or she was asked questions. Since all responses were recorded by a digital video camera the researcher had no need to take notes at the time and could maintain a good rapport with each reader. The experimenter read the questions aloud to the subjects using the list of questions as a script.

If the reader answered 'yes' for question 1, 'Did this story remind you of anything you've done in your life?' then further details were encouraged.

4.8.2 Transcription of responses

The researcher then transcribed the sessions. The transcriptions were an almost complete record of what the children said. They included false starts, but did not include hesitations or hesitation noises. Every word spoken by the children, however, was transcribed. In addition, any unusual gestures or any overt reference to the pictures, such as pointing at them or holding them up, was noted.

The schools were numbered mainly for organisational purposes for the researcher. The participants' teachers were identified by a letter of the alphabet. So FA2, whose answers are shown transcribed in Table 4.5, is from School 1, and has class teacher 'b'. It was the first session for FA2 but the second story that she had read. The reader had just turned 8 years old and so was 8y 0m. 'T & P' indicates that the condition was 'text plus pictures'. ('T only' would indicate that the condition was 'text without pictures'.)

Table 4.6: Example of transcription of responses.

(The questions are included here in bold for clarity.)

Code Name: **FA2** Sch: 1b Tape: 1	Session: 1	Story A Second Reading	T & P 8y 0m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	**Does this story remind you of anything you've done in your life?** Not really
2	**What do you think Jason was doing just before the story started?** He'd just finished playing a rugby game and he was going out to catch the bus
3	**Where do you think Jason was going when he got off the bus?** Maybe to see his friend or to go home
4	**Why do you think the girls laughed at him?** Because he wanted them to think he looked good in his rugby outfit.
5	**Where, exactly, was the tree?** On the side of the footpath on the road – because you can see a lady walking along*
6	**Was there really a tree fairy? (Ask for reasons for opinion).** No I think it was just the girls
7	**Describe the Tree Fairy or What do you think a tree fairy would look like – give me plenty of details. (This Q not scored)** Maybe wearing a sparkly outfit with little fairy wings ***Would it be a girl then?*** Probably
8	**Where was Jason's mother when she saw him?** In front of a tree
9	**What do you think Jason's mother was doing when she saw him?** She'd discovered the fairy, too.

10	**What had happened to Jason just before his mother saw him?** She'd got a fright or something ***What frightened her?*** The raccoon or the dog *
11	**Where was Jason when his mother spoke to him?** He looked up from the tree
12	**Why was Jason dizzy and breathless?** Because he thought that he'd seen something magical
13	**Who was laughing at Jason at the end of the story?** The girls, I think
Could you please close the book now and tell me the story as you remember it? Jason had just finished playing his rugby game and he'd seen girls and then he heard a voice so he looked in the tree and then something talked to him then he went to - um – he saw his mother	

An asterisk indicates that there was evidence that the participant was obtaining information from the picture. Question 1 does not probe for inferences but is designed to indicate whether or not the child's background knowledge includes first-hand experience of similar situations to those providing the context of the stories.

4.9 Data analysis

4.9.1 Quantitative analysis

The transcriptions were then scored on charts and these charts can be found in Appendices 10, 11, 12 and 13. An example scoring sheet is given in Table 4.6. For each question, a mark was placed in one of the columns 1 to 5 depending on the experimenter's rating of the child's answer. The interpretations of the ratings from 1 to 5 are given in Table4.7 and explained further following that table.

Table 4.7: Example of a blank scoring sheet.

Code Name: Sch: Tape:	Session:	Story Reading	(Condition) Age:

1	**1**	**2**	**3**	**4**	**5**
2					
3					
4					
5					
6					
7	Removed				
8					
9					
10					
11					
12					
13					
Totals					

Triggered memory of personal experiences – Y **N** –

Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Table 4.8: Explanation of the rating that each column indicates

1	2	3	4	5
no ideas	- evidence of mental model but not showing any information from text being used – not monitoring comprehension in regard to information from text	- literal information – gained directly from language items in the text or items in the pictures without providing evidence of making a knowledge-based inference from information in text + information in memory. - direct evidence of drawing inferences from - or getting literal information from - the picture thus showing dependence on the picture where the picture has distracted from a carefully monitored interpretation of the text - these instances marked with an asterisk : * (Child points to the picture and / or mentions the picture.)	shows evidence of a mental model being constructed using knowledge-based inferences based on memory of experiences, world knowledge and other parts of the text + information from the part of the text under discussion.– could fit the context – wide variety accepted here – workable inferences.	A particular inference being sought providing evidence of a sound mental model that is well-monitored in light of information from the text. one very difficult Q per story **in bold** that shows a particularly effective blending of text plus background knowledge – not expected to make this inference but would show very skilful processing if made, especially at this age

The ratings indicated in columns 1, 3 and 5 can be given with considerable objectivity but there is more subjectivity involved when using ratings 2 and 4.

In terms of the quality of the inferences being made by the reader, these ratings from 1 to 5 could be seen as roughly equivalent to scores as follows: 1 = very poor; 2 = poor; 3 = neutral; 4 = good; 5 = very good.

Sometimes a reader did not give evidence of having made an inference when answering the question that probed for it but provided that evidence either in the retelling or when answering another question. While the 'X' on the score sheet for such evidence appears next to the appropriate question, it is shown in bold as 'X'. Also, in the transcript, the answer to the question is followed by 'A' and there will be another 'A' next to the evidence for the inference. If this happens more than once, the A in each case will receive a number, i.e. A2.

Any useful information provided by the video recording was referred to under 'comments'. This 'comments' section also included information justifying the use of an asterisk in column 3 (evidence that the picture was providing the information rather than the text) and any insights gained from the child's response to the first question (Does this story remind you of anything from your own life?).

The following paragraphs give some additional detail about how each of the rating values were used.

Rating 1

A rating of 1 was given if the child had no answer at all to the question.

Rating 2

A rating of 2 was given if the child gave a response but this response showed no apparent connection to either the pictures or the text. Sometimes very convoluted reasoning could be applied to suggest why the child might have made the response but this would be too speculative. If there were no obvious connections between a response and either the text and/or the pictures, then the response was scored in this column. It was seen as an improvement over having no response at all, since the child is obviously imagining something. It was not possible to determine that an inference was in fact being made, without additional, access to the child's thought

processes. Since such information was not available, responses of this type could not be justifiably scored as ‘inferences’, which by definition must show connections to the reading material, i.e. to the text and/or illustrations.

The questions were designed to probe for evidence of an interactive process involving both the text and the reader’s existing knowledge (Kintsch, 1988, 1998). Scoring relied on whether the response showed that the reader made an inference and, in the ‘picture plus text’ situation, whether this inference was made independent of the information in the picture. Rating 2 indicates that a ‘reliable’ case could not be made for including these responses in any of the other ratings. These will be referred to in Chapter 6 as ‘wild’ inferences.

For example, amongst the responses given by the male difference poor reader, MB12, it proved difficult to score his responses to question 5 after he read Story A but his answer was finally assigned to rating 2. Question 5 asks where the tree was (it was just outside the gate to Jason’s house). MB12 says the tree was in Jason’s bedroom. In order to understand why he has built such a mental model we need to refer to his answer to the first question – ‘Did this story remind you of anything from your own life?’

In answer to question 1, MB12 says:

“Jason waked up – it was his mother’s voice.”

The researcher, needing clarification, then asked, “That reminded you of something in your life, did it?”

MB12 replied:

“Yes, that really happened. When I heard my mum talking to her boyfriend.”

Since the reader wakes up in his own bedroom, he slots in this scenario when the boy in the story ‘wakes up’ when his mother speaks to him and he sees the tree. The reader does not use any information from the text that clearly describes the scene outside the house but slots in his own background knowledge of where he is when he

wakes up because he can hear his mother's voice. Since the boy in the story sees a tree when he wakes up, the reader assumes the tree must be in the bedroom. To a certain extent he is using information from the text – the mother's voice waking the boy. However, the reader's own experiences have affected his ability to monitor how well his inferences fit with the rest of the text.

Nevertheless, the text does bring to mind his personal experiences, which is part of the process readers need to practise if they are to become good at comprehension. The text reminded him of waking up at night hearing his mother's voice, as Jason is woken up in the text because he has heard his mother's voice. So we could say that information from the text is used in conjunction with personal experience. However, the reader goes on to infer from this that the tree is in Jason's bedroom so this inference is not helpful in building a workable mental model. The reader's world knowledge is not put to good use here. A good reader would realise that a tree is unlikely to be in the bedroom.

Not all of the other responses assigned to rating 2 were as difficult to score as this one since they showed no connection to the text at all. This one showed a very slight effect of the text, but was unaffected by the text in any other way and the inference made was due to memories of the reader's life experiences. Since rating 3 responses show evidence of attention to the text and/or attention to the illustrations and even inference making in response to the pictures, it was felt that 'wild' responses should be given a lower rating.

Some inferences might be thought of as 'wrong' yet still rate a '4' since it is the process we are attempting to measure rather than the product in column 4. However, to be accepted as a '4' an inference must lead to a defendable interpretation of the text in view of appropriate world knowledge rather than something that will result in a very garbled interpretation that cannot be defended. Workable inferences are all part of the process of successful reading because the good reader will change them in light of new information or after considering their viability. The mental model continuously changes as 'workable' inferences are changed as a result of careful monitoring.

Fortunately there were not many responses that fell into the category of a rating 2 response, and even fewer that presented problems, so it was not felt that any ambiguity in scoring such responses had much effect on the outcome.

Rating 3

Any response receiving an asterisk during transcription was rated as a 3, having shown evidence of being taken directly from the picture. Also any 'literal' repetition of the text as an answer would be scored here. A rating score of 3 does not record evidence of an inference being made from the text.

Rating 4

An implicit inference could be made by a young reader that would be seen as incorrect in a comprehension test and yet would show evidence that the child was making an inference using background knowledge and information from the text. Evidence of such efforts at making inferences received a rating of 4. Although this study probes for inferences that signal well-monitored mental model building, it also welcomes evidence that the reader is practising this skill and may, for idiosyncratic reasons, make what could be termed an incorrect inference. However, as long as this kind of inference showed the reader using background information and well-considered information from the text, this would be an acceptable, working inference. Any evidence that the process of making an inference has occurred whether or not it is on-line is considered acceptable. Such inferences are still accepted if they are made off-line at the point of replying to a question (the child needs to re-read the text to make a decision), or during the retelling.

Rating 5

If the child made an inference that would be seen as a 'correct' answer on a comprehension test he or she would receive a rating of 5.

The scoring system for ratings 3 to 5 is perhaps better understood through examples. Table 4.8 gives some possible responses to questions about Story A, showing the type of response that would be scored with each of the ratings 3, 4 and 5. In Table 4.9, we see the ratings given to FA2's answers to questions about this story. These answers were shown in Table 4.6 where the transcription was reproduced.

Table 4.9: Example of possible responses to questions

(Sample responses for Story A for columns 3 and 4 are provided as well as required responses for column 5. This information is provided for all 4 stories in Appendix 4.)

	3	4	5
2	on a bus trip/waving goodbye/ team mates	Playing soccer / watching a rugby game/ school sports	Playing / practising rugby
3	To meet girls/for a walk	To a rugby game / to school	Going home
4	he smiled at them / hair or face looked funny	His rugby shirt looks silly / they know he likes them / he's messy	He had mud on his face and hair/he was muddy
5	In front of him/by the road	Near his house or park/school gate	Outside his house / gate for his house
6	there's no such thing as fairies/his mum/Jonah	Yes. He heard it laugh	No - he's dreaming it because he was knocked out
7	Few details stereotypical - (unimaginative)	Small, male – not many details Female but very imaginative	Lots of details – tree-like, small, ugly, male - clothing
8	Under or in the tree /beside him / by sink if Q 9 didn't score 4 or 5	At home / in the house /near by (by tap if Q 9 didn't score 4 or 5)	In the kitchen or bathroom / by the tap or sink or in house if Q 9 did score 4 or 5
9	Looking at him/sky / being frightened /helping him	Looking out the window	Washing up/ doing dishes / making dinner or washing hands

10	He looked in the hole / walked into a tree	Hit tree and fell on the floor /lying on the ground	He walked into the tree and knocked himself out and fell down/dreaming
11	In the hole / in the road / by/at/in/near the tree	Outside or in his house / under the tree / lying down / in bed	On his back on the pavement outside his house /near gate /lying under tree
12	The tree branches were waving / bus sick	Excited / frightened by the tree fairy / banged into tree / fell	He'd been knocked out / stood up quickly / everything's strange / hurt
13	His mother/ the girls/mates / Lomu	The tree fairy	**He imagined the laughter because he's still not fully awake (difficult Q – in bold).**

Table 4.10: Example of scoring

Code Name: **FA2** Sch: 1b Tape: 1	Session: 1		Story A Second Reading	T & P 8y 0m	
	1	**2**	**3**	**4**	**5**
2					X
3					X
4				X	
5			X*		
6			X		
7	Removed				
8			X		
9			X		
10			X*		
11				X	
12				X	
13			X		
Totals	0	0	6/2*	3	2
Triggered memory of personal experiences – Y **N** – Comments: As before, pointed and showed me the picture to back up her answers for 5 and 10, otherwise answered quickly mostly without looking at the book.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

4.9.2 Checking of the scoring by an independent literacy expert

To ensure that the scoring system was applied consistently, a subset of the responses was scored by a colleague in another university. She based her scoring on the transcripts alone, and with no indication of what group the readers belonged to. The transcripts were presented to her in a random order. Asterisks (which it will be recalled indicated that the child was making reference to a picture for their response) were deleted from the transcriptions as were indications that adjustments had been made to original scoring on the basis of the child's retelling of the story. All information in the comments was removed. The colleague had had no input into the experiment and was trained to score using examples that were not among the subset scored by her. The training examples were ones that the researcher felt were not open to other interpretations. The entire set of responses was scored twice before being given to the colleague.

A random selection of 3 transcripts was taken from each of the two conditions for each of the four groups so that the total size of the selection was 24. This selection insured that 12.5% of the scorings were checked, covering an equal number of transcripts from each condition. The final choice of the 24 scorings checked can be found in Appendix 5.

The results of this checking were that 2 of the inferences previously rated as 4 were altered to 5. In addition, there were some 'wild' inferences that the author had accepted as workable inferences and given a rating of 4, even though they were not included in the set of expected inferences (as illustrated for instance in Table 4.8 for Story A). On the basis of the checking, the ratings for these responses were revised to 2. All of the 2112 ratings given by the author were subsequently checked for a third time and a total of 20 ratings (0.9% of the total) were changed.

4.10 Qualitative assessment

The data was also analysed qualitatively to determine if there were any differences in the way each reader responded in each condition. Insights into an individual

participant's reading experience and the processes he or she engaged in could be inferred from the nature of the responses.

4.11 Summary

The experimental component of this thesis was designed to try to provide insights into answers for the following four research questions: To what extent do beginner readers draw inferences from the pictures rather than the text when both are present? Is there any difference between male and female beginner readers as to how illustrations affect their ability to draw implicit inferences? If a picture is present, does it hinder a beginner difference poor reader to practise the skill of making inferences when trying to comprehend a text? Does a picture hinder the ability of a beginner "good" reader to perform this skill?

Forty-eight children from 4 schools took part in a repeated measures study, and were equally distributed across four groups, which in turn defined two between-subjects independent variables: good readers and poor readers, male and female. Each story was presented in two conditions: with and without pictures. Each child read 2 stories in one condition in the first session and the other 2 stories in the other condition in the second session. The order in which the stories were read was rotated across the children in each group. The children gave oral answers to questions designed to probe for evidence of inference making after each reading with books open and then re-told the stories with their books closed. The sessions were video-recorded and transcribed and the children's responses to the questions were rated according both to the nature of any text-related inferences revealed by the responses themselves and through the retelling; the scoring was independently checked. The responses were also assessed qualitatively.

Chapter 5 - Quantitative Results and Discussion

5.1 Measurements

The data was gathered to determine the degree to which the participants made inferences in response to narrative texts with and without pictures, as explained in Chapter 4. This was done in an attempt to test the hypothesis that the availability of pictures can hinder rather than help the development of the process of reading and that boys are more at risk than girls. In order to see if the data supported this hypothesis it was analysed using appropriate measures to help determine the following:

1. To what extent do 7 – 9 year old readers draw inferences from the pictures rather than the text when both are present?

2. Is there any difference between male and female readers of this age and in each of these reader groups in how the illustrations affect their ability to draw implicit inferences when reading narrative texts?

3. If a picture is present, does it hinder 7 – 9 year old difference poor readers (those who can decode text well but comprehend text poorly) in their attempts to incorporate general knowledge in their comprehension of a text, i.e. to draw 'implicit' inferences from the text?

4. If a picture is present, does it hinder a 7 – 9 year old good reader who usually comprehends well, to incorporate relevant general knowledge in his or her comprehension of a text, i.e. to draw 'implicit' inferences?

Table 5.1 shows the count of responses that were scored against each of the ratings for each reader group. As before, 'MA' indicates male good readers, 'MB' is male difference poor readers, and similarly for the female readers. 'T' indicates the text only reading condition and 'T&P' indicates text with pictures. The data in the table provided the input to Figure 5.1. Figure 5.1 is the summary bar chart of the percentages as represented by the numbers in Table 5.1.

11 inferences were sought for each story and there are 2 stories in each condition. So in each condition, the highest possible 'score' is 22 and the total for each group in each condition should be 264. The three totals shown in bold indicate where the researcher missed out questions unintentionally.

The total number of responses given in each of the five ratings for each of the four groups (MA, FA, MB, FB) was calculated in the 'text plus picture' condition (T & P) and in the 'text only' condition (T only). These results appear in rows 1 to 5 and were used to help determine the answers to all four Research Questions.

Table 5.1: Total of results for each group in each of the 2 conditions.

Ratings	MA T	MA T&P	FA T	FA T&P	MB T	MB T& P	FB T	FB T&P
5	116	99	106	89	80	53	69	66
4	65	67	92	68	77	50	55	81
3	69	84	59	96	82	115	93	96
2	2	3	4	7	11	16	19	3
1	10	10	3	4	13	30	28	18
Totals	**262**	**263**	264	264	**263**	264	264	264

The ratings of 1 – 5 are points along a continuum, similar to a response series on a Likert scale:

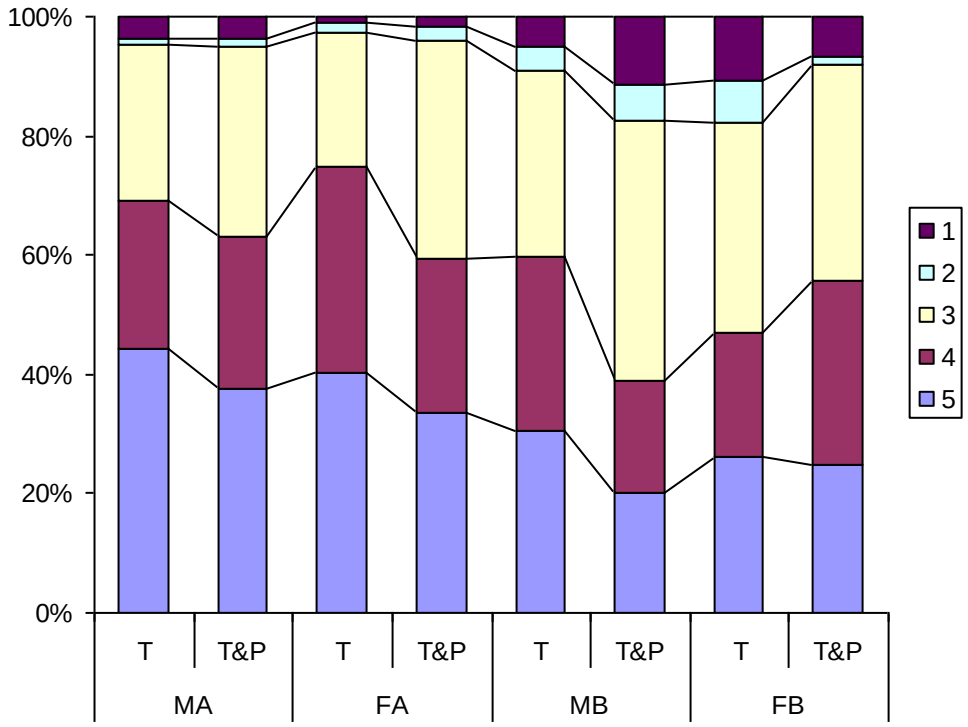
- a rating of 5 shows that a well-monitored inference was made;
- a rating of 4 shows that information from the text was used to make an inference but the process was not monitored well;
- a rating of 3 shows that there was no evidence of an inference made using information from the text (the response might have shown that an inference was made from the picture, or information was taken from the text and repeated verbatim, or that information was taken from 'general' appropriate background knowledge but showed no reference to the text);
- a rating of 2 shows that either inappropriate background knowledge warped the making of a mental model to such an extent that the inference was totally unworkable and would lead to a major misunderstanding of the story, or that the answer showed no connection to the text or the picture;
- a rating of 1 was simply 'no answer'.

In summary: 5 = well-monitored inference made from the text; 4 = workable inference made from the text; 3 = answer that provides no evidence of inference-making from information in the text; 2 = wild answer leading reader astray from an understanding that bears any resemblance to the story; 1= no answer.

The counts of responses in each score category (1-5, see figure 5.1) were entered as the dependent variable into a hierarchical loglinear analysis (Hays, 1981: 561-6). The independent variables were Sex (male or female), Reading Ability (good or difference-poor), Condition (text only, T, or text with pictures, T&P) and Score category (1-5). The findings of interest are the interactions of other variables with Score, since such interactions would indicate that the other variables affected the allocation of the students' responses to the five Score categories. The analysis was performed using the glm function in the R statistical programme (R Project, 1993).

Likelihood ratio chi-square values (G^2) were calculated, to determine whether there were significant differences between observed and expected frequencies.

Figure 5.1: Scores in categories as % of scores given to that group



The statistical analysis showed the following significant effects :

1. a significant main effect of Reading Ability (the interaction of Reading Ability and Score gave a G^2 value of 65.23, df:30, $p<0.001$)

2. a significant main effect of Condition (the interaction of Condition with Score gave a G^2 value of 7.75, df:29, $p=0.01$)

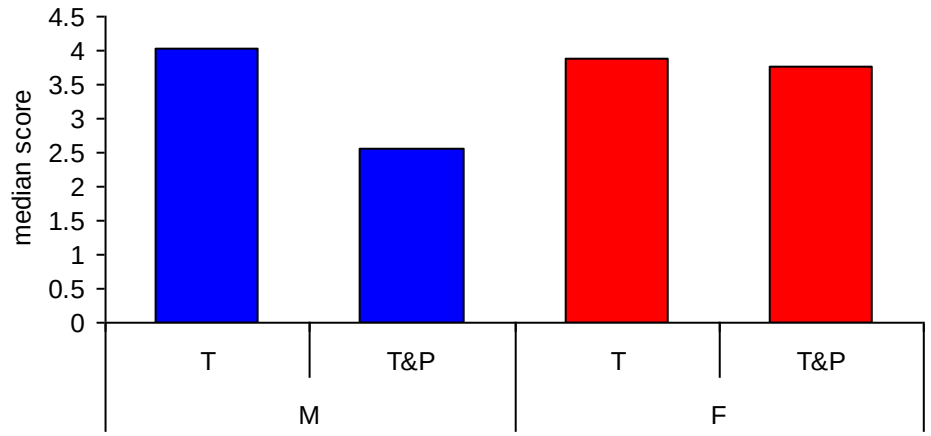
3. a significant interaction of Sex and Condition (the interaction of Score with Sex and Condition gave a G^2 value of 6.46, df:26, $p=0.01$)

4. a significant three-way interaction of Sex, Condition and Reading Ability (the interaction of Score with Sex, Condition and Reading Ability gave a G^2 value of 10.46, df:24, $p<0.001$)

In the following paragraphs, these effects will be further explored, starting with the interactions before moving on to the main effects. In all cases, the results will be illustrated using median rating values, since these are the best measure of central tendency for the ordinal data.

There was a statistically significant interaction between Sex and Condition. Clearly males show an overall Condition effect with higher median ratings in the text only (T) condition than in the condition that included pictures (T&P). This effect is absent in the overall data for the female readers. The overall pattern of median ratings shown in Figure 5.2 below suggests that the male readers experience a negative impact of the presence of pictures, while the females do not – the median rating for the males in the 'T only' condition is comparable to the medians for the females in both conditions.

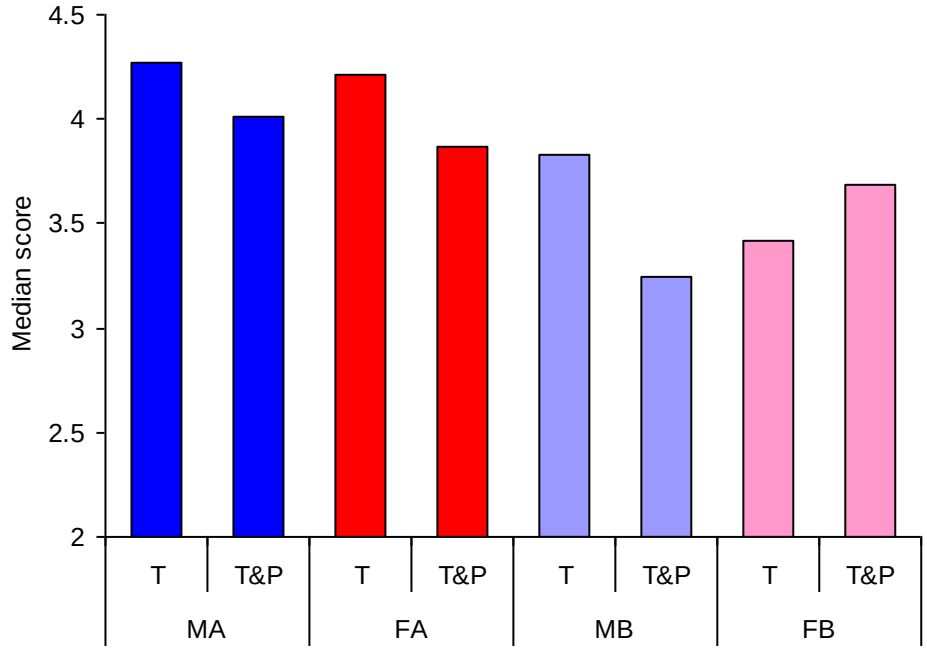
Figure 5.2: The interaction of Sex and Condition



Note, however, that the 2-way interaction hides the different impact of Condition on the two female groups that is visible in the 3-way interaction below in Figure 5.3.

The three-way interaction of Sex, Condition and Reading Ability is illustrated in Figure 5.3. This shows how the three-way interaction arises primarily because of the result for the female difference poor readers. Unlike the other three reader groups, these female difference poor readers have a higher median rating – i.e. appear to be making stronger inferences – in the 'T & P' condition than in the 'T only' condition.

Figure 5.3: 3-way interaction of Sex, Condition and Reading Ability



The statistical analysis showed main effects for Reading ability and for Condition. The effect for Reading Ability is that there is a higher median rating for good readers (their median is 4.10, for poor readers it is 3.51). The effect for Condition is that there is a higher median rating for text alone (3.96) than for text and pictures (3.67).

Reading Ability is a statistically significant factor in the number of inferences that readers produced from the stories. In total, poor readers produced significantly fewer inferences than good readers.

Condition is similarly a statistically significant factor in the number of inferences that readers produced from the stories. In total, readers produced significantly more inferences in the 'T only' condition than in the 'T & P' condition.

Table 5.2 below shows the results for additional information that was sought from the participants' responses:

- 'Refers to Picture' indicates the number of times direct evidence was provided to show a reader used the picture/s rather than the text

- ‘Familiar Context’ indicates the number of times a reader said that the story reminded him or her of something from his or her own life in replying to the first question after each reading.

Table 5.2: Results for the Additional Information

	MA T	MA T&P	FA T	FA T&P	MB T	MB T& P	FB T	FB T&P
Refers to Picture	N/A	4	N/A	14	N/A	20	N/A	6
Familiar Context	13	7	14	12	8	9	3	11

5.2 Discussion of quantitative data

Overall the results support the hypothesis that the availability of pictures can hinder rather than help the development of the process of reading and that boys are more at risk than girls. In the following sections, the extent to which the data can be seen to answer each of the Research Questions will be considered.

5.2.1 A note in regard to Research Question 2

This question was posed in anticipation of finding evidence of across-the-board sex differences with respect to the effect of pictures on the readers’ ability to draw inferences. The results indicate, however, that sex differences also need to be discussed when answering questions 3 and 4. That is, the statistical analysis showed that Sex entered a three-way interaction that involved not only Condition (presence or absence of pictures) but also Reading Ability. Therefore, the following presentation of how the results relate to each of the research questions will include a consideration of Sex differences.

5.2.2 The effect of pictures on drawing inferences when reading (Research Question 1)

As explained in Chapter 4, the comment 'Refers to Picture' was included on the scoring sheet if the reader made it obvious that he or she had used the information in the picture to answer the question. Readers might remember a picture and use that in the answer, but 'proof' of this was needed in order for the answer to be counted here. If, for example, the participant mentioned objects that were in the picture but not mentioned in the text (i.e. the dog in Story A), then this would be scored as 'Refers to Picture'. The number of asterisks in column 3 - which indicated reference to a picture and is, therefore, only found in the T & P condition and only in column 3 - were totaled for each group. Only one asterisk can appear for each question even though the participant might make several references to the picture or to several pictures. The score indicates that one or more of the pictures were the source of the answer rather than the text.

In regard to MB readers, MB6 accounted for 14 of the 20 instances where reference was made to the picture. Although the FA readers also made a relatively high number of inferences to the pictures, this was more evenly distributed across the readers, with no one reader accounting for a large proportion of these references.

Overall we can see that if pictures were present, the evidence that the readers actually drew inferences from them rather than from information in the text was not large. Even for the group (MB) with the largest number of observed cases of reference being made to the pictures, these amounted to only 20 from a possible total of 264 (this being the number of responses to the questions – 22 questions for each of 12 readers in the group). For the entire set of 48 readers, only 44 observed references were made to the pictures in answering 1055 questions (a rate of 4.2%). However, it can be seen from the responses of MB6, that certain individuals may rely on the pictures to an unusually great extent, probably to the detriment of their reliance on information from the text. (MB6's rate of referring to the pictures was 14 times for 22 questions, or 63.6%.)

It was predicted (Chapter 4) that readers would draw inferences from the pictures rather than the text. Although this did happen, it did not happen to any great extent for any group. It was also expected that the male difference poor readers would show the greatest tendency to do this. This was borne out to a certain extent. The findings showed that individual male difference poor readers were particularly susceptible to drawing inferences from pictures but that as a whole group they did not show this tendency as much as the female good readers.

5.2.3 Sex differences in how illustrations affect the ability to draw inferences when reading (Research Question 2)

As shown in Figure 5.2, the presence or absence of pictures had a noticeable effect on whether or not the male readers made inferences when reading. They made inferences far more often and more successfully when they read without pictures. Figure 5.2, however, as mentioned above, shows that there is no noticeable effect of condition on whether or not the females made inferences. Nevertheless, if we look at female good readers as one group and female difference poor readers as a separate group, it can be seen that the condition does have an effect that is hidden when we consider all the females together. This is shown in Figure 5.3. Whereas the female good readers show a result similar to that shown by all the male readers, the female difference poor readers do not. They make more inferences when pictures are present. So the sex difference in regard to the female readers seems to depend on the ability of these readers.

Insight into sex differences can also be gleaned from the numbers of readers who answered the first question (Does this story remind you of anything from your own life?). This is shown in Table 5.2 in the row labeled ‘Familiar Context’. Since making inferences depends on using not only information from the text but also appropriate background knowledge, this question was asked to provide some insight into whether or not background knowledge had been accessed consciously by the reader remembering a particular past experience. The number of readers who were reminded of events in their own lives was tallied for each group in each condition in

order to help provide insight into the extent such personal experiences were triggered. Since the use of background information is part of the process of making an inference, this needs to be practised when children are learning to read. Evidence was being sought here for young readers using personal memories less frequently when a picture provided information. Each reader had 2 chances to relate past experiences in each condition – one per story – so there were 24 chances for each group in each condition.

Table 5.2 shows that the male good readers were almost twice as likely to be reminded of past experiences when there were no pictures. The rate was 54% in the 'T only' condition as opposed to 29% in the 'T & P' condition. In contrast, the female difference poor readers were almost 4 times more likely to be reminded if there were pictures. The rate for them was 13% in the 'T only' condition but 46% in the 'T & P' condition. The female good readers were almost as likely to be reminded of personal experiences in one condition as the other, the rate being 58% in the 'T only' condition and 50% in the 'T & P' condition. Similarly, the male difference poor readers were also equally likely to recall personal experiences in either condition but at a rate lower than that shown by the FA readers. The rate for the MB readers was 33% in the 'T only' condition and 38% in the 'T & P' condition. Therefore, the results of this tally indicated that the male good readers were the most likely to have their activation of this sort of background knowledge negatively affected by pictures, their rate of 29% being the lowest rate of any of the readers in either condition except for the female difference poor readers in the 'T only' condition.

In summary, then, the male good readers in the 'T only' condition had results comparable to the female good readers in both conditions. However when the male good readers had the 'T & P' condition, their tally dipped considerably. The male good readers and the female difference poor readers seemed most affected by the condition when it came to recalling past experiences. Whereas the pictures seemed to have a negative effect on the male good readers they had a positive effect on the female difference poor readers.

It was predicted (Chapter 4) that the females would score more highly on inference making based on the text when reading in the 'T & P' condition than would the males. While the results as shown in Figure 5.2 bears this out, the situation is not as straightforward as anticipated. If we consider the female good readers, it can be seen that they do not score more highly than the male good readers (Figure 5.3) and on their own do not fulfill the prediction. It was also predicted that this difference would be more pronounced between the male and female difference poor readers than between the male and female good readers and figure 5.3 shows this to be the case. The condition does have more of an effect on the difference poor readers even though the effect on the females is the opposite of that which was predicted.

Although the research questions were framed against a background of concern for the effect of illustrations on male difference poor readers, these findings indicate that perhaps female difference poor readers may also be affected although for different reasons and in different ways. Until more is understood about the differences between male and female brains at this age, it can only be a matter of speculation as to why this may be the case. However, the difference poor female readers did seem more likely to have more confidence about making inferences if there were pictures. The level of their inability to attempt an answer when there were no pictures was much lower than that of the male difference poor readers. This indicates that their needs might be at least as great as the needs of the males and perhaps even greater. It also indicates that remedial action for the males would need to take these differences into account.

5.2.4 Difference poor readers and the effect of illustrations on drawing inferences during reading (Research Question 3)

Considering the results as shown in Figures 5.1 and 5.3, the effects of Sex, as discussed in Section 5.2, cannot be ignored when answering this question. An interaction was found between Reading Ability and Condition, but Sex also entered into this interaction, making it a three-way interaction so this question will be answered with this in mind.

Male difference poor readers did not seem to be helped to understand better by the presence of pictures. Since they made considerably more inferences rated '5' (well-monitored) in the 'T only' condition the results clearly indicate that male difference poor readers did comprehend more successfully when reading in the 'T only' condition. Pictures did not help them make more 'workable' inferences, either. Also they were far more likely to make literal replies when pictures were present – that is, they did not make an inference but simply chose words directly from the text to answer the question even though an inference was required and the question could not be answered well by simply repeating the text. There was also a greater tendency to be unable to answer at all if there were pictures – rating 1. Their tendency to make inferences that showed no connection to the text – rating 2 - was slightly higher when pictures were present but this effect was not as noticeable as the effect of the pictures on all the other ratings given.

While the presence of pictures makes little difference to the count of responses from female difference poor readers that were rated as 1 and 5, they do make a considerable difference to the responses from the same readers that were rated 4. From these results it would seem that pictures helped the female difference poor readers to make workable inferences and so to practise this skill, and this helps to answer the question of how much pictures hindered difference poor readers' ability to make inferences – in the case of these female readers the pictures do not seem to be a hindrance. However, pictures did not seem to make a difference as far as successful comprehension was concerned so it cannot be said that they either helped or hindered in this regard. The female difference poor readers seemed equally able to make a 'good' mental model in either condition.

Contrary to expectations expressed in the prediction for the answer to this question (Chapter 4) the difference poor readers were quite able to draw inferences in the 'T only' condition. However, once again sex needs to be considered. The male difference poor readers showed a surprisingly good ability to draw inferences when there were no pictures to an extent not shown by the females. The implications of this were discussed above in section 5.2.3. It was also anticipated that inferences in the 'T & P' condition would be drawn from the pictures, not the text. This did not occur to

any significant extent. The result defied the prediction in two respects. The ability of difference poor readers to draw inferences in the ‘T only’ condition was better than anticipated although this was most marked for the males. Also, neither males nor females, as a group, made much reference to the pictures and even fewer made inferences from them. Even the males who showed most reliance on the pictures mainly referred to them but did not show that they used them to make inferences to any great extent.

The predicted situation was that these readers would show an inability to make inferences in order to answer the questions when faced with text on its own, but when using illustrated texts they would use information from the pictures to make inferences in order to answer the questions. What the findings show, however, is that the difference poor readers could make inferences to answer the questions when they had text only but could not do this as well when pictures were present. Contrary to expectations, this was not due to the fact that they substituted making inferences from the pictures for making inferences from the text. Also the results do not support the following idea: that they did not know how to make inferences from the text but were well practised at making inferences from the pictures.

5.2.5 Good readers and the effect of illustrations on drawing inferences during reading (Research Question 4)

Table 5.1, and Figures 5.1 and 5.3 show that the presence of illustrations has a noticeably negative effect on the ability of good readers to make inferences. Once again, however, Sex cannot be left out when answering Question 4.

If we consider the results for the rows labeled 1 to 5 in Table 5.1, and Figures 5.1 and 5.2, we can see that female good readers show similar results to male good readers except they seem noticeably more able to make ‘workable’ inferences, rated ‘4’, in the ‘T only’ condition than when they are in the ‘T & P’ condition. There is also a very slight increase in their tendency to make inferences that show no relation to the text at all, rated as ‘2’, when in the ‘T & P’ condition.

Male good readers were able to comprehend more successfully when reading in the 'T only' condition as evidenced by the number of inferences rated '5'. The presence or absence of pictures had little effect on their ability to make 'workable' inferences. Also the male good readers are more likely to be satisfied with extracting literal information only when in the 'T & P' condition. The results also demonstrate that there was no difference in either condition as far as ratings 1 and 2 were concerned for male good readers.

Female good readers demonstrated more susceptibility to the influence of the pictures than did the male good readers. The results indicate that the presence of pictures affected their ability to make inferences per se, both workable and well-monitored (ratings 4 + 5). Whereas, as shown on Figure 5.1, the males drop from approximately 70% in the 'T only' to 65% in the 'T & P' condition, the females dropped from approximately 75% to 60% in the same condition.

It was predicted that among the good readers (Chapter 4) more inferences would be made in the 'T only' condition than in the 'T & P' condition. However it was expected that this would not be as great an effect as it would be with the difference poor readers. This prediction was borne out by the results as can be seen in Figures 5.1 and 5.3. Also it was expected that the presence of the pictures would result in some inferences being drawn from the pictures rather than the text. Evidence for this, however, was slight (Table 5.2). For the males it is virtually negligible. As a group, the good female readers were more prone to examining the pictures in order to answer questions and pointing to them and holding them up when using them to answer questions. Yet, even so, they did not use the pictures to any significant extent.

5.3 Summary

An analysis of the data provided evidence in support of the hypothesis that the availability of pictures can hinder rather than help the development of the process of reading and that boys are more at risk than girls. However, female difference poor readers considered separately may either be equally at risk or even more at risk. Counts of scores by Sex, Reading Ability and Condition were entered into a hierarchical loglinear analysis which demonstrated a significant main effect of

Reading Ability and Condition; a significant interaction of Sex and Condition and a significant three-way interaction of Sex, Condition and Reading Ability. These results provided answers to Research Questions 2, 3 and 4 and showed, unexpectedly, that Sex needed to be considered in answering all of these questions.

It was expected that the answer to Research Question 1 would be that pictures provide the source of information for making an inference instead of information from the text. However, this was not found to happen to any great extent. The ability to make an inference using the text was hindered when pictures were present but the nature of this hindrance was not mainly due to using information in the picture in preference to information in the text. Also the results indicated that female difference poor readers demonstrated a greater ability to make inferences in the 'T & P' condition.

Chapter 6 - Qualitative Results and Discussion

6.1 Introduction

Although the quantitative data supports the hypothesis that pictures have a negative effect on the development of the process of reading, especially for boys, it did so on the basis that making inferences is key to the process of comprehension: Fewer inferences will lead to less successful attempts at understanding a text. In other words, anything that leads to a learner making fewer inferences interferes with that learner practising the correct process if competent reading of text without illustrations is the aim. Not practising the correct integration of the skills required must affect the development of those skills. However, a qualitative consideration of the readers' responses can provide insights into the nature of the interference and show why and how pictures affect inference making and these insights can also be used to help test the hypothesis.

This chapter will present qualitative analyses of the data but will limit this to the responses made by examples drawn from the difference poor readers. After a full qualitative analysis of all the readers it was found that they showed similar patterns. It seems that the male difference poor readers are most at risk because the presence of pictures hinders them to a greater degree than it hinders the good readers, but the hindrance is of the same kind. Also it was found in the quantitative analysis that the 3-way interaction of Sex, Condition and Reading Ability was due primarily to the different behaviour of the female vs. male difference poor readers so a sample of the responses of the female difference poor readers will also be examined. The findings, and the discussion of them, are presented together for each of the selected readers.

The focus of this chapter will be on answering Research Question 3 more fully than was done in the previous chapter by providing an insight into the nature of the hindrance:

> If a picture is present, does it hinder 7 – 9 year old difference poor readers (those who can decode text well but comprehend text poorly) in their attempts to

incorporate general knowledge in their comprehension of a text, i.e. to draw 'implicit' inferences from the text?

In Chapter 5 it was shown that the answer to this question was 'yes'. In this chapter we will find out the 'how' and the 'why'.

Before the study was conducted, it was assumed, as can be seen by Research Question 1, that pictures hindered a learner from making an inference from the text because the learner would shift attention to the pictures and use the information found there to make inferences. It was predicted that evidence of this would be found. From the quantitative measures, however, it was found that although a few did show a tendency to do this, and some were very prone to it, overall this did not seem to account for the negative effect that pictures had on the ability of these readers to draw inferences from the text. Since 'distraction' does not seem to be the main explanation for the effect of pictures, this chapter will try to discern more about the nature of this effect by looking carefully at individual responses.

We will consider the male difference poor readers first, starting with a sample of boys who stood out as being particularly hindered by the presence of pictures. Among other effects, they showed enhanced engagement without pictures. This is of particular interest since teachers typically consider that the pictures provide motivation for boys whom their teachers think will find a page of text daunting and/or visually boring and so will not engage the readers' attention. The illustrations are considered to be stimulating for the imagination and helpful in that they provide examples of the sort of mental model that these boys need to try to make.

The analysis of the responses of the male difference poor readers, however, shows that it is in the 'T only' condition that many of them demonstrate a higher level of motivation when building their own mental models. They demonstrate this by the increased levels of detail and enjoyment provided in their responses. They also provide evidence that other aspects of mental models besides visual imagery are more likely to be created by these readers when there are no pictures. So the

responses from the difference poor readers provide evidence to support the argument for not using pictures to help them learn to read.

Other effects that show how pictures hinder the boys from making mental models were also found and these will be dealt with next and include such things as memory and linguistic ability. Following this, the reasons that the female difference poor readers presented a different pattern of results that were not predicted will be investigated.

6.2 Negative effects of reading with pictures

These negative effects are going to be demonstrated by taking a closer look at three male difference poor readers who seemed particularly vulnerable. MB6, MB7 and MB11 show quite clearly, in the 'T only' condition, when compared to the 'T & P' condition, the following:

- higher levels of interest and enjoyment,
- more imaginative responses,
- more accurate responses, and
- more use of their background knowledge.

The full transcripts of their responses can be found in Appendix 8.

If it is accepted that the introduction of a picture into the process of reading comprehension changes that process, is it possible that the negative effect of that change is serious enough to outweigh the benefits that the picture might bring to learning to read?

The purpose of this study was to show that there was a group who were particularly at risk from the use of illustrations when it came to learning to make inferences and practising this skill – and that group was the male difference poor readers. The degree to which pictures affected the good readers was not predicted and came as a surprise.

Nevertheless, the good readers do not need the pictures; they have already developed the skills needed to make reliable mental models from text. It is the difference poor readers who are seen as needing to be motivated and helped to make a meaning by being given the pictures. The good readers will soon be reading text without pictures but the difference poor readers will be given remedial material where pictures are seen as indispensable. Pictures are used with them to motivate and to show examples of good visual interpretations of the text. The motivation of illustrations is seen as coming in at least two ways - through providing attractive learning material as well as helping with comprehension so that the reader does not suffer from frustration if the meaning of the text eludes him or her. The idea is that the pictures make reading an easier, and therefore more enjoyable, activity.

If we look carefully at the responses of some of the male difference poor readers do we see evidence that pictures are needed to motivate them? In other words, do they show signs that reading text without illustrations is boring for them and so they make little effort to understand it or to make a mental model for it by putting in the effort required for making inferences? Do we see evidence that pictures are needed to 'spark' their imaginations? Also, do we see evidence that these readers are somehow unable to make a mental model without the example provided by the picture?

6.2.1 MB6

Male difference poor reader MB6 is a clear example of a reader who showed a greater level of engagement with the text when it was not accompanied by pictures. MB6 read stories C and A in the 'T & P' condition in his first session; in his second session he read stories D and B. It might be the case that in his second session MB6 was more comfortable in the task and that the absence of pictures was coincidental. However, this reasoning could not be used for the other 2 readers in this set – MB7 and MB11 – who had the 'T only' condition first.

Here is MB6's retelling of Story C read in the 'T&P' condition:

"There was a mouse and there was a boy and a girl and there was an aunt and uncle and there was a piece of cheese and there was a computer and there was a bed and

there was books and there was wooden walls and there was a chair and table and there was pajamas and slippers and hair brush and curlers and stuff."
(The researcher than asked, "Can you do one more for me?" meaning read one more story but he misinterpreted the researcher's meaning and added one more item that he'd already mentioned.)

"And there was a table."

Here is MB6's retelling of Story A, also read in the 'T & P' condition:

"There was a cat there was a dog there was girls there was a school bus and a car there was houses there was a tree there was a cat there was a bush there was a farm there was a gate there was – and there was of course Jason."

Here is MB6's retelling of Story D in the 'T only' condition:

"Well, Karen had to make the tea and there was a moose and her mum and dad were in the house while they were sleeping in the tent."

And, finally, his retelling of Story B also in the 'T only' condition:

"There was a mermaid and Finn got hurt and his bucket got washed away and they made a sandcastle and their mum waved a towel and Finn said, 'There's a shark' - and Josh was swimming in the water and Finn wants to go back on the sand."

In the 'T & P' condition, MB6 went through the process of looking carefully at the pictures and remembering the items depicted in them. This is certainly one kind of skill, but it is not the kind of skill needed to comprehend text by making knowledge-based inferences using linguistic information from the text and relevant information from other sources and in the creation of a well-monitored mental model.

MB6 showed that he had made an inference – and a rather good one – in his retelling of Story D in the 'T only' condition. The mother and father are somewhere else nearby and they are together. Not all of the good readers made this inference.

In his retelling of Story B, also in the ‘T only’ condition, he made an elaborative spatial inference – that the bucket got washed away, a detail that is not made explicit in the text. Since Finn drops his bucket by the rock pool just as a wave is breaking and before another wave arrives, this seems a good inference to make as to the fate of the bucket.

In the absence of pictures, MB6 showed that he uses his own background knowledge to a greater extent. He does not monitor this use well but guidance at this and practice at doing this would be the best way to bring on this skill. A picture cannot show MB6 how to suppress aspects of his own experiences that are not appropriate in the context of the story. As the pictures become the focus for the ‘meaning’ of the story, so do his own memories when there are no pictures. He has learnt to ‘trust’ the pictures, perhaps, but needs to learn that his own memories need more careful monitoring.

When asked, after reading Story B in the ‘T only’ condition, “What do you think their mother was planning to do at the beginning?” He replied, “Their mum wanted to take them to the aquarium.”

At the end of the session, the researcher decided to probe for the reasons for this answer and her remarks are in italics. Here is the conversation:

“Have you ever been to an aquarium?”

(Nods)

“*Have you seen a shark?”*

(Nods)

“*Where was that? Was it in Wellington?”*

(A name of a place - indistinct) “It’s in Auckland.”

“Did you drive all the way to Auckland?”

“No we were on holiday last year or the year before.”

“Was it a big shark - did you see?”

“They were small shark - saw a leopard shark.”

“I’ve never seen a big shark. Well, thank you…”

“Oh, and I went to Sea World in Australia which had a huge shark.”

“Frightening. How close were you to the shark?”

“Real close. We were between glass. Then there were rockfish. It looks like a rock but if you step on it, it will go for your boot.”

“Will it! Is it dangerous?”

“It’s poisonous”

“Will it kill you?”

“Yes.”

The fact that his mother has often taken him to aquariums when they are on holiday is a potent memory and so he inferred that the mother in the story was going to do the same thing.

The inference that Finn wants to go back on the sand, revealed in the retelling, is also a good example of past experiences and world knowledge working together with the text but not in a way that is as well-monitored as it should be. It is likely that this response owed more to MB6’s experiences with sharks (elaborated on in the conversation above) than it did to the text. MB6 probably made the well-monitored inference that Finn is afraid that the tail they can see is a shark’s tail, so it seems reasonable to MB6 to assume that Finn would want to go back on the sand. Nevertheless, although this particular inference is not an inference that reflects a careful reading of the text, it does reveal that MB6 has a good mental model of the setting – that the boys have left the beach and gone onto the rocks and now one of

them wants to go back on the sand. Apart from the mention of a sandcastle at the beginning there is no other mention in the text of them being on a beach or on the sand. MB6 slotted in an appropriate beach scenario where there are rocks and sand. He made the necessary elaborative inferences to create the setting in his mental model.

This is the sort of reading experience that MB6 needs if he is ever to improve his ability to comprehend texts. He seems to have a qualitatively different experience when he reads text accompanied by pictures; it is an experience that does not owe much to the use of his own knowledge. While some of the male difference poor readers made almost as many inferences in the 'T only' condition as the male good readers did in the 'T & P' condition, MB6 is not one of them. However, in the 'T only' condition he showed the potential to reach this level as he demonstrated that he can make inferences. All he needs is more practice and guidance in regard to monitoring. Unfortunately, as he is perceived as being poor at comprehension, it is most likely that he will be given typical remedial reading material - material with plenty of illustrations - in the hope that the pictures will help him learn how to make accurate mental models and so better understand the text. However, the process he engages in when he has pictures is quite different from the process he engages in when he does not have pictures and it is clear that more practice in the skills required for improving in the former will not result in better expertise in the latter.

6.2.2 MB7

MB7 showed similar tendencies to MB6. His retelling of a story in the 'T & P' condition was more like a list of things, and he was more coherent when he retold the story after reading in the 'T only' condition. He made more of the well-monitored inferences in this condition than MB6 did. However, the differences in the processes he engaged in when reading in each condition became most apparent in his retelling. Also he needs to practise monitoring how he uses stereotypical background knowledge as it often leads him astray in his search for meaning. This is seen particularly in his responses to Story A (read in the 'T only' condition).

Here are his retellings of stories C and D read in the 'T & P' condition.

Story C:

“It was about a boy and a girl – auntie – a TV – a commercial and that’s really all.”

Story D:

“There was a moose and it was brown and had antlers and Emma and the other girl – they were in a tent and they were sleeping. Emma got up and yelled and stuff.”

These retellings are strikingly unlike the retellings for stories A and B read in the ‘T only’ condition.

Story A:

“Well, Jason was saying good-bye to his mum and he went to the bus stop to get on the bus so he went to school and his mum was going past him maybe to shop and he was up in a tree climbing and she saw him and she didn’t want him to get hurt and she said, ‘Get down’ and – yeah.”

Story B:

“They went to the beach with Josh and Finn were looking in rock pools and they found a mermaid and she was swimming around and stuff and the bucket was by there and he was going to pick up some crabs and stuff but he left it there and that’s why I remember it.”

When retelling Story A in the ‘T only’ condition, MB7 monitored poorly but he did make a mental model based on information in the text and the integration of background knowledge. He needs to learn to monitor more closely by paying closer attention to the text, and by not allowing himself to get as sidetracked as he is by his own experiences. This is simply a case of practising his monitoring skills since he demonstrated that he has the ability to engage in the basic process of making an inference. He needs to learn to use the information from the text more and he needs to learn to appreciate that he can change the mental model he is building as much as is necessary to gain a good comprehension of what the writer intended.

When retelling Story B in the 'T only' condition, MB7's memories of collecting crabs came into this retelling. When he was asked if he was reminded of anything in his own life by the story, he replied:

"Yes – my dad and I going to the beach and looking at the rock pools."

Researcher: "Did you find anything exciting in the rock pools?"

"I found a big crab."

A memory of his own experience helped his comprehension of the text because it helped him to focus on elements such as the bucket and it helped him to understand what happened – i.e. MB7 is worried that the bucket got left there whereas other readers who may not have collected things in buckets by rock pools might ignore this detail. He showed some awareness of his own mental processes when he said, '…and that's why I remember it'. MB7 seemed to realise that his own experiences contributed to his ability to remember what he had read by helping him to identify with what was happening in the story. More of the male difference poor readers need to realise this. Nevertheless, MB7 shows that he does need to practise his monitoring skills.

When answering the questions for Story B, he added a few details. For example he made an elaborative inference when he said that the mermaid had 'human skin'. This helps to explain why, in the story, Finn thought it was the hand and arm of his brother that he had grabbed while under water. Other similarly good inferences show that MB7 used his imagination and constructed a mental model using world knowledge in addition to the information contained in the text. Nevertheless, although he demonstrated that he could do this in the 'T only' condition, he also showed he needs more practice because his monitoring is poor in terms of using textual clues. However, the evidence indicates that he is able to construct the sort of mental model needed for good comprehension. Not only that, but he seems aware of the process.

6.2.3 MB11

In his first session, MB11 made 11 inferences when reading Story A and 10 inferences when reading Story D in the 'T only' condition and in his second session he made 7 inferences when reading Story B and 5 inferences when reading Story C in the 'T & P' condition. From his answers to the questions, MB11 seems to be a reader whose ability to make inferences and so construct mental models out of information from the text blended with background information and memories of personal experiences is adversely affected by pictures. He also seems to be a reader who can make knowledge-based inferences well in either condition and in this respect his retellings of the stories demonstrated this more than did his answers to the questions. Nevertheless, his retellings in the 'T only' condition had an enthusiasm that was lacking when he retold in the 'T & P' condition as will be discussed below.

MB11 tried very hard to communicate not only what he was seeing in his head by using gestures but he also tried to communicate what he thought the characters in the stories might be feeling, smelling and hearing; he made appropriate sound effects while trying to 'sketch' the scene in the air. He also tried to show how he thought the characters were feeling and behaving – including facial expressions, tone of voice, gestures and body movements (swaying and shivering). When he read Story D in the 'T only' condition he indicated that he was aware of his imagination, at one point saying 'I imagine'. His mental model seems to be very detailed and 'animated' – not a static mental model but one similar to a video clip that involves participating in emotions and sensual experiences. When asked why the girls thought the moose was a horse he gave the best answer of all the readers and really tried to communicate what was happening at the time:

"Because she had to be like – say over here's like the tent she just goes (ducks head down as if looking out at the bottom of flap) like that and sees a mouth and it looks like a – it looks like – well, it is a camel's nose – but it looks like a horse's nose – and she didn't see it fully."

He moved around and mimed the scene of the girl lifting the tent flap in order to help show that she had a restricted view and thought the moose (he remembers it as a

camel) was a horse. (A camel is a good substitute – equally foreign to New Zealand and as unlikely to show up at a camping ground. Perhaps he was able to picture a camel more easily than a moose.)

If we look at the retellings for stories A and D that he has read in the 'T only' condition we notice a vibrancy and an immediacy in his language, in his gestures and in his re-enactment. He made his retellings quite dramatic. His engagement was muted and less detailed when he retold stories B and C read in the 'T & P' condition. For example, after reading Story D he inferred how the characters feel – i.e. 'ashamed'.

MB11 retelling Story D read in 'T only' condition:

"Well they first – they – at the start she was walking up the hill – probably like a hill – with her buckets – two like, maybe two buckets or just one like this full of water (holds up imaginary bucket) and then – and then when she got there she heard the – she went in and then woke up Emma and then they heard a (makes slurping noise) so she poked out her head and saw and thought it was a horse but it was a camel and then poked her head out fully and thought it was like (yelling in high-pitched voice) 'Dangerous! Dangerous!' and then, 'Is it dangerous?' and like her - and then it started slurping and then it started coughing (makes coughing noise) and then her dad came out and goes, (mimics a man's voice) 'I'm so disappointed in you! You scared your mother and there are no camels and you made me get out of here! There are no camels in New Zealand!' And then she felt ashamed and had to go down and get another bucket of water."

Before he retold the story, he answered the questions and when asked what the girls heard the moose doing outside the tent he did not say it was drinking their water, he said:

"Well, they heard it going (makes sucking noise) at first and later on it starts going (makes coughing noise)."

"OK – what was that first noise then?"

"Slurping."

"Why was it doing that?"

"I think it could smell breakfast."

This is a good workable inference but does not take into account the fact that the bucket is empty at the end. It is a good use of background knowledge from the text – the girls are hungry and it is morning so breakfast might be cooking already. However, his memory of the text is so vivid that when the final question is asked (What does Karen have to do now?) he replies:

"At the end they said 'Go back…' – oh, well she's like ashamed cause, like, there was a camel but she didn't see it and then they were yelling at her and she has to go get another bucket of water. Because probably they didn't have enough or maybe the camel drank it when it was going (makes slurping noises) slurping."

We see him re-thinking his mental model and making an evaluative knowledge-based inference to explain why the bucket was empty. This is based on information from the text about the bucket being empty at the end and about the 'moose' making slurping noises earlier in the story outside the tent, where Karen had left the bucket full of water at the beginning of the story. This provides a good example of the dynamic nature of comprehension and of how a reader can moderate the process while aiming for accuracy. Only after the whole story has been read can he make complete sense of earlier incidents. The fact that the bucket is now empty is a clue to what the moose was doing when it made the 'slurping' noises.

Similar comments can be made about MB11's retelling of Story A, also read in the 'T only' condition:

"Yes, well, he was probably playing a game of rugby and then he got on the bus and jumped down when he got to his house and he walked out and he got knocked out because he ran into – into a tree and then – and then the - the little fairy came and told him like, well, what's going to happen (mutters here as if he is the fairy) and then his mum goes, (mimics a woman's voice shouting), 'Jason! Jason! Wake up! Wake up!' and then he was oooh (gestures of being dizzy and waking up – he sways about

in his chair with eyes shut and head flopping about) ‘Good for me I looked up from the sink and saw you!’ So they were walking down to their house and walking down their driveway and then he heard someone going ‘Ha! Ha!’ and then he looked back (quick look behind as if startled) and there was nothing there so – and then, yeah, he was feeling dizzy and breathless and he was probably going (gestures swaying about moaning a bit with chin shivering).”

When asked earlier where the tree was he replied:

“Probably about 5 or 10 metres past the bus, just outside the bus.”

At that point he was unsure and was seeing the tree in 2 locations. However, when he retold the story he has formulated a more workable mental model in his head. The use of the word ‘gate’ in the text, as well as the fact that he noticed that Jason’s mother saw him when she looked up from the ‘sink’, led MB11 to infer that Jason and his mother walk down the driveway to their house after Jason gets up from under the tree (there is no mention of a ‘driveway’ in the story). The tree in MB11’s mental model is now outside the gate to Jason’s house, not outside the bus. There is no mention of Jason’s ‘house’ in the text. The text only provides the information that Jason’s mother looked up from the ‘sink’ and then led Jason through a ‘gate’. MB11 has made useful, well-monitored elaborative inferences and these have helped him build a good mental model by making appropriate changes to that model as he re-evaluated the information in the text.

When asked if there really was a tree fairy, MB11 said:

“I would say no probably because they don’t really exist and no one’s discovered that – there might be – that’s why I said there probably wasn’t but there might be – someone might discover them later on but no one’s seen one, so probably not – yeah, no.”

At this point MB11 decided that the fairy is probably not real. It is not clear in the story whether or not Jason imagines the fairy, but the laughter at the end does give rise to the idea that it was real after all, although Jason could be hearing things since he has

been briefly knocked out. When MB11 retold the story it seemed that he had decided the fairy is real and gives no hint in his retelling that he thinks the laughter is part of a hallucination. The way MB11 mimics Jason whirling round at the sound of the laughter was quite dramatic. His mental model has changed into one where the fairy is not something that Jason has dreamt up.

Compared to the above retellings of the stories read in the 'T only' condition, we see a qualitative difference when MB11 retells after reading in the 'T & P' condition. Here is his retelling of Story C:

"She started off getting back up to her room because she was chasing around the mouse and then she started to hear these voices like (mimics a voice calling) 'And, ah, your aunt's coming' and then she started to get a bit scared and then that guy – that boy said 'Your aunt is coming' – and then she goes, 'How did she know it was my aunt – my aunt Kay and not uncle Jamie? What? How? No one ever knows', and then she opened up the door and she saw a frizzy bobbed curly hair and said, (mimics nonchalant voice) 'Yoo – hoo – just lying back in bed' - and then she shut the door."

MB11 retelling Story B read in 'T & P' condition:

"At the first they builded the sandcastle and then it got washed over by the waves just as their mum went to get the camera to take a photo of it and then they – and then they go, 'Oh, look at the high tide's coming in' and they grabbed the bucket of shells – of pretty shells – and they ran back up the sharp rocks and they hurt Finn's foot and then Josh fell into the rock pool and saw something – like he saw the tail – and then Finn was going, (mimics voice) 'I'm cold, I'm cold!' and then he jumped in to save Josh and he pulled out something – it wasn't the – it wasn't Josh – it was the mermaid and then he put it back in the water or like dropped it by surprise and put it in and Josh held onto it and went up."

These are competent retellings but they were not the engaging performances that he gave with the other 2 stories. Somehow it seems that MB11's imagination was not given full rein when he was in the 'T & P' condition. He made fewer gestures and his

re-telling lacked the involvement of all five senses. It seems a shame that an imagination so lively and interesting should be dampened by anything. MB11 is considered a poor reader. However, without pictures he understood the stories quite well and demonstrated that he was capable of a rich imaginative response to text. MB11 has the potential to really enjoy reading; one hopes he will fulfil this potential by moving to stories where there is text only. Above all he demonstrated an engagement and an enjoyment when tackling the text with only his imagination to help him that he did not exhibit when pictures provided the information.

6.3 Other negative effects of pictures

The readers discussed above plus others from this group do not seem to need pictures to provide enjoyment or engagement or to help them with their understanding. In addition to this observation, the responses from this whole group provide further information about the effect that pictures had on the processes they engaged in while reading. For one thing, pictures were a source of distraction because some readers preferred to use information from them rather than from the text. This preference might be due to them having established a habit of using the pictures rather than the text, or it might be due to the fact that they enjoy looking at the pictures more than engaging with the text. Perhaps this is, to them, an easier route to finding out what is happening in the story than trying to interpret the text. It might also be a combination of these reasons.

Whatever the reason is, the pictures seem to distract them and cause the reader to make some inferences that show no evidence of any attention having been paid to the text even though they may have read the text (6.3.1). Because pictures distract they are also seen to do the following: they result in inferences being made from the illustrations rather than from the text because the text is either ignored or simply ‘decoded’ but not interpreted (6.3.2); they cause mental models to be more poorly constructed (6.3.3); they affect memory for the text and linguistic processing (6.3.4); they affect monitoring skills (6.3.5).

6.3.1 Pictures as a distraction

It is quite clear that pictures, particularly perhaps the more appealing pictures used in illustrated readers, 'grab' the attention of some male difference poor readers. A certain amount of this could be expected of any reader – even an adult proficient reader. Certain pictures may, for idiosyncratic reasons, demand attention while others are easily ignored. As discussed in Section 2.8, research undertaken by Willows (1978) demonstrated an inverse relation between reading ability and susceptibility to visual distraction.

Both MB7 and MB11 were noticeably more able to make inferences in the 'T only' condition and they seemed aware of their own internal model building. They both showed confidence when reading without pictures. However, they are also very susceptible to turning to pictures when these are available. Rather than supporting the idea that they would prefer to have a picture to reassure them, this pattern suggests that pictures are a likely distraction.

Since they are very imaginative boys who see things in their minds in great detail it is possible that visual representations will be very interesting to them and they will fixate on the pictures - not because they feel they need to in order to understand but just because the pictures have a particular appeal to them and capture their attention when present. Although they might very well enjoy looking at pictures, this does not mean that they do not enjoy having to construct their own mental images when they do not have pictures. Since these readers did use their own experiences more extensively in the 'T only' condition, the increase in their personal engagement could very well reflect both satisfaction and enjoyment in the process of bringing their memories and their imaginations to bear on the process of understanding the text. If they were bored, or if they found this process tedious, they would not have bothered to the extent that they did.

Making a mental model from inferences is like solving a puzzle. MB11 shows particular delight in this aspect. For example, he is pleased when he realises at the end of reading Story D in the 'T only' condition that the 'slurping' noises and the 'empty bucket' were clues as to what the moose was doing outside the tent. Also he

puts a lot of thought into pondering over whether or not there really was a Tree Fairy in Story A, also read in the ‘T only’ condition. Children enjoy puzzles and get a sense of satisfaction out of solving them. If a picture presents the solution ready-made, this negates an aesthetic aspect of the reading process.

MB6 (Section 6.2.1) fixated on the pictures to the extent that he seemed not to process the linguistic information from the text, even though he had read it. His retelling of the stories in the ‘T & P’ condition were simply lists of items, most of which were taken from the pictures and not even mentioned in the text. Pictures hindered his ability to learn how to get information from text in a serious way. He showed that he did have some ability to get information from text but that he cannot concentrate on the text if a picture is present. MB6 is desperately in need of the experience of reading without pictures in order to practise his skills and to learn to monitor proficiently.

6.3.2 Effect of pictures on making inferences and using text

MB1 demonstrated that he can make inferences using his own background knowledge in the ‘T only’ condition, but he needs to learn to monitor this more carefully, as will be shown below. However, when reading in the ‘T & P’ condition he was more likely to make inferences based on the pictures rather than either the text or his own experiences, so he will not learn to monitor the process of making inferences using the text and background information if he practises with illustrated materials.

The following is MB1’s retelling of Story C in the ‘T only’ condition after answering the questions about it.

“The boy wanted to say ‘Hi’ and the girl got a fright and she didn’t know who it was and she was talking to the boy and then the boy said, ‘I want to turn you off’ because he had a phone and a camera so the girl just rushed into her bed and she was scared and then her grandmother came in and the sun was shining on her grandmother.”

Of course the original story does not mention grandparents at all, but he inferred that the girl is watching TV and it seems that this reminded him of seeing a report on the television of his grandfather being run over by a car. In answer to the question about why the girl in the story stopped her activity he says:

“Because there was something really horrible on TV…Her granddad died because someone ran over him.”

The privacy law in New Zealand prevents finding out whether or not this was actually something that had happened to MB1’s grandfather. However, when MB1 was asked:

“Does this story remind you of anything you’ve done in your life?”

He replied: **“**Yes. It reminded me about my grandparents.”

“Oh, yes? Why was that?”

“Because granddad died.”

The strength of this memory seriously impeded MB1’s ability to understand this story. A better idea of MB1’s ability to read without pictures can be gleaned from his responses to questions about Story D. Here he showed a better ability to make sound inferences but he also demonstrated a tendency to be led astray by his own personal memories that were not monitored by using information from the text. He needs to practise recognising when to suppress his world knowledge when the text shows that this knowledge is not conducive to making inferences that will lead to an accurate mental model. In order to do this, MB1 needs to be encouraged to focus more on the text.

MB1’s retelling after reading Story D was noticeably more accurate than his other attempts and the elaboration he made is tied more closely to the text. It was still not very coherent but there was less use of inappropriate background knowledge of the type that showed no link to the text when he was reading in the ‘T only’ condition. (All answers and retellings can be found in Appendix 8.)

When pictures are present, MB1 is particularly prone to ignoring information in the text. For example, he invents a scenario based on the pictures rather than on the text. In answer to question 2 about Story B, “What do you think Josh and Finn were doing just before the story started?” he replied:

“They were making a sandcastle and then Josh did the most of the sandcastle and then he said it was his and then Finn said ‘Alright’ and then his dog ran through the sandcastle and then Josh didn’t want to make another one.”

There is a dog in the pictures but no dog is mentioned in the text. The sandcastle is finished and a wave has demolished it before the story actually begins, so this whole retelling was his invention. The dog in the picture belongs to other children and it did not run through the sandcastle. MB1 was practising making inferences and it has been argued that making inferences is vital to the construction of mental models and so to comprehension. However, when a text is involved, this skill applied to the picture alone can have the undesirable results that we find here. This mental model owed nothing to information from the text.

Nevertheless, MB1 has shown, in the ‘T only’ condition that he is capable of making an accurate mental model by using information from the text. When reading in the ‘T & P’ condition, however, he was less likely to do this. Since he is so prone to making up a story based on the pictures, they should be removed when he is reading a story. His comprehension of the text was compromised by the illustrations and he did not fulfil his potential to make a good mental model based on the text when it was illustrated. If MB1 is to practise making mental models guided by information from the text, then he needs to read texts without pictures. Otherwise this tendency to make up a story based on the pictures combines with his tendency to let his personal memories lead him astray and results in very poor understanding in the ‘T & P’ condition.

Many teachers use wordless picture books as the first step in teaching children to read. The children are encouraged to make up a story based on what they see in the pictures. For some children, this tendency may continue even after text has been

introduced and they may have learnt that the reading process involves their own interpretation of the pictures quite apart from any information the text may contain. MB1 may not have learnt to read in this way, but his tendency to tell his own story using the pictures is one result that could be expected of a child who has used wordless picture books and has not realised that it is no longer appropriate to be so inventive in response to the illustrations without taking guidance from the text.

6.3.3 Effect of pictures on making a mental model

MB3 is a reader who was unable to provide any kind of answer for 8 questions out of 22 when in the 'T & P' condition, but only 3 times in the 'T only' condition. His retellings were slightly more coherent in the 'T only' condition and he made more of the well-monitored inferences in this condition – 11 in total compared to 2 in the 'T & P' condition. (His responses are in Appendix 8)

All but one of the male difference poor readers made more inferences in the 'T only' condition but most of them gave more of the 'literal' answers (rated 3) in the 'T & P' condition. MB3 is interesting as he is one of 3 in his group who showed a marked difference from this pattern. This is due to more 'no answer' responses in the 'T & P' condition (11 compared to 2) which resulted in him being twice as likely to give literal answers in the 'T only' condition (12 compared to 6). MB3's responses provide strong evidence that he was better able to pay attention to the text to make inferences and to use literal information when he did not have pictures to distract him. He provided little evidence of having made a mental model when he read in the 'T & P' condition as shown by his inability to answer so many of the questions.

MB3's responses after reading Story C in the 'T & P' condition demonstrate how much the pictures distract him. The picture of the aunt is interpreted by him as a picture of the boy in the story. The inferences that MB3 draws from the picture seem influenced by background knowledge derived from horror movies prompted by the picture rather than by the text:

“His hair was curly. His arm was chopped off and hanging down like that.” (When retelling he holds his own arm in the position of the aunt’s arm in the picture; the aunt’s silhouette does not include her hand.)

In his retelling we see that he has paid scant attention to the text:

“And then she turned off the computer and jumped on her bed and then a boy was walking down the hallway and the boy heard the sound of her heart beating.”

In the ‘T only’ condition MB3 demonstrated the potential to be a good reader but he did not show this potential in the other condition. When reading Story D without pictures, he answered the particularly difficult question for that story as to why the father was angry. Only three other readers answered this with a well-monitored inference. In the ‘T only’ condition his retelling was more coherent and he had a more accurate remembrance of events. He also elaborated appropriately whereas with the pictures he did not.

6.3.4 Effect of pictures on memory and linguistic processing

Another reader, MB4, shows a striking difference between the processes he performed when reading with or without pictures. When he had the pictures he was unable to remember much or to give an answer even with the story available to refer to. In his retelling he mentioned the main character’s name, but only recounted two things that this character did / saw at the beginning.

In the ‘T only’ condition MB4 shows a much better memory for the text. When retelling Story B he said there were two boys and named one of them. He mentioned three items about Josh and then two things about Finn. His retelling was clear and he was very coherent when he summarised what Josh did – as if his ability to express himself was enhanced. Chronologically, what happens to one boy in the story overlaps with what happens to the other so MB4 did not just retell in order – he retold in order for each character. When answering the questions for this story, he gave a well-monitored response for a particularly difficult inference that few other readers made and one that required a good memory for various parts of the text – he

correctly inferred why the mermaid was in the rock pool. His retelling of Story C, also read without pictures, is another good summary. He showed he made the necessary inferences for a good mental model by mentioning the fact that the girl is at her auntie's house and having a sleepover there. He began with this 'overall' setting rather than just listing events as he did when he had the 'T & P' condition. He still did not include the main events, however.

As with a good reader such as MA8 (see Appendix 6), and other male difference poor readers, the structure and cohesion of MB4's retellings show a greater linguistic ability when there are no pictures to be processed. It is as if the ability to process questions and to formulate answers, to process text and to be able to summarise it, are all compromised when some of these boys, whether good or poor readers, have pictures in front of them. There is evidence, then, that the pictures are more than just a distraction from the text. They also seem to interfere with general linguistic ability although it remains to be shown if this is caused by sex differences in the male brain or is just another aspect of the readers' attention being distracted. If this is the case it could help explain why these readers prefer to use the pictures rather than the text when they are reading illustrated material.

6.3.5 Effect of pictures on monitoring processes

The male difference poor readers made 16 more 'wild' inferences (rated 2) in total in the 'T & P' condition than when in the 'T only' condition. These wild inferences used no information from the text (in the 'T only' condition) or used no information from either the text or the pictures (the 'T & P' condition). They show poor monitoring by the readers of their own inferencing processes. Four of these readers made no such wild inferences in either condition and are not included in the table below.

Table 6.1: Counts of wild inferences made by each male difference poor reader in each condition

(See text for explanation of 'wild' inference.)

Reader	Wild inferences in 'T& P' Condition	Wild inferences in 'T only' condition'
MB2	2	0
MB10	2	0
MB11	1	0
MB6	3	2
MB7	8	2
MB1	**0**	**2**
MB5	**0**	**1**
MB12	**0**	**4**
Totals	16	11

The 3 readers shown in bold only made 'wild' inferences in the 'T only' condition and 3 made such inferences only in the 'T & P' condition. Only 2 readers made such inferences in both conditions and MB7 is the most prone to making such inferences, especially when pictures are provided.

The fact that a wild inference has been made indicates that the reader has slotted in inappropriate background knowledge or personal experiences, which has in turn led the reader astray in his attempt to comprehend the story. The readers who make these inferences have made inefficient use of information from the text or the pictures to help them monitor their mental models. This would be consistent with the pictures affecting the readers' linguistic ability.

6.4 Female difference poor readers

With regard to the total number of inferences made, that is the inferences scored as rating 4 + 5, there is a less consistent picture with the female difference poor readers

than with the male difference poor readers. Slightly more than half of the female readers made more inferences in total in the 'T & P' condition.

Some of the female readers show a substantial difference in the results between the two conditions, with FB3 and FB12 having the most noticeable differences. These two readers will be looked at in detail in the following sections.

6.4.1 FB3 monitors well in 'T & P' condition

FB3, when reading Story A in the 'T & P' condition, was reminded of accidents she has had where she has been injured. She used her own experiences when answering two of the questions (6 and 12) to help her make one well-monitored and one workable inference.

Story C, also read in the 'T & P' condition, triggered personal memories too, as shown by her answers to a couple of questions (2 and 3). In this case, however, her personal memories interfered with her comprehension at the time of replying to the questions but her retelling shows that she rectified this situation later after having more time to contemplate the whole story. As is typically the case with mental models, FB3 shows that hers is constantly up-dated and re-constructed. Eventually, during the retelling, FB3 made the inferences probed for in questions 2 and 3.

The process FB3 engages in while reading Story A in the 'T & P' condition seems to be different from the process she engages in while reading Story D in the same condition. In Story A she shows evidence of using the pictures to check the validity of her inference about the location of the tree in answer to question 5. She seems to doubt herself and looks to the picture for confirmation but comes to the conclusion that the picture is of no help and gives a well-monitored answer:

"Maybe outside his home because there's not really much trees in the thing except that one in the picture – except that one, but I don't think it would be that one."

This example of considering, and then dismissing, the information provided in the pictures and turning instead to the text is not a process that was observed in the male difference poor readers. That is not to say that the male difference poor readers did

not do this, but evidence for it was not obtained. It is interesting because this reader shows better comprehension when she has the pictures but it seems that she is wary of relying on them. With the male readers it was more likely that the picture was the preferred source of information and that this was not checked by reference to the text.

Nevertheless, it seems that she relied on the pictures when responding to the final question for Story A. For this question a reader can infer that either a real fairy, or one still in the boy's imagination, is laughing at the end of the story but the pictures only show the girls laughing at the beginning of the story. The pictures might have been influencing FB3 when she replied that it was the girls who are laughing because she did so in spite of the fact that she had shown, both in her answers and in her retelling, that she remembered the girls were laughing at Jason at the beginning because he was muddy.

In her treatment of story C, read in the 'T & P' condition, FB3 appeared to make little or no reference to the pictures when answering the questions. She did not mention them in any of her answers; neither in her answers nor in her retelling was there any evidence that the pictures influenced the inferences she made. Although her personal experiences led her astray, and although she made a couple of inferences that owed nothing to the text, her well-monitored inferences (6 out of 11) demonstrated that she did not turn to the pictures to help her understand but was satisfied by her mental model at that point. Perhaps the vividness of her own memories made her feel it was unnecessary to access the pictures for confirmation of her inferences. An area in which she does need to improve is in using her monitoring skills in order to suppress certain items in background knowledge in view of information from the text. Apart from this, she exhibits the potential to develop good comprehension skills. Unlike the male difference poor readers, she does not seem to be hindered by the pictures from using her own memories when making inferences.

6.4.2 FB3 lacking confidence in 'T only' condition

When reading in the 'T only' condition, FB3 did not say that the stories reminded her of her own experiences. However, when questioned about one of the stories read in

this condition, Story B, she seemed to be using 'knowledge of the world' rather than information from the text to answer a number of questions (specifically questions 2, 3, 4 and10 – see Appendix 9). After referring back to the text, she still seemed unable to make the inference that Finn hurt his feet on the sharp rocks; she simply says, 'Maybe his arm because it doesn't really say'. It is as if she expected the answer to be there on the page and showed no awareness of her own ability to make inferences – no awareness that the meaning is created in her own mind. A similar response was seen when she doubted her own mental model when reading Story A in the 'T & P' condition (6.4.1). Nevertheless, of all the readers, it was FB3 who gave one of the most interesting descriptions of the mermaid, a description which showed her making an elaborative inference, although not a necessary one. Basically, there is little evidence that she was building a mental model based on information from the text for Story B except for two answers (6 and 11). Her retelling was very scant and she said she could not remember the story.

FB3 seemed to be surprised that she was 'seeing' anything internally. It seems useful here to use the entire record of her responses when she read the final story in the 'T only' condition, presented in Table 6.2. When asked in question 1 if she was reminded of anything she had done in her own life she answered 'no' but elaborated on this in a way that was unusual for any of the readers.

Table 6.2: FB3's responses after reading Story D in the 'T only' condition.

Code Name: **FB3** Sch: 1b Tape: 6	Session: 2 DOB: 13/4/00	Story D Second Reading	T only 7y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	***Does this story remind you of anything you've done in your life?*** No but some of the bits I could picture in my head like when they flung back I could like see in my head I could see them screaming		
2	***What do you think Karen was doing just before the story started?*** Going up to fill up the bucket		

3	***What do you think Karen wants to do when she wakes Emma up?*** I'm just trying to think first – What was the question again? Maybe ask her to help her carry it inside
4	***Why do you think Emma asks about the tap?*** Because she's really thirsty
5	***Where are they?*** In a tent
6	***What did the girls hear the moose doing outside the tent?*** Drinking some water. Can I say one other thing? ***Yes, certainly.*** The question before the one that you just asked – ***Where she asks about the tap?*** Yes, cause maybe cause she's thirsty and she doesn't want to drink out of that water because it's from the bank
7	***Describe the place where the family is staying. Give me lots of details.*** Maybe a farm house and they keep seeing things and they've got lots of cows and the girls secretly have a moose but they don't actually know
8	***Why do you think Karen thought it was a horse outside the tent when she first peeped out of the tent flap?*** Because sometimes moose look like horses because moose is just brown and some horses are brown as well – mostly horses are brown
9	***Where do you think their mother is?*** In bed sleeping
10	***What do you think their father was doing when the story started?*** Probably watching TV at 3 o'clock in the morning like my dad
11	***What made the loud thundering noise just before the father came to their tent?*** Maybe it's like something creepy's going to happen – like on some programmes when something creepy's going to happen they just make a flash of lightning or thunder
12	***Why is their father angry?*** Because he's scared – they scared Karen's mother

13	***What does Karen have to do now? (If they say 'get water' or 'fill up the bucket' ask 'Why?')*** Their dad said, 'Stop fooling around and fill up this bucket so that we can make tea and get washed'. ***Yes. So why has she got to fill up the bucket?*** Because the tap's broken ***What happened to the water she got at the beginning?*** It got really heavy in the bucket

She may have felt moved to mention that she had seen one of the scenes from the story in her head because it was a new experience for her. As has been pointed out before, poor readers are given books with little text and many pictures. She may have rarely – perhaps never - had the chance to 'visualise' a scene while reading, because the pictures in books that she would be familiar with typically present a ready-made visual for her to use. This is speculation, of course, but it was certainly very rare for one of these readers to answer question 1 with a description of something 'seen' during the reading of the story. It seems reasonable that FB3's explicit mention of seeing something in her head could be explained by the fact that this was an unusual experience for FB3. Not only did she see this particular scene, but she said she pictured 'some of the bits' and describes this scene as an example.

Here is FB3's retelling of Story D:

"Well they're sleeping outside in the tent and they heard this noise and they peeped out a little bit then they peeped out more and then they said, 'Is it dangerous?' and they said, 'No' and then they went back into the back of the tent and then they said, 'It is dangerous!' and they were screaming. Then their dad came and said, 'Stop fooling around because you just scared your mother.' And at the end of the story she had to – she had to fill up the bucket again because she scared her mother. So that they could get washed and have tea."

Although FB3 seemed surprised by her own ability to picture the scene, she did demonstrate an ability to use information from the text to make well-monitored inferences. For example, she made a couple of well-monitored inferences that were not often made: the moose drank the water and the father was scared. This latter inference is probed for by the 'particularly difficult' question (see section 4.5.3) for this story and requires the reader to see past what the father says and to imagine how he looks and how he is behaving to infer that he, himself, is scared. Indeed the mother probably is, too, and this is part of the reason the father is angry. Only 4 readers drew this inference and three of them were, surprisingly enough, all female difference poor readers: FB3, FB7 and FB9. FB3 and FB7 both had the 'T only' condition.

FB3's answer to question 6 is also interesting. This reply had not been considered when developing the stories to use in the experiment but is actually a very good inference. When camping, one might well be reluctant to drink water brought from a source other than from the tap provided, and so FB3 gave this as the reason that Emma asks if the tap is working. Even though it is not clear that FB3 made the inference that there is a stream nearby, and she might have interpreted 'bank' as a type of place that supplied water rather than as a 'riverbank', this inference showed that she has a good ability to apply problem-solving skills while reading.

FB3 knew she needed time to 'think', as she says in her answer to question 3 (see Table 6.2). Without the pictures she is coming to understand that making the meaning, or constructing the mental model, is a problem-solving exercise beyond just checking her ideas against a picture. After answering question 6 (Table 6.2) she said she wanted to go back and answer a previous question – good evidence that the mental model was being changed and becoming more 'sound' as she had the opportunity to reflect on her ideas about what is happening. These are all processes that a successful reader would carry out. She was seeing here that she did not need information from pictures to support her own conceptions because she could solve the problems without them.

In light of this glimpse into FB3's ability to make well-monitored inferences, it is surprising that she did not comprehend any of the other stories better than she did.

Her retelling of each of the other stories showed a poor memory for story content in both conditions. It might be that the required use of unusual scenarios overwhelmed her working memory since this is not a well-practised process for her. She was not able to benefit from the aid to memory that making an inference and constructing a mental model usually gives.

As can be seen from her answers to questions 7, 10 and 11 in Story D (see Table 6.2 above), she does not always monitor her use of background knowledge or personal experience well in light of information from the text. Nevertheless, she has demonstrated that she can do this. And the exciting aspect of FB3's responses here was that she made some inferences that were particularly difficult to make, required a good memory of previous text items, needed to be well-monitored and were not made by many other readers, even the good ones.

Monitoring her inferences well is not something that she cannot do, but it is something that she needs to do more. FB3 showed that she needs practice and guidance to help her use the information from the text more often than she does here. She needs to do this if she is to monitor the background information she brings to the text in her efforts to understand. Her results also indicated that she will not get this practice if she reads illustrated texts.

Even though FB3 demonstrated more of the well-monitored inferences when pictures were present there seems to be every reason to give her practice at what seemed to be a novel situation to her – reading text on its own. FB3's tendency to lack confidence about her ability to picture the scene accurately is understandable if we consider the answers to questions 7, 10 and 11 in Story D, where she drew inferences that showed no relation to the text. Additional evidence of her lack of confidence about her own mental model building comes from her answer to question 5 in Story A (Where, exactly, was the tree?) where she doubted herself and referred to the picture for reassurance (see Section 6.4.1).

Such confusion leads to a rather ephemeral mental model or succession of mental models, and so a poor memory for any story she has just read. A similar situation

was seen with the male difference poor readers and discussed with particular reference to MB7 in Section 6.2.2.

In summary, without the pictures FB3 seemed surprised by her own internal imagery. At times she was able to use this internal imagery to make well-monitored inferences but at other times she allowed it to take her off on a tangent. Pictures seemed to give her confidence and reassurance, even when she rejected the information in them and chose her own mental model made from inferences drawn from her own background knowledge interwoven with information from the text.

A case could be made for continuing to give FB3 pictures since she seems to make fewer poorly monitored inferences when they accompany the text, and they seem to give her a feeling of reassurance and confidence. However, she is a reader who obviously has a vivid imagination; she needs to learn to monitor this in light of information from the text and to suppress inappropriate knowledge-based inferences. In order to do this she needs to gain confidence in her ability to comprehend. She needs to move away from believing that the meaning is somehow on the page or in the pictures and so thinking she should check herself in this way. She needs to learn to check herself in relation to the meaning she can make from the code provided by the text, not the pictures, if she is ever to become the competent reader she probably has the potential to become.

6.4.3 FB12 shows poor monitoring skills

FB12 is another difference poor reader, who had a similar pattern of differences in how she made inferences depending on the condition. However, she made fewer well-monitored inferences in the 'T & P' condition than FB3 made. FB12 was, overall, less successful at making inferences. She made a total of 4 workable inferences if we look at Stories A and C in the 'T only' condition, only one of which showed competent monitoring skills. The finding here is that she comprehended poorly in this condition. Altogether FB12 made 7 fewer inferences than FB3. When she read Stories B and D in the 'T & P' condition she made only 5 well-monitored inferences compared to 12 made by FB3 in this condition.

FB12 showed she was able to make an inference that required elaboration and evaluation when she read Story B in the 'T & P' condition and correctly inferred that the sea has demolished the boys' sandcastle and why the mother is waving towels at the end of the story.

In Story D, also in the 'T & P' condition, she correctly deduces that the father and mother must have been sleeping; this requires an understanding that it is morning and that the father and mother were likely to have been asleep elsewhere and so have not seen the moose – all of which must be inferred. There is no evidence that memories of her own past experiences led her astray, but there is evidence that she used the pictures when they were present. For example, when asked where the girls are she just says they are in a tent with 'heaps of things'. The items in the tent are very detailed in the picture but not mentioned in the text.

For answers to questions that are not helped by the picture (inferring where the bucket is at the end of Story B, for example) she has no reply. Also, when asked where the boy hurt himself she did not make an inference from the text but said 'his head' and then corrects herself and says 'his arm', possibly because the boy in the picture is holding up both arms as if he is about to fall forwards, or as if he has just hurt an arm and is holding it up; this indicates that FB12 was probably more influenced by the picture than the text.

FB12 showed a rudimentary ability to make inferences when pictures are present but most of her inferences can be traced back reliably to information in the pictures. Perhaps even when she had no answer, such a response can be attributed to her using the picture as evidenced by the fact that when there is no 'clue' in the pictures she has no answer.

When there were no pictures, she used her own background knowledge but she did not monitor this well. In this she is like FB3. She made one well-monitored inference when reading Story C in the 'T only' condition where she said the parents of the girl in the story are seeing the girl's teacher. This is acceptable as it shows she had made the inference that the girl's parents are not with her. There is, however, no reason to

think they are seeing her teacher. At least she was making an inference, which is good practice, but now she needs to learn how to monitor her inferences and to use information from the text to suppress inappropriate details.

FB12 seems to have built a mental model for Story C, which sets the story in a school in spite of a great deal of the text suggesting it took place in a bedroom. There is no evidence from her responses that she made the inference that the girl in the story is using a computer. However, FB12 might have made this inference and, if she did, then the fact that she has encountered computers at school but perhaps never in a bedroom might account for the fact that she slotted in a 'school scenario'. Nevertheless, for whatever reason, FB12 slotted in inappropriate stereotypical background knowledge and then tried to use the information in the text to fit with it, instead of the other way around. When asked where the girl is, FB12 said she has moved next to the boy, as if she is in a classroom. She seems to have inserted her own scenario about visiting the school without seeing the need to base this on information from the text. She did not infer that the aunt and uncle are looking after the girl at their house but that they are seeing the teacher, too. Either her poor processing of the text is a result of not monitoring her mental model due to an inability to select from her long term memory information that would better support information from the text or, on the other hand, her poor processing of the text causes her not to be able to choose useful supporting information – or perhaps both.

This is a reader who needs to focus on the linguistic information. From her processing of the text in Story A, where there is no evidence that she is using unhelpful background information, it is likely that poor processing of text in the absence of pictures was her problem. This lack of linguistic ability has led to poor selection of background information when she tried to make inferences in Story C. In her retelling for both stories (A and C, both in the 'T only' condition) she seemed not to have processed much of the text and to have remembered very little.

Pictures seemed to focus her mind better. When she read Stories B and D she was less likely to make workable inferences that included too much of her own background knowledge unguided by the text. However, she did rely on the pictures

as a source of information rather than the text and/or background knowledge. Although her retelling of each story was almost as poor as in the 'T only' condition, her answers revealed a slightly better understanding of - and memory for - the text.

From the evidence provided by her responses, she seems capable of making well-monitored inferences. However, FB12 needs to learn how to make a more reliable mental model when there are no pictures to help guide her; although the pictures help her to understand better, they do so to a limited extent. Most of their effect is to cause her to make inferences from them rather than the text. She needs to learn to focus more on the text and to allow the information from the text to play a more prominent role in the building of her mental model rather than most of the information coming from her own personal memories when she has no pictures or from the pictures when they are provided. If she is always given illustrated reading material there is no evidence here that would indicate that this would cause her to focus adequately on processing the text.

6.5 Overview of female difference poor readers

An analysis of FB12's responses shows that the processes she engages in are, in some respects, quite similar to those that FB3 engages in, although FB12 does not show the potential to make inferences from the text to the same extent. Nevertheless, the presence or absence of pictures has a similar effect on the degree to which both readers comprehend what they have read.

Many of the other female difference poor readers, who also demonstrated more successful inference making when they had the pictures, exhibited similar tendencies. None of them remembered the stories very well, whatever the condition. FB1, FB10 and FB11 all provide evidence that they tended to get information from the pictures rather than the text when both were provided. However, FB1 is the only one other than FB3 who was prone to being led astray when she substituted her own memories or slotted in inappropriate scenarios, when there were no pictures. FB2 shows a similar reliance on the pictures, but presents an extreme example of a reader who seems to be unable to imagine very much, if anything, without a picture to prompt some sort of visualisation. In the 'T only' condition she was unable to

answer 9 out of 22 questions and gazed about for many minutes each time without seeming to be able to imagine anything.

Care was taken not to make her feel rushed, and encouraging facial expressions were used. After three or four minutes she was asked the question again and eventually it was assumed that she could not answer. At this point she was asked if she thought she could answer and her reply was usually just a shake of the head. FB2 showed no discomfiture when she could not reply and after the final session said how much she had enjoyed doing the reading sessions and asked if they would continue. Her silences were not due to antagonism or a negative attitude towards the situation. She seemed perfectly happy to try to answer and was pleased when she could.

When FB2 had the pictures they often distracted her from the text but she still seemed able to make more inferences based on information from the text with them than she could without them.

FB5 made only one more inference in total in the ‘T & P’ condition than in the ‘T only’ condition in spite of having made 4 more of the well-monitored inferences in the ‘T only’ condition. Her responses indicated that the processes she went through were similar to those of FB3 because in the ‘T only’ condition FB5 could be led astray by her own personal memories unchecked by information from the text. Yet she differed from FB3 because she was more likely to have made no inferences at all in either condition. Her tendency here was to resemble FB2 by being unable to answer 7 questions out of 22 in the ‘T only’ condition. Pictures were perhaps a little less helpful to FB5 than they were to FB2 in prompting her imagination; there is a slight difference between them in the ‘T & P’ condition with FB5 unable to answer 3 questions and FB2 only unable to answer 1.

Among the female difference poor readers there are those who need the pictures to stimulate their imaginations. Although the pictures may then distract them to some extent, they are equally able to ignore them and make inferences from the text without them. Without the pictures these readers show little evidence of an ability to

use the text to make a mental model. They read the words but little or nothing comes to mind.

However, when the pictures were removed, some of these readers revealed that they have active imaginations and demonstrated that they needed practice at monitoring their own ideas by paying closer attention to information provided by the text and suppressing irrelevant background knowledge. When they had the pictures these particular readers were distracted by them to a lesser extent than other female difference poor readers such as FB3 or FB12, and seemed to be able to use information from the text more successfully.

Overall, the female difference poor readers showed a rudimentary ability to use information from the text successfully but their responses also revealed that they need to learn how to monitor their construction of a mental model using information from the text. Either they need to learn to suppress inappropriate background knowledge by using the information from the text or they need to learn how to make a mental model without having to have a picture to prompt the process. In any case, the processes they use when reading diminish their ability to make inferences in the 'T-only' condition.

6.6 Summary

It was decided to focus on the difference poor readers. In many respects the male difference poor readers showed quantitative rather than qualitative differences from the good readers. Male difference poor readers were less likely to make any imaginative response at all if pictures were present. Also, of all the readers, the male difference poor readers were most prone to making 'wild' inferences when pictures were present and showed the most need to learn to monitor their mental model building. Nevertheless, they often demonstrated very lively imaginations in the 'T only' condition, and this helped rather than hindered their comprehension of the text.

The male difference poor readers showed vulnerability to the effect of pictures on their ability to construct inferences and to monitor the building of their mental models.

For a few of them, the pictures were a distraction but for most of them the effect could not be explained this way.

Many of the female difference poor readers presented an anomaly since they were more able to construct well-monitored mental models in the ‘T & P’ condition than in the ‘T only’ condition. Also, since they often did not monitor as well without pictures as they did with them, they were more likely than the males to make wild inferences in the ‘T only’ condition. Nevertheless, an analysis of their responses showed that it was not their use of information from the pictures that made their monitoring more successful.

Although the female difference poor readers were more able to make their own mental models once the pictures prompted them, these mental models frequently used inferences that were based on linguistic information. So, unlike the male difference poor readers, these female difference poor readers often dismissed inferences made from the pictures if they seemed at odds with information from the text. Basically, the pictures gave them confidence in their own mental models which they did not seem able to construct as well if there were no pictures present. A few female difference poor readers demonstrated surprise when they became aware of making an internal mental model in the ‘T only’ condition, indicating that they needed to learn about this process and realise that they actually could – and did - ‘make’ meaning.

Chapter 7- Conclusions and Recommendations: Suggestions for future research and implications of this study for application.

7.1 Introduction

After analysing and considering the implications of the data, it can be concluded that the findings of this study do not support the use of pictures when teaching children how to comprehend narrative texts. Poor comprehenders are given reading material that is supported by visual aids as a way of helping them to comprehend the text, which is accepted as a useful remedial technique. This study gives reason to suppose that perhaps this remedy for a lack of comprehension ability might exacerbate the problem rather than help to cure it.

Further research into the effects of pictures on learning to make inferences and learning how to comprehend text is recommended because the nature of the effects of pictures needs to be better understood by those who teach children to read. There is virtually no research supporting the use of pictures in teaching children to read yet it is difficult to find reading material for beginner readers that does not include illustrations. Even though this is just one small-scale study, individual readers did show that the presence of pictures can have a profound effect on their ability to process the text and this alone would provide justification for considering the role that pictures play in the teaching of reading. The most important recommendation in light of the results of this current study is that there should be more research into how and why pictures affect children's ability to make inferences.

This is not to say that there may not be other reasons why some children are poor at comprehension while being good at decoding text. However, several reasons may be contributing in each individual case. If any young learner shows a better ability to make inferences without illustrations being present then that learner is on the way to developing better comprehension skills although other difficulties may still hamper this progress and would need to be addressed or compensated for. For example, low economic status or poor language skills manifested by poor listening comprehension and a limited vocabulary might be factors contributing to poor reading skills.

This study did not ‘test’ how well the readers understood a narrative text but to what degree they made inferences. Their inferences could be considered ‘wrong’ but still show hopeful signs that the readers were using background knowledge and information from the text together to make their inferences. In order to move towards inferences that could be seen as more ‘correct’, some of these readers would need additional help beyond simply having the illustrations removed. For example, they might need focused remedial help to improve their vocabulary.

In this chapter we will consider a few of the ideas that support the use of illustrations when teaching children to read and relate them to insights gained from this research.

7.2 Pictures used as an aid to comprehension

Pictures are used to help young, inexperienced, unskilled readers to understand text. These beginner readers are perceived as needing the pictures because without them they make particularly poor use of background knowledge.

The experiment conducted by Pressley (1977) and discussed in Section 2.8, involved reading to six-year-old kindergarten children in various ways. (A control group had no pictures; the second group had a full set of pictures, and the third group had partial pictures not showing the items that would be the subject of the ‘test’.) They were all instructed to form mental images. The children with the full set of pictures were the most successful at answering the questions properly. Along with similar experiments with children of various ages (the older ones read the texts themselves) he uses these results to conclude that illustrations have positive effects on children’s prose learning and that there is no need for any further ‘belabouring’ of this issue.

It would seem logical to conclude that if there is a text for unskilled readers to try to understand then the best thing to do is to show them a picture, especially if their linguistic skills are not well established. Those most in need – those who have difficulty processing linguistic information – will need the pictures the most.

For most of the readers investigated in this study it seemed that if the aim was for accurate comprehension of the text, the pictures interfered with this. When the

‘process’ was investigated rather than the ‘product’ it was found that these readers created well-monitored inferences more successfully in the ‘T only’ condition.

In that case another way that the female difference poor readers could be assisted needs to be considered. If the aim is switched from ‘understanding’ the text (comprehension), or learning the content, to learning ‘how’ to understand a text, then that could be seen as the first step on the way to considering whether or not instructional material should include pictures. If the feedback from these readers is considered it is found that they have not learnt to monitor the use of information from their background knowledge in light of information from the text, partly because they are not very proficient linguistically. In that case, what is required might be more practice at processing language and more practice at monitoring the use of background information to help them draw an inference.

It is important that readers learn to focus on the text without the distraction of an illustration. This focus is essential because linguistic cues have a direct influence on the ways that readers process and comprehend discourse. For example, according to Zwaan & Rapp (2006), lexical and structural cues help integrate incoming information. They contend that language can be seen as a set of processing instructions that tell the comprehender what information should be activated, what information is no longer important and should be deactivated and where to focus attentional resources in the immediate discourse. Readers need to be able to remember information in the text and use it to help with their understanding of the text as a whole at any point later in the text. This entire process requires the reader to monitor carefully how all the sub-processes of reading are integrated. Readers need to learn how to follow this set of processing instructions known as ‘language’. If they are given what is seen as a ready-made article in the form of a picture, they may not get the practice they need.

Reading is an interactive and holistic process that cannot be taught by separating out the components and teaching them one at a time and then putting them together. Pictures reflect the idea that the higher-order aspects of this process can be taught later. Since these aspects are considered too difficult for the beginner readers to

engage in at the same time as they are learning to decode text, pictures substitute for these processes by showing a pre-made image.

Pictures are not dynamic, constantly changing entities like mental models; they do not reflect the need to be continually up-dated and changed and, of course, they cause children to focus on ‘sight’. Mental models may rely on evoking a representation of any of the other senses or combination of them as well as insights into such things as motivation and evaluation. A mental model could be quite abstract. Children who are prone to reading the text and then referring to the picture for the ‘meaning’ are trying to learn to read in a way that may interfere with learning the interactive and holistic process that constitutes competent reading. It is hoped that the findings from this current study will lead to an appreciation of the need for further research into the effect that pictures have on the building of mental models.

7.2.1 Pictures used to motivate children to read

Visual aids are motivating – they attract attention and delight children. But, when used to motivate the practice of the skills needed to comprehend text, they can be seen to be less motivating than the act of creating a mental model without them. Pictures can be aesthetically pleasing and rouse emotions. Picture books for young readers sometimes have stunning illustrations that are detailed and colourful and demand attention. Children will sit and look through such books with a degree of concentration that they rarely display with anything else. There is nothing wrong with this. First of all, the appearance of a book is seen as motivating. Secondly, the pictures make it easier for these readers to understand the text so that reading is not frustrating and requires little effort. All in all, picture books are seen as providing a pleasant experience.

This study has produced feedback from some readers – good and poor alike – male and female – that shows how these readers were enjoying the experience of making inferences. Some of them were clearly experiencing their mental models as dynamic, shifting and changing entities. Some were surprised by what they imagined. The boy who had himself had the experience of bumping into a tree as had the boy in the story was a bit surprised to find that his mental model of the tree was different to the

one in his memory. Others, such as the girl who said she saw 'bits' of the story seemed surprised as if this was the first time this has happened. And MB11, who re-enacted the scenes he was imagining was clearly totally involving all his senses in the experience. Solving the problems, making the inferences, creating a mental model several times over, was not a 'chore' for these children. They were excited, involved and pleased by their own success and eager to share what they had experienced. FA1 was so proud of the fact that at the end of the session, after some reflection, she suddenly knew why the mermaid was in the rock pool that she asked to have the camera turned on again so her explanation could be recorded.

By removing the challenge of the need for problem-solving in order to make the experience easier, and by replacing the mental models with ready-made illustrations, picture books may provide one kind of motivation but they may not provide the motivation that reading without them does. If we consider the sort of experience that MB6 has, which is simply one of trying to remember everything in the pictures, compared with his experience without the pictures, we can see that perhaps illustrated stories may actually be boring for some children and that processing text on its own can be fascinating and satisfying.

The results of this study justify the recommendation that teachers and researchers put these ideas to the test. For example, beginner readers could be encouraged to 'visualise' in response to reading narrative texts that are not illustrated. The children themselves might then compare the experience they have reading with pictures and without pictures as part of class discussions or as part of their work with a remedial teacher. Teachers could use the illustrated reading material usefully in such discussions and perhaps compare the illustrations with the mental models the children constructed without them in order to help the children learn how to make, for example, elaborative inferences. The elaboration in the illustrations could provide examples for the children and they might practise elaborating when they make their own mental models, and so add enjoyment to the process by giving a personal response. Comparisons of their own elaborations with those of the illustrator or those of their peers would help to show them that a personal response to the text is acceptable so long as it is well monitored and that it can add enjoyment. A similar

experience might be based on listening to the teacher read stories with and without illustrations. Teachers might also probe for other aspects of the mental models that the children may have experienced that involve the other senses besides sight.

Electronic books might be quite useful in that the readers could easily select whether they wanted to read with or without illustrations. Indeed different illustrations could be provided for the same text and might show various levels of monitoring skills for the children to consider and discuss.

The pleasure children gain from looking at picture books is one thing. However, it should not be assumed that they cannot learn to have a pleasurable experience from hearing or reading stories without pictures. Teachers might want to focus on the different sorts of pleasure that can be had from each. For example, one teacher reported reading a story about giants with her class of 7 and 8 year old children without showing them the pictures. Afterwards the children begged to see the pictures of the giants and she eventually gave in and showed them. However, the children expressed disappointment and said that the giants were not big enough. In the story the giants are described as towering above people so the children, who had obviously imagined them as far larger and more terrifying than was shown in the illustrations, were keen to see the pictures but felt let down by them. This sort of experience would be useful to discuss with learners in regard to the pleasure that can be derived from making an internal image as opposed to having to rely on an illustrator's vision.

7.2.2 Pictures used to extend the reader's vocabulary

If the aim of a lesson is to teach new items of vocabulary then visual aids can be useful to a limited extent. There are, of course, many words that cannot be illustrated. And if a word is unknown to the reader, it is not clear how he or she decides which part of the picture shows the item referred to. If the new vocabulary is something other than nouns or verbs, it is even more difficult to decide how the concept that the word represents is 'shown' by a picture. Very young readers often need to learn how to process pictures; it is difficult to process a two-dimensional representation of three-dimensional space. While they are learning to do this they are also expected to be

learning to read text. With all this going on it might not be possible for them to use a picture to learn the meaning of a new word.

Even experienced adult readers learn new words from reading texts. There are so many words in English that it is a life-time's work to learn them all, if anyone ever does. The skill that young beginner readers need to practise is how to deal with unknown vocabulary and use the surrounding text to help them assign meaning. Words will mean different things in different contexts. This is also something readers need to learn but a picture gives a definite meaning. Some of the readers in this study took the word 'bank', which referred to a riverbank in Story D, as a storage place of some kind. If the story had been longer and at some point the 'steep bank' had featured again, perhaps when the protagonist returned to refill her bucket, then those who were monitoring their mental models well would have realised that it was a riverbank. Others more skilful at processing language may have known this all along because of the context for this word. The protagonist says, 'I had to carry a full bucket up that steep bank.' If the readers have learnt to see language as a set of processing instructions that need to be attended to carefully, then the words 'up' and 'steep' would have been helpful in constructing a more accurate mental model. This would be a different way of learning vocabulary from simply reading the words and then looking at a picture. As it was, the pictures for this story did not show the river or the girl climbing up the riverbank and the poor readers were especially likely to slot in their immediate response of 'storage place' to the word 'bank'.

MB11, in his retelling, shows that in spite of no mention of a river, he has filled in the missing information and has arrived at a suitable meaning for 'bank':

"…at the start she was walking up the hill – probably like a hill – with her buckets – two like, maybe two buckets or just one like this full of water." (holds up imaginary bucket)

How would MB11 do on a comprehension test if he were asked: 'Where was Karen?' If he said she was walking up a hill, he would be 'wrong'. Nevertheless, he is

constructing a meaning for ‘bank’ as used in this context. Another reference to this ‘bank’ in the story might bring him closer to what would be considered ‘correct’.

Making meaning in this way leads to a particularly resistant memory, which seems to be a factor of the amount of ‘work’ going into construction of the meaning (Black, 1981; Paivio, 1969). Glancing at the picture to solve the problem of what this ‘bank’ might be solves the issue at the time, but might soon be forgotten. At any rate, the essential skill of guessing meaning from context would not be practised. Grellet (1981) maintains that from the very beginning of reading instruction, children should learn to make the effort to deal with difficult words on their own; teachers should not explain the difficult words to them. This is the reason she gives for advocating that children should be helped, from the outset, to develop the skill of inference.

Vocabulary can sometimes be taught using visual aids, but vocabulary also has to be taught by encouraging the reader to make a meaning based on the linguistic context, even if it might be ‘wrong’. The reader will remember and see that he or she was ‘wrong’ and adjust accordingly. Even noticing a mistake will help it be more memorable. Donaldson (1978) sees the making of errors as important for learning and that trying to prevent children from making errors does not assist their learning. This need not make the reading experience too frustrating or unpleasant; it does not take the enjoyment out of reading. Beginner readers would not be given material loaded with words that they are unlikely to have ever heard before.

If the readers know the words, the picture is an unnecessary distraction. If they do not know the words, they need to learn how to assign meaning from context.

7.2.3 Pictures used to help children to ‘learn’ the text

Beginner readers who know how to process pictures well will probably benefit more from information presented visually at an earlier stage in their schooling than information presented in a text-only format when the aim of a lesson is to teach certain concepts rather than to teach reading skills. If one wanted to make sure that MB11 learnt what a riverbank was, one would do better to take him out on a field trip or to show him photographs rather than depend on this story or a textual description.

What MB11 is learning from making his mental model when reading Story D is how to use the linguistic context to help with understanding unknown words; he might also learn what a riverbank is, but he might not. The process is the important thing he is learning, not the product.

Pressley (1977) claimed that pictures have a positive effect on children's general learning and that for beginner readers the pictures are usually learnt better than the words. Certainly one would enlist visual aids to help teach certain concepts to very young children rather than expecting them to learn these concepts by reading. However, Pressley uses this as a reason for always including pictures in early reading material whereas this study suggests that learning how to understand texts is one area of learning that young children need to tackle without the pictures.

7.2.4 Pictures used to help learners 'get it right' and avoid errors

FB3, one of the female difference poor readers who seemed to need the pictures, was discussed at some length in Chapter 6. She was the reader who suddenly made the evaluative inference, when reading Story D in the 'T only' condition that explained why the girl in the story asked about the tap. FB3 made this inference after 2 other questions had been asked and she showed some eagerness to share what she had worked out. Not only that, but this inference is very well-monitored indeed and is one that had not occurred to anyone, including the researcher:

"…maybe cause she's thirsty and she doesn't want to drink out of that water because it's from the bank."

When she is asked, 'Does this story remind you of anything you've done in your life?' she replies:

"No but some of the bits I could picture in my head like when they flung back I could like see in my head I could see them screaming."

We cannot be sure, but it seemed that she wanted to share this experience because it was new and surprising. She was the only reader to take this opportunity when

asked the first question to share what was obviously for her an interesting experience.

A picture would have prevented the mistake about getting water from a ‘bank’ as it is a river that must be inferred and the ‘bank’ is a riverbank. This answer would be ‘wrong’ on a comprehension test. However, a picture of the girls screaming and jumping backwards would also have prevented her ‘seeing’ this in her head – and other pictures would have prevented her seeing the other ‘bits’ that she mentions she saw in her mind’s eye.

She is one of the readers who ‘needs’ pictures and for whom a case can be made to show that pictures ‘help’ her to understand the text. Yet, without pictures, she provides evidence that she is practising the key skill necessary for understanding a text. FB3 is making an internal model – not just the ‘pictures’ that she reports seeing in her head but also her insights into the thoughts of one of the characters.

When FB3 has the pictures she provides evidence that her memory for personal experiences has been accessed but she does not monitor her use of this source of information very well – her focus is off the text and demonstrably on the pictures. We know this because she points at them. Nevertheless, given a story to read with pictures she would probably demonstrate better comprehension with pictures than without. Although this sort of result supports the use of pictures it is a fallacy to say that pictures help such a reader understand the text. Such a reader does not focus on the text but gets the information from the pictures. More extreme examples of this are MB6 and MB7.

The question is, ‘Does FB3 need the pictures?’ If the aim is that she should be practising ‘how’ to understand a text then the answer is ‘no’. An analysis of her answers indicated that it might have been the absence of pictures that caused her problems, rather than the presence of pictures being helpful. She was used to pictures. Referring to the pictures was a practised part of her reading process. When they were removed she was a bit lost. Practising making mental models would probably be useful for her.

7.2.5 Pictures seen as being needed the most by poor readers

Poor readers, of course, have special reading schemes that continue to use pictures but have themes more suitable to their age. They may rarely or never escape from the use of picture as adjuncts to the text. It follows them to secondary school where texts in most subjects have become highly illustrated in order to help them understand and to learn the content. The difference poor readers in this study needed to have some degree of skill at comprehension because of the design of the experiment. They were not true 'difference poor readers'. True difference poor readers understand virtually nothing when they read. The readers in this study were called 'difference poor readers', as explained in Chapter 1, because they had difficulty understanding text at a time in their schooling when picture books were still being used to a large extent. Even though they cannot answer comprehension questions successfully even when using picture books, most of them will continue to be given picture books. They are the readers whose results on the STAR test flag them as needing remedial help. For these readers, the material aimed specifically at them in order to help them read will contain pictures not only throughout primary school, but throughout secondary school as well – comic book versions of 'Macbeth', for example.

MB6, for instance, simply listed the objects in the pictures. He was more successful at comprehension without them as were all but one of the other male difference poor readers. Real 'difference poor readers' can read the text fluently and give the impression that they understand because their verbal expression is so good. However, they understand very little of the text and some of them get absolutely no meaning whatsoever out of the text. It is a great mystery to their teachers, especially when these readers get older. They can talk and understand speech, yet they cannot understand a written text. It is a common problem faced by teachers and the usual observation that teachers make, 'They can read the words but they can't understand!' is so often heard that Dewitz & Dewitz (2003) used it as part of the title for their article in 'The Reading Teacher'. These readers often consider themselves to be very good readers because their decoding skills can be among the best in the class (Yuill & Oakhill, 1991); however, this simply shows that they obviously do not grasp the true

nature of what reading is all about. Perhaps when FB3 was seeing the images in her head she was getting her first glimpse of this experience.

No doubt some of these genuine 'difference poor readers' have other difficulties which cannot be attributed to the use of picture books. However, remedial material designed to help them is always illustrated. Since MB6 is so nearly a genuine difference poor reader, and since he understood so much more without pictures, perhaps he gives some reason to hope that at least a few of these readers could be helped earlier on if reading materials for such learners did not contain pictures.

In this study it was not considered necessary to know why these children were poor at comprehension. There may be many reasons contributing to their problems with learning to read. However, if a particular child makes more inferences without pictures than he or she does with pictures, then this indicates that there is at least one way to help that child improve.

7.2.6 Pictures used to help good readers to improve

When the 'good' readers are past the age where it is considered that they need picture books, the thinking that gave rise to the use of illustrated reading material aimed at teaching reading still informs the reading lessons that they receive. These children arrive at this age well-practiced in using pictures when they read. As a result there are things that they have learnt that they need to unlearn, and there are things that they have not learnt that they need to learn. One would think that this would happen at about the age of 8 or 9, but books provided in schools in reading schemes, and in the New Zealand School Journals, are still illustrated. All that happens is that the ratio of words to pictures changes – there are fewer pictures and more words. It is unlikely that any student would be given a reading book totally without pictures until he or she was well into secondary school.

When we examine both the quantitative and the qualitative results, it would seem clear from this study that there is a reason to suspect that the presence of pictures in materials aimed at teaching reading skills could be counter-productive and that more research is needed. However, in educational circles, there is a well-established link

between illustrated stories and the teaching of reading. The use of illustrated texts has become so accepted that beginner readers have no choice but to use illustrated texts when selecting reading material aimed at their level.

7.2.7 Wordless picture books used as the best first step to learning to read

Wordless picture books are used to encourage the readers to make up their own stories and tell them as if they were reading a book. Telling themselves the story from the pictures is seen as a genuine reading task that prepares them to tackle reading text. Some of the readers in this study showed a tendency to ignore the text and make up their own narratives from the pictures. Using wordless picture books actually teaches them to do this so it is not surprising that some of them continue to do it rather than shifting their attention to the words. A study in England (Tizard, 1988) found that over half the children who arrived at school from nursery school believed that adults were reading the pictures not the text.

When beginner books include text it is often redundant and the language repetitive and dull. The pictures carry most of the meaning and convey more subtle messages. Children can easily learn from this that there is more to be gained from studying the pictures than studying the text. “In the beginning the words are few; the story happenings are in the pictures….The reader has to learn which of the pictorial events carries the line of the story” (Meek, 1988, p. 12).

7.2.8 Pictures specially useful when teaching ‘visual’ learners

The research behind ‘learning styles’ has been shown to be largely unreliable (Coffield, Moseley, Hall, & Ecclestone, 2004) with the labeling of learners by others and by themselves as a dangerous consequence. However, labeling learners as ‘visual’ or ‘aural’ and so on continues to be done. Learners do have preferences in regard to how they learn, but these are not ‘biologically’ set and often owe more to past educational experiences than to any particular individual differences in brain formation and activity.

Boys are often seen by teachers as ‘visual’ learners because they might prefer drawing or looking at pictures to activities involving language skills. More insidious still, is the possibility that when learners label themselves they think that they cannot learn in other ways than the way they have been labeled as preferring. The use of visual aids can benefit the teaching of many things, but if learners are labeled as a ‘visual learners’ then the use of pictures can be justified to help teach them reading.

The worry here is that the most artistic children would be the ones with the most potential to create vivid images and accurate mental models as far as the visual elements are concerned but they are also the most likely to be distracted by the pictures because they are so fascinated by art. Some of the pictures in the books are very intricate and colourful. MB11 was an example of a young reader who has the capacity to make very good mental images if he does not have a picture to process at the same time, but he was also drawn to the illustrations and paid less attention to the text when a picture was used.

As discussed in Section 2.11 and 2.12, the differences between male and female brains and how they develop is turning out to be an area of study that could shed light on how and why pictures interfere with processing text. Hopefully the effect of illustrations on learning to read will be considered in future research using fMRI.

7.2.9 What children might learn more successfully about reading if using text only

With text only children might come to appreciate the following:

- that the more effort they put in to figuring out the meaning, the more likely they are to remember a word - also that the meaning of a word relies on the context in which it is used;

- that the teacher stands little chance of teaching them the meanings of all the words they need to know by telling them, and that practising the skill of ‘guessing’ the meaning from the context is the key; they need to practice this by seeing how a word relates to other words around it;

- that they need to create inferences for aspects of the meaning that are not provided by the text and that they create this by combining information in the text with their own store of information;

- that they need to monitor their internal creation of meaning by focusing on information from the text and suppressing inappropriate knowledge and enhancing appropriate knowledge in order to make an accurate mental model;

- that this mental model may need to be changed or abandoned altogether several times over because getting it ‘wrong’ is part of the process so it is important to learn to recognise when their mental model might be ‘wrong’ and to change it;

- that they simply may not have the required background knowledge to get very close to the author’s intended meaning but that it is acceptable to try because practising the skill is the thing rather than ‘correct’ comprehension being paramount;

- that they may need to read the story a few times and try to solve the problems it presents by reflecting on the mental model they have made and that they can take information from anywhere in the text in order to make their model more workable in light of all the information available;

- that this mental model, in the case of a narrative, can be a dynamic internal visual representation but that it can have other aspects such as sound, smell, taste and touch as well as less tangible elements such as the characters’ goals, emotions and states of mind, and that they can elaborate with aspects not suggested by the text and that this elaboration can enhance their enjoyment while not being absolutely necessary for comprehension;

- that all of this can be interesting and enjoyable and just plain ‘fun’ the way any puzzle-solving activity is – the sense of accomplishment being very motivating;

- that it can pull you into a ‘world’ in your head where you are secreted away in the happiness of your own creative activity and where you can experience one of the genuine pleasures;

- that this is very personal and no one else will have exactly the same experience;

- that even the shabbiest book can be your ticket to participation in this gratifying activity.

Several of the children in this study seemed to think the meaning was there on the page. MB6, when first asked a question at the beginning of each ‘T & P’ session, dived down onto the page with his finger and read the first thing he ‘stabbed’. He obviously had no ‘understanding’ of the text as a result of having no mental model. As the sessions proceeded and he realised he was being asked his ‘opinions’ (What do you think?) he did this less. Children are taught to look for the answers to comprehension questions on the page. If they do not find the words helpful, then they are taught that they should search in the pictures. If they have no appreciation of the fact that they can make the meaning in their heads - or even that they already do make such a meaning - then they will expect the meaning to be on the page.

As FB11 said when answering a question after reading Story A: “It doesn’t tell you.” FB11 needs to appreciate that the information is often ‘implicit’; it is not all ‘given’. If the pictures work with the text to give the information that, without pictures, the text would require the reader to provide by drawing an inference, then the reader will not practise a vital skill if he or she simply refers to the picture. When the import of the language eludes learners, it does not help them to practise processing language if they glance away at a picture. When they do this they have missed an opportunity to improve their linguistic skills.

There is a need to recognise and accommodate differences between learner readers. Instructing the readers to refer to the picture does not recognise this. Smith & Hancox (2001) point out that two readers who have the same knowledge structures may reach different intermediate understandings. They could differ in respect to how flexible they are, a trait which has nothing to do with the reading lesson but which affects how they process the material and come to an understanding of it. A key feature of human comprehension that has been identified is its balance between flexibility and efficiency. One reader might be fairly rigid and delay making a particular inference until he or she is sure about the need for it while another may be more flexible and happily make many inferences before finding out that they are not correct. To 'help' children make an inference by showing a visual representation provided by an illustrator does not recognise such individual paths to comprehension.

7.3 The inability of many difference poor readers to make meaning persists into adulthood

Long, Johns, & Morris (2006) point out that after decades of research, the answer to why difference poor readers as adults fail to execute the high-level interpretive processes that result in a coherent discourse model is still unclear. Answers are being sought from various areas and there is likely to be more than one reason that explains why these readers have difficulties in comprehension. However, in this study, simply removing the pictures from seven and eight year old male difference poor readers resulted in a significant increase in their ability to make inferences when reading, and if inferences are the key to comprehension, then this gives some insight into at least one factor that might be causing the inability to comprehend to persist into adulthood for many of these difference poor readers.

The worry is that the ability to respond as the children in this study responded may atrophy. By the time they have reached adulthood, these readers may no longer be able to make inferences even when there are no pictures; there may be a 'critical period' in which they can acquire this skill well. Any attempts to acquire it in later life may be hampered. The developing brain has been likened to a "…highway system that evolves with use: less travelled roads may be abandoned…" (Aoki & Siekevitz, 1988, p. 34). This possibility needs to be the subject of research.

The participants were given no training in making a mental model during this study; for some of them it may have been their first experience with reading a story without illustrations, a situation most likely with the difference poor readers. This is a fairly safe assumption considering the materials used in schools for teaching reading; in fact, it is probably not rash to suggest that in this age-group most of them would never have read stories without pictures especially the difference poor readers.

Yet, without training in reading text only and without much or any practice at it, virtually all of the male difference poor readers made more inferences when the pictures were removed. They were practising this vital skill. It may be that after years of reading and relying on the pictures, the ability to make inferences while reading atrophies. If reading does not result in understanding, then these difference poor readers will be unlikely to read much and this will compound the problem. In secondary education the current view is to label these readers, who are predominantly boys, as 'visual learners' and to teach them with as many visual aids as possible. They are seen as not being able to learn from text alone or even text supported by pictures. Even if the aim of some remedial reading material is to teach students how to understand the way text and pictures communicate together, some of them do not seem to have learnt this.

In Section 2.2 the difference in reading ability was seen to persist and to become worse throughout the years of schooling. However, the results of this study suggest that this may not inevitable so long as remedial help comes in the right form and comes early enough. Naturally more research is needed but there is already some support for this view. Yule & Oakhill (1991) found that a brief training session for children in how to create a mental model while reading removed most of the difference between the good and the difference poor readers. Young learners need an insight into the process of making a mental model while reading and a chance to practise it. Making inferences is at the very heart of what they need to do in order to practise this process. Since the presence of pictures seems to have a negative effect on the number of inferences that the learners make when reading, then the best way for them to practise this process is by reading the text without illustrations.

7.4 Summary

This study used a 'repeated measures' format for it is not possible to say that a control group of young readers is composed of individuals who differ from each other in only one respect, for instance the tendency to be distracted by pictures. However, if a variety of young readers are likely to make more inferences without having a picture present – for whatever reasons – then it can be assumed that the removal of the pictures is one step that can help all of them regardless of what other problems each may have.

The use of pictures is based on a theory that assumes that picture books do the following: provide the meaning when readers are too inexperienced to make it themselves; motivate beginner readers to read; teach them vocabulary; teach them the content of texts; and help beginner readers avoid errors. This study focused on the making of inferences, a key ingredient in the process of reading, and the results obtained both quantitatively and qualitatively, in addition to results from other research into the nature of reading and learning to read, have given reason to suspect that the theory that promotes picture books for beginners is based on fallacious views, especially in regard to the development of inferencing skills.

Both difference poor readers and good readers were found to be affected negatively by the use of illustrations. Therefore the results of this study suggest that the reading experience for learners at all stages in their learning might be enhanced and made more stimulating and successful if there were more opportunities, right from the very beginning, for learners to read texts without illustrations. Some suggestions were made as to how illustrated texts and electronic texts could be used to help children learn about making internal mental models. It is concluded that methods need to be devised that reflect a better understanding of, and a clearer insight into both the nature of language, and the complex process of reading.

The results also gave some justification for further research to investigate the possibility that many difference poor readers, who might otherwise continue to be unable to understand text into adulthood, could be helped if instructional materials focused on text and removed visual aids while these readers were still young.

Above all it is recommended that the effect of the use of pictures on learning the skills needed for good reading comprehension needs to be more fully researched since it pervades educational practice.

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Appendix 1

Stories and Questions

Story A - Jason's Surprise Meeting

Jason waved goodbye to his team mates on the bus and walked off along the road. Two pretty girls that he knew were coming towards him. He smiled and nodded at them thinking how good he must look in his rugby shirt, but they both laughed as they walked by him.

It had been muddy on the field and Jason didn't realise what his face and hair looked like. He frowned, glanced back at them, and then walked smack into a tree.

'Hey!" came a voice near his feet.
Jason bent down and looked in very small hole in the trunk.

'Hello," he replied. 'Who's there?'
'The Tree Fairy, who else?'

'Ha!' said Jason. 'And I'm Jonah Lomu. There are no such things as fairies.'
'Well, Jonah, watch where you're going or else!'

'Or else what?' sneered Jason.
'Would you like me to show you?' The voice was suddenly deeper and Jason felt just a little bit nervous.

He gave a short laugh. 'Alright. Go ahead and try.'

'Jason! Wake up!' It was his mother's voice. He opened his eyes and saw her worried face with lots of tree branches, blue sky and clouds behind it.

'You should watch where you're going!' she said. 'It's a good thing I looked up from the sink and saw you.'

She helped him up and he followed her through the gate feeling dizzy and breathless. He thought he heard a small voice laughing, but when he turned around to look, the hole had disappeared.

Questions for Story A:

1. Does this story remind you of anything you've done in your life? (not scored)
2. What do you think Jason was doing just before the story started?
3. Where do you think Jason was going when he got off the bus?
4. Why do you think the girls laughed at him?

5. Where, exactly, was the tree?
6. Was there really a tree fairy? (Ask for reasons for opinion).
7. Describe the Tree Fairy **or** What do you think a tree fairy would look like – give me plenty of details. (This Q not scored)
8. Where was Jason's mother when she saw him?
9. What do you think Jason's mother was doing when she saw him?
10. What had happened to Jason just before his mother saw him?
11. Where was Jason when his mother spoke to him?
12. Why was Jason dizzy and breathless?
13. **Who was laughing at Jason at the end of the story?**
14. Could you please close the book now and tell me the story as you remember it? (This re-telling not scored but might show up an inference the Q's missed.)

Story B – Josh and Finn's Surprise Meeting

"There goes our sandcastle!" cried Josh as the wave crashed. "And just as mum's gone to get the camera!"

Finn picked up the bucket of pretty shells that he'd collected. "The tide's coming in fast," he said. "We'd better go back up."

The boys started to climb.

"Ouch!" cried Finn, treading on the sharp rocks.

Suddenly they saw a silver fishtail waving among the rocks ahead.

Josh scrambled quickly towards it but Finn didn't move.

"There's a strange fish in a rock pool," yelled Josh.

"Is it a shark?" asked Finn.

As Josh leaned over to get a better look, he slipped and fell in.

Just then, a big wave burst and flowed into the rock pool. Finn dropped his bucket. He was very frightened but he made himself dive in.

Finn felt a cold scaly body in the water beside him and he jumped with fright. Then he felt an arm and a hand. He grabbed the hand and pulled and pulled. Josh felt very heavy but Finn climbed out onto the rocks and pulled Josh out behind him.

Panting, Finn turned around – it wasn't Josh at all! It was a girl with a long, silver fish's tail!

Josh climbed out behind her. “Wow!” he said. “What are you?”

The girl smiled, picked up one of Finn’s shells and slipped back into the water just as another wave burst.

Suddenly their mother appeared waving a towel.

“Boys! Come and get dry!” she called.

“Look what we found!” they cried, but when they turned around the rock pool was empty.

Questions for Story B:

Josh and Finn’s Surprise Meeting

1. Does this story remind you of anything you’ve done in your life? (Don’t score)
2. What do you think Josh and Finn were doing just before the story started?
3. Where does Finn want to go and why? (If they say ‘back up’, ask where that is, exactly.)
4. What do you think their mother was planning to do at the beginning?
5. When Finn said ‘ouch’, which part of him was hurting?
6. What had happened to their sandcastle?
7. Describe the girl – the ‘mermaid’. What does she look like? Give me lots of details. (Don’t score this one)
8. How do you think the shells got onto the rocks?
9. Where do you think Finn’s bucket was at the end of the story?
10. Why do you think Finn didn’t follow Josh when they first saw the tail?
11. Why do you think their mother is waving a towel?
12. Why was the mermaid in the rock pool?
13. **Do you think their mother will believe their story about the mermaid? Why? Why not?**
14. Could you please close the book now and tell me the story as you remember it?

Story C – Janet’s Surprise Meeting

Janet’s hand was cramped from pushing the mouse around. It was late and she was supposed to be in bed. However, the game had been so interesting that she hadn’t worried about her aunt and uncle finding her. She shivered in spite of her thick pyjamas, but as she reached forward to click on ‘close’, a face appeared on the screen. Janet jumped back.

“Oh!” she cried, almost falling off the chair.

“Hello,” said the boy, smiling. His head moved so he could see behind her. “Nice room. Big – lots of space.”

“What’s it like where you live?” asked Janet, afraid she already knew the answer.

His face suddenly looked sad. “It’s rather cramped in here,” he said.

Janet shivered for a second time.

“Don’t pretend,” she said. “You’re using the phone line and a camera. I’m going to turn you off.”

“You’re not plugged into a phone line,” said the boy quietly.

Janet didn’t like this at all.

“I’m dreaming then!” she cried.

“Shhh,” said the boy. “Your aunt’s coming.”

Janet quickly clicked on ‘close’ and leapt into bed

“Well, he was wrong,” she muttered to herself. “I can’t hear anyone. Besides, how could he know it’s Aunty Kay and not Uncle Jamie?”

Slowly the door creaked open and Janet could see her aunt’s familiar curly hair against the light in the hallway. She shut her eyes and after a couple of seconds heard the door gently closing.

Wriggling deep down under the covers, Janet could hear her heart beating loudly. She was glad she was going back tomorrow.

Questions for Story C:

1. Does this story remind you of anything you’ve done in your life? (Don’t score)
2. What do you think Janet was doing just before the story started?
3. Why do you think Janet has decided to stop? (Any other reasons?)
4. Why do you think the boy looks behind Janet?
5. What do you think it is like where the boy lives?
6. Why does the boy suddenly look sad?
7. Describe the boy. What do you think he looks like? Give me lots of details.- Don’t score
8. Why do you think Janet’s afraid when she asks him where he lives?
9. Where exactly is Janet? (If they say ‘Her bedroom” ask – Is it her bedroom in her own home?)
10. Where do you think her parents are while Janet’s talking to the boy?
11. What are Janet’s aunt and uncle doing while Janet’s talking to the boy?
12. Why do you think Janet’s aunt opens the door?

13. Do you think Janet really saw the boy? Ask for reasons for opinion.
14. Could you please close the book now and tell me the story as you remember it?

Story D – Karen and Emma's Surprise Meeting

Karen carried the heavy bucket to the small tent. She unzipped the flap and crawled in.

"Wake up, Emma," she said. "I'm hungry."

"Is that tap working yet?" replied Emma, sleepily.

"No. I had to carry a full bucket up that steep bank. My arm hurts now."

Suddenly loud slurping noises came from outside the tent. The two sisters grabbed each other in fright.

Eventually Karen quietly lifted the flap a little and peeped out.

"I think it's a horse," she whispered, then stuck her head out further.

"Be careful!" said Emma.

"Wow!" said Karen. 'Come and look!"

Emma poked her head out. There, just outside, was a moose. It was huge and had antlers.

"Is it dangerous?" squeaked Emma.

The moose lifted its head, looked right at them, and made a loud coughing noise. Both girls screamed and jumped back clinging to each other. There was a loud thundering noise.

Suddenly their father burst through the flap panting loudly and clutching his chest.

"Watch out, it's dangerous!" screamed Karen.

"What's dangerous?" he asked, looking around wide-eyed.

"The moose!" cried Emma.

"That's not funny, girls," said their father. "You frightened your mother!"

"But…" said Karen.

"There are no moose in New Zealand," he said sternly. "Now, Karen, stop fooling around and fill up this bucket so we can make tea and get washed."

Karen crept out of the tent and looked around. There was no sign of the moose. She picked up the bucket.

"Well, at least it's not heavy now," she sighed.

Questions for Story D:

D. Karen and Emma's Surprise Meeting

1. Does this story remind you of anything you've done in your life? (Don't score)
2. What do you think Karen was doing just before the story started?
3. What do you think Karen wants to do when she wakes Emma up?
4. Why do you think Emma asks about the tap?
5. Where are they?
6. What did the girls hear the moose doing outside the tent?
7. Describe the place where the family is staying. Give me lots of details. (No score)
8. Why do you think Karen thought it was a horse outside the tent when she first peeped out of the tent flap?
9. Where do you think their mother is?
10. What do you think their father was doing when the story started?
11. What made the loud thundering noise just before the father came to their tent?
12. **Why is their father angry?**
13. What does Karen have to do now? (If they say 'get water' or 'fill up the bucket' ask 'Why?')
14. Could you please close the book now and tell me the story as you remember it?

Appendix 2

Stories as presented in ‘T & P’ condition

Story A

Jason's Surprise Meeting

Illustrated by B.M. Woods

Illustrated by B.M. Woods

Jason waved goodbye to his team mates on the bus and walked off along the road. Two pretty girls that he knew were coming towards him. He smiled and nodded at them thinking how good he must look in his rugby shirt, but they both laughed as they walked by him.

It had been muddy on the field and Jason didn't realise what his face and hair looked like. He frowned, glanced back at them, and then walked smack into a tree.

"Hey!" came a voice near his feet.

Jason bent down and looked in a very small hole in the trunk.

"Hello," he replied. "Who's there?"

"The Tree Fairy, who else?"

"Ha!" said Jason. "And I'm Jonah Lomu. There are no such things as fairies."

"Well, Jonah, watch where you're going or else!"

"Or else what?" sneered Jason.

"Would you like me to show you?" The voice was suddenly deeper and Jason felt just a little bit nervous.

He gave a short laugh. "Alright. Go ahead and try."

"Jason! Wake up!" It was his mother's voice. He opened his eyes and saw her worried face with lots of tree branches, blue sky and clouds behind it. "You should watch where you're going!" she said. "It's a good thing I looked up from the sink and saw you."

She helped him up and he followed her through the gate feeling dizzy and breathless. He thought he ard a small voice laughing, but when he turned around to look, the hole had disappeared.

Story B

Josh and Finn's Surprise Meeting

Illustrated by B.M. Woods

Illustrated by B.M. Woods

"There goes our sandcastle!" cried Josh as the wave crashed. "And just as mum's gone to get the camera!"

Finn picked up the bucket of pretty shells that he'd collected. "The tide's coming in fast," he said. "We'd better go back up."

The boys started to climb.

"Ouch!" cried Finn treading on the sharp rocks.

Suddenly they saw a silver fish tail waving among the rocks ahead. Josh scrambled quickly towards it but Finn didn't move.

"There's a strange fish in a rock pool," yelled Josh.

"Is it a shark?" asked Finn.

As Josh leaned over to get a better look, he slipped and fell in.

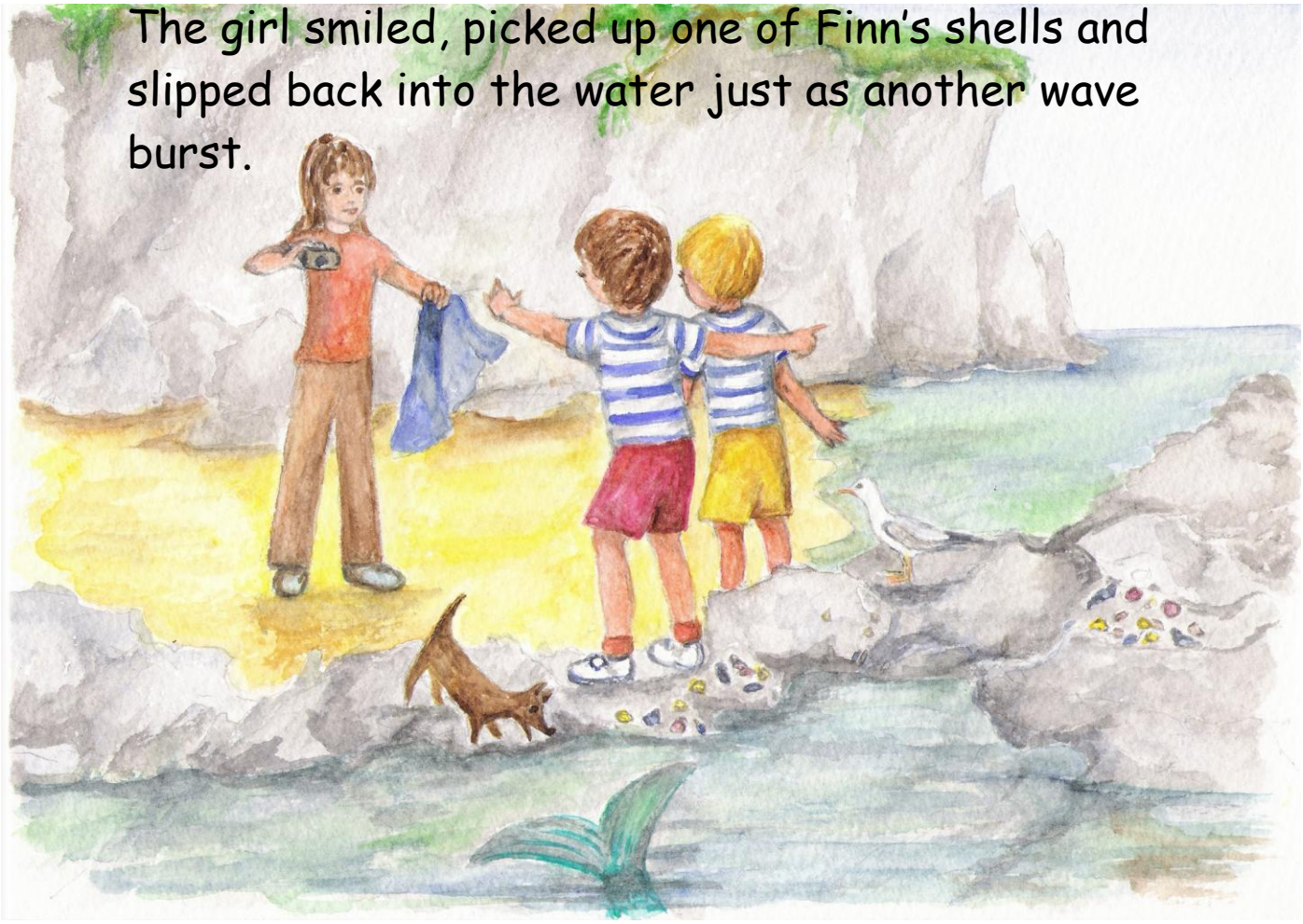
A big wave burst and water flowed into the rock pool. Finn dropped his bucket. He was very frightened but he made himself dive in.

Finn felt a cold and scaly body and jumped with fright. Then he felt an arm and a hand. He grabbed the hand and pulled and pulled.

Josh felt very heavy but Finn climbed out onto the rocks and pulled Josh behind him.

Panting, Finn turned around – it wasn't Josh at all! It was a girl with a long, silver fish's tail!

Josh climbed out behind her. "Wow!" he said.
"What are you?"



Suddenly their mother appeared, waving a towel.

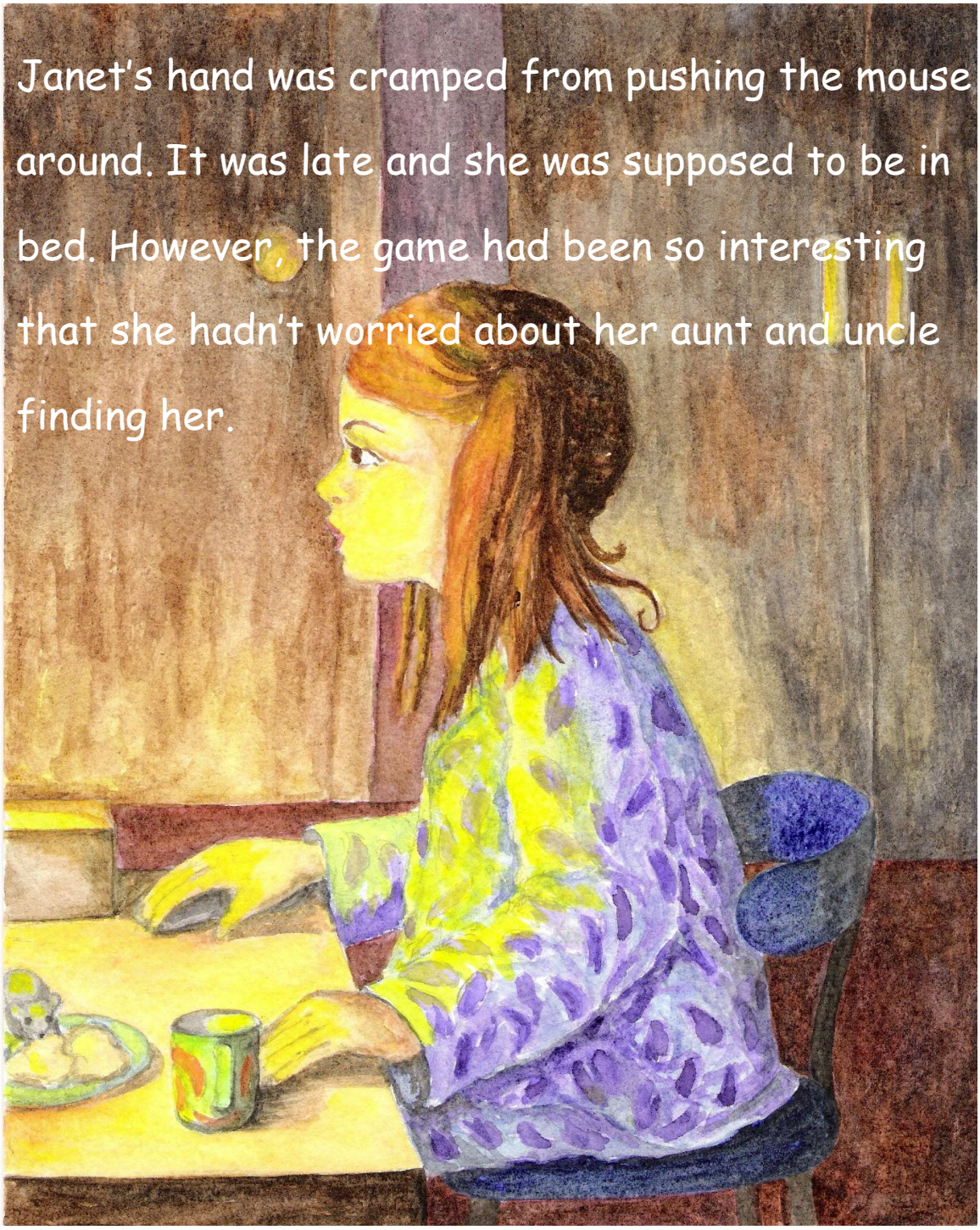
"Boys! Come and get dry!" she said.
"Look what we've found!" they cried, but when they turned around the rock pool was empty.

Story C

Janet's Surprise Meeting

Illustrated by B.M. Woods

Illustrated by B.M. Woods



She shivered in spite of her thick pyjamas, but as she reached forward to click on 'close', a face appeared on the screen. Janet jumped back.

"Oh!" she cried, almost falling off the chair.

"Hello," said the boy, smiling. His head moved so he could see behind her. "Nice room. Big – lots of space."

"What's it like where you live?" asked Janet, afraid she already knew the answer.

His face suddenly looked sad. "It's rather cramped in here," he said.

Janet shivered for a second time. "Don't pretend," she said. "You're using the phone line and a camera. I'm going to turn you off."

"You're not plugged into a phone line," said the boy quietly.

Janet didn't like this at all.

"I'm dreaming then!" she cried.

"Shhh," said the boy. "Your aunt's coming."

Janet quickly clicked on 'close' and leapt into bed.

"Well, he was wrong," she muttered to herself. "I can't hear anyone. Besides, how could he know it's Aunty Kay and not Uncle Jamie?"

Slowly the door creaked open and Janet could see her aunt's familiar curly hair against the light in the hallway. She shut her eyes and after a couple of seconds heard the door gently closing.

Wriggling deep down under the covers, Janet could hear her heart beating loudly. She was glad she was going back tomorrow.

Story D

Karen and Emma's Surprise Meeting

Illustrated by B.M. Woods.

Illustrated by B.M. Woods.

Karen carried the heavy bucket to the small tent. She unzipped the flap and crawled in.

"Wake up, Emma," she said. "I'm hungry."

"Is that tap working yet?" replied Emma, sleepily.

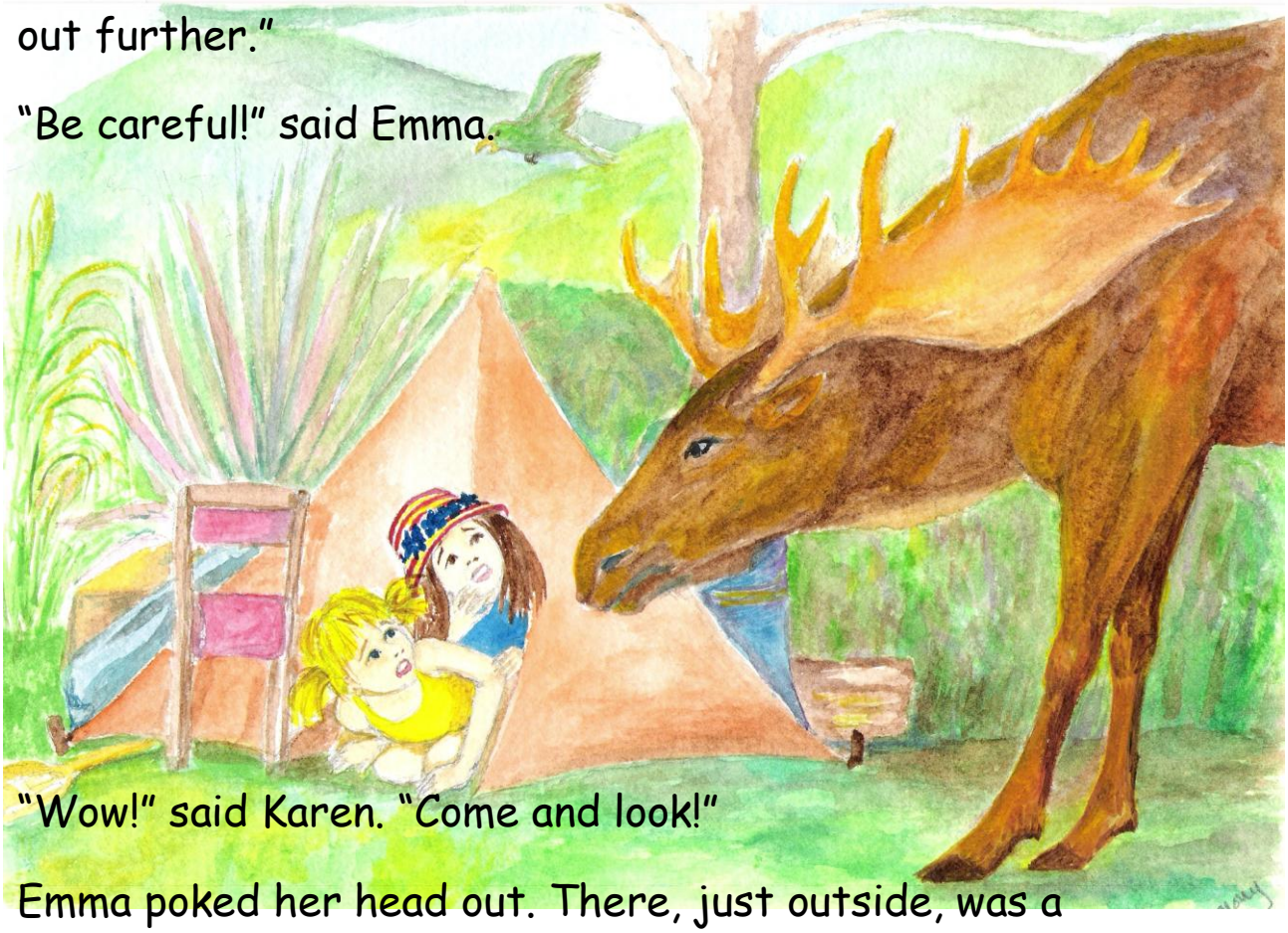
"No. I had to carry a full bucket up that steep bank. My arm hurts now."

Suddenly loud slurping noises came from outside the tent. The two sisters grabbed each other in fright.

Eventually Karen quietly lifted the flap a little and peeped out.

"I think it's a horse," she whispered, then stuck her head out further."

"Be careful!" said Emma.



"Wow!" said Karen. "Come and look!"

Emma poked her head out. There, just outside, was a moose. It was huge and had antlers.

"Is it dangerous?" squeaked Emma.

The moose lifted its head, looked right at them, and made a loud coughing noise.

Both girls screamed and jumped back clinging to each other. There was a loud thundering noise.

Suddenly their father burst through the flap panting loudly and clutching his chest.

"Watch out, it's dangerous!" screamed Karen.

"What's dangerous?" he asked, looking around wide-eyed.

"The moose!" cried Emma.

"That's not funny, girls" said their father. "You frightened your mother!"

"But…" said Karen.

"There are no moose in New Zealand," he said sternly.

"Now, Karen, stop fooling around and fill up this bucket so we can make tea and get washed."

Karen crept out of the tent and looked around. There was no sign of the moose. She picked up the bucket.

"Well, at least it's not heavy now," she sighed.

Appendix 3

Table allocating reading conditions and stories to participants

This table shows how conditions were allocated to the participants to ensure a balanced design. The ‘p’ indicates a ‘text plus picture’ condition. Each of the stories is labelled ‘A’, ‘B’, ‘C’ or ‘D’.

24 MALES					
12 Good Readers			12 Difference Poor Readers		
Participants	**Session 1**	**Session 2**	**Participants**	**Session 1**	**Session 2**
MA1	Ap Bp	C D	MB1	Ap Bp	C D
MA2	Bp Ap	D C	MB2	Bp Ap	D C
MA3	Ap Cp	B D	MB3	Ap Cp	B D
MA4	Ap Dp	B C	MB4	Ap Dp	B C
MA5	Dp Ap	C B	MB5	Dp Ap	C B
MA6	Cp Ap	D B	MB6	Cp Ap	D B
	Session 2	**Session 1**		**Session 2**	**Session 1**
MA7	Cp Dp	A B	MB7	Cp Dp	A B
MA8	Dp Cp	B A	MB8	Dp Cp	B A
MA9	Bp Dp	A C	MB9	Bp Dp	A C
MA10	Bp Cp	A D	MB10	Bp Cp	A D
MA11	Cp Bp	D A	MB11	Cp Bp	D A
MA12	Dp Bp	C A	MB12	Dp Bp	C A
24 FEMALES					
12 Good Readers			12 Difference Poor Readers		
Participants	**Session 1**	**Session 2**	**Participants**	**Session 1**	**Session 2**
FA1	Ap Bp	C D	FB1	Ap Bp	C D
FA2	Bp Ap	D C	FB2	Bp Ap	D C
FA3	Ap Cp	B D	FB3	Ap Cp	B D
FA4	Ap Dp	B C	FB4	Ap Dp	B C
FA5	Dp Ap	C B	FB5	Dp Ap	C B
FA6	Cp Ap	D B	FB6	Cp Ap	D B
	Session 2	**Session 1**		**Session 2**	**Session 1**
FA7	Cp Dp	A B	FB7	Cp Dp	A B
FA8	Dp Cp	B A	FB8	Dp Cp	B A
FA9	Bp Dp	A C	FB9	Bp Dp	A C
FA10	Bp Cp	A D	FB10	Bp Cp	A D
FA11	Cp Bp	D A	FB11	Cp Bp	D A
FA12	Dp Bp	C A	FB12	Dp Bp	C A

Appendix 4

Scoring Responses for all Stories

Scoring Responses for Story A: sample responses for columns 3 – 4 and acceptable responses for column 5

Q	1	2	3	4	5
2			on a bus trip/waving goodbye/ team mates	Playing soccer / watching a rugby game/ school sports	Playing / practising rugby
3			To meet girls/for a walk	To a rugby game / to school	Going home
4			he smiled at them / hair or face looked funny	His rugby shirt looks silly / they know he likes them / he's messy	He had mud on his face and hair/he was muddy
5			In front of him/by the road	Near his house/park/school/ gate	Outside his house / gate for his house
6			there's no such thing as fairies/his mum/Jonah/yes	Yes. He heard it laugh	No - he's dreaming it because he was knocked out
8			Under or in the tree /beside him / by sink if 9 **not** 4 or 5	At home / in the house /by tap if 9 **not** 4 or 5 / near by	In the kitchen or bathroom / by the tap or sink or house if 9 is 4 or 5
9			Looking at him/sky / being frightened /helping him	Looking out the window	Washing up/ doing dishes / making dinner or washing hands
10			He looked in the hole / walked into a tree	Hit tree and fell on the floor /lying on the ground	He walked into the tree and knocked himself out and fell down/dreaming
11			In the hole / in the road / by/at/in/near/from the tree	Outside or in his house / under the tree / lying down or on ground or floor / in bed	On his back on pavement or floor or ground outside house /near gate /lying under tree
12			The tree branches were waving / bus sick / tired	Excited / frightened by the tree fairy / banged into tree / fell	He'd been knocked out / stood up quickly / everything's strange / hurt
13			His mother/ the girls/mates / Lomu	The tree fairy	**He imagined the laughter because he's still not fully awake**

Scoring Responses for Story B: sample responses for columns 3 – 4 and acceptable responses for column 5

Q	1	2	3	4	5
2			Collecting shells/ playing with other kids &/or dog	Playing on the beach / travelling to beach with mother / swimming	Building a sandcastle
3			To the rock pool /to beach	Away from the sea / home	Back – tide/waves/or take shells home
4			Have a picnic /get camera / go to rock pool / go home	Get a camera and take a picture of them playing	Get a camera and take a picture of the sandcastle
5			His hands, arms, legs – the dog bit him	Some part of him because the rocks were sharp	His feet (on the sharp rocks)
6			The children / dog kicked it over	Fell down	Wave got it + tide came in – it got washed away by the waves/water
8			The sea washed them in / mermaid put them there	Finn put them there / sea washed them out of the bucket	Finn dropped his bucket and the shells spilled out onto the rocks
9			On the sand -	Mermaid has it / rolled down / sea	On rocks (by or in rock pool) by Finn
10			Because he's collecting shells in his bucket	He was scared / frightened	Wanted to know what it was first/ scared it might be a shark /dangerous
11			Shaking sand off / she's hot / packing them away	To make them come so they could go home / to help them see her	To dry /clean them off because they're wet (she saw them fall in so got towel)
12			Because mermaids have to be wet / live in rock pools	Deep/safe place/she pulled people in/collecting shells/watching them	She got washed in by the tide / wave (and couldn't get out or is hiding)
13			No because mermaids aren't real / boys lying	No because their mother can't see her in the pool or mm's don't live in rock pools	**No because the mermaid had gone back into the sea and disappeared – tide or wave washed mm away**

Scoring Responses for Story C: sample responses for columns 3 – 4 and acceptable responses for column 5

Q	1	2	3	4	5
2			Eating/watching TV /playing game /pushing live or toy mouse/going to meeting/sitting on chair	Visiting aunt's / having a sleep-over / staying up late / changing into pyjamas /elaboration on mouse showing inferencing	Playing on computer or playing a computer game (when she was supposed to be in bed)
3			Cramped hand / face came /supposed to be in bed /late	Might upset uncle and aunt as it's past her bed time / aunt coming	She's tired / cold and wants to get into bed / needed sleep
4			To frighten her	He's interested in her room	He wants to see how big her room is
5			It's a room/ another house / cramped	It's a small place where he lives or another world / unpleasant place	He lives in the computer and it's not very big in there – imaginative details
6			She looks frightened of him / feels cramped	He wants her to play with him but she doesn't like him / turning off	He's stuck in the computer and wants to live in a place like hers/lonely/poor
8			Because he might live nearby and come visit her / she already knew answer	She doesn't know him well and she thinks he might be dangerous /talking to a TV / he move in	She's afraid he'll confirm that he lives in a computer / might drag her into the computer, too / talking to a computer
9			In her bedroom / computer room / living room (TV)	In a bedroom/computer room but not in her own home	In a bedroom at her aunt and uncle's house
10			In the house / talking to aunt and uncle / garden	Not in the same house	Own home **if** J not in same - away for the evening or on holiday/shopping
11			Listening outside the door/talking to her parents	Downstairs watching TV / elsewhere in house / coming	Sleeping elsewhere in the house /in bed /going to bed
12			To say hello to Janet	To see if she's asleep – to see if she's alright –no/wrong noise	She heard her talking and is checking to see if she's alright / heard a noise
13			No – there's no one there Yes – she talked to him	No – she was just dreaming/ imagining. Yes – not asleep	**She really saw him because he knew her aunt was coming**

Scoring Responses for Story D: sample responses for columns 3 – 4 and acceptable responses for column 5

Q	1	2	3	4	5
2			Getting water from the tap or carrying heavy bucket to the tent/getting bucket	Getting water / filling bucket / Carrying a bucket of water to the tent / going to site with family	Carrying bucket of water (up) from river / stream to tent – getting water from river / stream etc.
3			Show her the moose / she's hungry / have a drink	Get Emma to get more water	Wants to eat / make tea (breakfast)
4			It wasn't working/to see if it's working / wants water	Because it's broken & dripping annoys her / she's thirsty	Wants to know if have to fill bucket or go to stream for water / or if use tap
5			In a tent / camping + no details / outside	Camping + one or two details – at a site / bush / garden at home	Camping near water not in home garden
6			Looking at the girls / coughing / slurping	Sniffing around the tent / eating the grass / walking about	Drinking the water in the bucket
8			Describes moose in picture or big body looks or sounded like a horse	She didn't see its antlers – saw face/ nose - silhouette through tent looks like horse – hoof beats same	Feet look like horse's hooves – all she could see when she peeped out were the legs and feet
9			In the same tent or at home or outside	Nearby (if tent in garden, accept home here) doing camping things	In the other tent / in bed sleeping / in another tent or caravan
10			He's somewhere else doing something 'vague'	Doing something nearby / in other tent - that one does in a campsite	Sleeping with their mother/getting up (or home if 'garden' – see 5)
11			Their father/weather/storm	The moose	The moose running away / hooves
12			Their tent is a mess or he was frightened of the moose/scared their mother	Being silly/joking / fooling him / mother woken / no water / making a noise / dangerous	**Screams or talk of a moose frightened him (pretending to be angry re mum)**
13			Fill up bucket from tap for tea etc. Do something with bucket /get dressed/tidy up	Fill the bucket again because it's empty – spilled the water because it was heavy / get more water	(Go down the bank to the river and) get more water because moose drank it

Scoring for columns

1	2	3	4	5
no ideas	- evidence of mental model but not showing any information from text being used – not monitoring comprehension in regard to information from text	- literal information – gained directly from language items in the text or items in the pictures without providing evidence of making a knowledge-based inference from information in text + information in memory. - direct evidence of drawing inferences from - or getting literal information from - the picture thus showing dependence on the picture where the picture has distracted from a carefully monitored interpretation of the text - these instances marked with an asterisk : * (Child points to the picture and / or mentions the picture.)	shows evidence of a mental model being constructed using knowledge-based inferences based on memory of experiences, world knowledge and other parts of the text + information from the part of the text under discussion.– could fit the context – wide variety accepted here – workable inferences.	A particular inference being sought providing evidence of a sound mental model that is well-monitored in light of information from the text. one very difficult Q per story **in bold** that shows a particularly effective blending of text plus background knowledge – not expected to make this inference but would show very skilful processing if made, especially at this age

- Scoring indicates whether or not a mental model based on implied information in text is being constructed using answers to questions + re-telling. For example, with MA3 answering questions on Story A, for Q 12, 'Why was Jason dizzy and breathless?' he replied, "Because he felt funny". Researcher probed but still got an unenlightening reply. However, in retelling the story MA3 says, "And then he felt dizzy cause he just woke up…" so this shows that a robust mental model was made and his score reflects that.
- Where re-telling shows an inference was made proving better monitoring than the answer to the Q does, the score for that Q is adjusted – the '**X**' is in bold and, in the transcript, the answer to the Q is followed by an **'A**' in bold (A for 'adjustment' required).
- An asterisk beside any 'X' in column 3 indicates that there was evidence that the picture was referred to by the reader and this did not support implied information in the text. Reader must say or do things that leave no doubt, i.e. '…like in the picture', or an item in the picture is mentioned that is not in the story, i.e. '…the dog bit him' in Story B where there is a dog in every picture but not mentioned in the text, or the child points to the picture and/or holds it up for the researcher to see. There will be no 'guessing' that they looked at the picture from trying to interpret gaze direction.
- Any useful information from the video will be mentioned under 'comments' as well as justification of use of asterisk in column 3 and discussion of effect of the child recalling events from own experiences as a response to Q1 (same for every story).

Appendix 5

Random sample for checking scoring

The random selection of scorings checked against transcripts. ‘T only’ condition shown in bold.

Random Number	Reader Number	Reading Number	Story
9	**MA5**	**3**	**C**
13	**MA7**	**1**	**A**
17	**MA9**	**3**	**A**
2	MA1	2	B
19	MA10	1	A
22	MA11	4	B
3	**FA2**	**3**	**D**
8	**FA4**	**4**	**C**
12	**FA6**	**4**	**B**
1	FA1	1	A
5	FA3	1	A
18	FA9	4	D
4	**MB2**	**4**	**C**
7	**MB4**	**3**	**B**
16	**MB8**	**2**	**A**
3	MB2	1	B
5	MB3	1	A
18	MB9	4	D
8	**FB4**	**4**	**C**
15	**FB8**	**1**	**B**
16	**FB8**	**2**	**A**
3	FB2	1	B
6	FB3	2	C
7	FB4	1	A

Appendix 6

Responses by male good readers

Code Name: **MA1** Sch: Ia Tape: 1	Session: 1	Story A First Reading	T & P 7y 10m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes. I play rugby		
2	Playing rugby		
3	To his house		
4	Because he had mud on his face		
5	By his house because his mum was under the tree		
6	No. Because it was his mum who popped out behind the tree		
7	It would have wings and it would fly		
8	By the sink at his house		
9	Looking at him to see if he was alright when he hit the tree		
10	(Answered this with previous answer – hit the tree)		
11	By the tree		
12	Because he smacked into the tree		
13	The two girls		
It was about a boy that saw a tree fairy – that he saw a tree fairy.			

Code Name: **MA 1** Sch: 1a Tape: 1	Session: 1	Story B Second Reading	T & P 7y 10m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes. I slipped on a rock and fell into a lake		
2	One of them was collecting shells and one of them was just standing there*		
3	He wanted to go to the – he wanted to go to – he found a little rock pool and he looked inside it and I think he wanted a – he went there because he wanted to see if there was anything in it		
4	Take a picture of their sand castle		
5	Because he slipped and fell in ***OK – so which bit of him do you think he hurt?*** His leg		
6	It got washed away by the waves		
7	She had a – she had a blue tail with a fin on the back and she had a necklace on and two arms – and that's it *		
8	The water would wash them in when the tide came in		
9	By the rocks		
10	What was the question? (Q is repeated) Because he wanted – I think he might've wanted to see what was in it		
11	To get them dry		
12	So she wouldn't get all dry and die		
13	No. Because no one's ever seen a mermaid **A**		

The story was about – it was called – the story was about a boy that went was making a -when one of them was collecting shells and one was just standing there. Then one of the boys went up into – had a – saw a rock pool and he – he accidentally slipped and he hurt his leg and then he – one of the other boys he tried to pull him out but he didn't grab his arm he grabbed the mermaid's arm with the long tail and the two arms and then it came up onto the rocks and then their mum came up waving a towel to get them dry but the mermaid had thrown a little shell into the rock pool and swam away. **A**

Code Name: **MA 1** Sch: 1a Tape: 4	Session: 2	Story C First Reading	T only 7y 10m

Q	Participant's answers. Any comments beyond Q's from researcher in bold
1	Playing on the computer all day.
2	Playing on the computer.
3	Because a face popped up on the screen
4	To see how much room there was
5	Lots and lots of wires
6	Because it was cramped in the computer
7	He might have brown hair and his eyes might be made of wires
8	Because she might get scared ***Why?*** Because she might go in with the boy
9	I think she's in her room ***Is it her room in her own home?*** No, in her auntie's and uncle's room
10	They might be at home
11	They might have been looking for her
12	To see what she – to see if she's in there
13	No because she would be really tired and seeing things – she was up late.

It was late at night and Janet was playing on the computer and her hand was getting cramped and just when she was going to click the close button to turn it off a face appeared and she jumped off the chair and went 'Wow!' and then the boy said there's lots of nice things in here there's lots of space and then she was going to click close and the boy's face went sad and it was because it was a bit cramped in there. Then the boy said look your aunt's coming and she jumped into bed and she could see aunt's hand opening the doorway with her curly hair and that's it.

Code Name: **MA 1** Sch: 1a Tape:	Session: 2	Story D Second Reading	T only 7y 10m

Q	Participant's answers. Any comments beyond Q's from researcher in bold
1	Going camping
2	She was getting a bucket of water from the bank
3	She was hungry and she wanted something to eat
4	Because she could just go to the tap and get the water
5	They were camping ***Whereabouts do you think?*** In the bush
6	Slurping water from the bucket
7	They had a big tent and there was a moose that drank water from the bucket that they had got from the bank and that was it

8	Because mooses kind of look like horses but they have big bits on their head **A**
9	Sleeping in another tent
10	Sleeping
11	The moose did a loud coughing noise at them
12	Because the moose was dangerous and he thought it wasn't funny that they were out there with the moose
13	She had to fill up the bucket so they could make tea and get washed ***Why was the bucket empty?*** Because the moose had drank all the water out of it
One of the sisters went down to the bank to get a bucket of water and then she woke her sister up to say that she was hungry and she said, 'Why didn't you – was the tap working?' and she said, 'No' and then they heard a loud slurping noise from the moose that was drinking the water and then she – and then they got frightened and they hugged each other and then one of the girls had a peep to see what it is and she said, 'I think it is a horse' and then she put her head out further and she said, 'Be careful' and it was a moose **A** and then their father came and said it was dangerous and then at the end they had – one of the girls had - to go back down to the bank to get water to make tea and get washed.	

Code Name: **MA2** Sch: 1b Tape: 2	Session: 1	Story B First Reading	T & P 8y 1m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Not really		
2	Making a sand castle		
3	To the rock pool because he saw some fish tail		
4	Taking a photo of their sand castle		
5	His foot		
6	It had been washed away by a wave		
7	No not really		
8	They'd been washed up there by a wave		
9	On the rocks		
10	Because he thought it was dangerous		
11	Because they need to get dry		
12	Because the wave washed her in it		
13	Hardly because some people say that mermaids aren't real		
I remember that the wave washed away the sand castle and then I can remember one of the boys getting a bucket of shells then the boys saw a fish – a silver fish tail and then he hurt his foot on some – on a stone – then he would have been rushing to the rock pools and a wave came over and then he dived in and then he felt the scaly body and he thought it was Josh but it was actually a mermaid. And then their mum came over waving a towel and saying to one of them, 'Come and get dry'.			

Code Name: **MA2** Sch: 1b Tape: 3	Session: 1	Story A Second Reading	T & P 8y 1m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Not really
2	He was getting off the school bus
3	Home
4	Because he was (facing?) his hair ***I'm sorry – I didn't hear that*** – I don't know
5	Behind him
6	No because he's made it up
7	Very tiny – sparkly
8	In front of the tree
9	I don't remember
10	I don't know
11	Lying under the tree
12	Because he had banged into the tree
13	His team mates

He waved to his team mates as he got off the bus then they laughed at him and he didn't really know why and he ran and ran into a tree. He heard a voice coming from below his feet and he saw a tree fairy. They had a little bit of a conversation and then his mother saw him and he was feeling a little dizzy and then he was still feeling dizzy

Code Name: **MA2** Sch: 1b Tape: 5	Session: 2	Story D First Reading	T only 8y 1m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes – going camping
2	Going out to fill the bucket
3	It's because she's hungry
4	I don't know
5	In their front or back yard
6	Grunting
7	Dangerous
8	Because she might have only seen its legs not its body
9	In the house
10	Doing some house work
11	Thunder
12	Because he thought it was a joke ***Why did that make him angry?*** Because maybe he didn't like jokes
13	She probably has to go fill it – fill the bucket up again

She was going up a hill to fill a bucket when she thought she was hungry and someone else asked her if she felt that tap's been working yet and they said no, I think, and then she heard a spluttering noise coming from outside the tent – she opened – she lifted the tent flap and she thought it was a horse that she saw then but when she lifted the flap again she saw it was a moose and it started to grunt and it looked like it was going to charge and they – and then a thundering noise came and then his father came and said 'You frightened your mother' and they said, 'Yes – there's a moose'. And he said, 'That's not funny.' And then he said, 'There's no moose in New Zealand' And that's it – all I can remember.

Code Name: **MA2** Sch: 1b Tape: 5	Session: 2	Story C Second Reading	T only 8y 1m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Staying up late to go on the computer
2	She was on – playing a game on the computer
3	Because it was late and she needed to go to bed
4	To see how big the room was
5	Torn and shattered
6	Because his house might have been ripped to shreds
7	I knew he was unhappy because that was in the story and I couldn't get anything else about him
8	Because she's talking to a computer
9	Where ever her computer is – like in a computer room or something
10	In their beds
11	Maybe talking to each other and discussing if they should check on her or not
12	To see if she was asleep or not
13	No – it was her imagination

She was on the computer playing a video game when – and then she realised it was past her bed time and she was about to press a close button but then a face appeared on the computer and it started talking to her and it said, 'This room is big.' And then it said it was crowded then she told him about where she lives and then the face said that – that he – that he lived – well, he just got sad and I suppose he was about to say what his home was like when he got sad and then she heard her aunty coming down the hallway and the computerised face told her that she was and she quickly pressed the close button and got into bed. She came out, looked around, her eyes were closed then she heard the door close again then she sinks deep into the covers and then she thought it was lucky that she was only staying there for one night.

Code Name: **MA3** Sch: 1c Tape: 2	Session: 1	Story A First Reading	T & P 8y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	He was playing rugby
3	To his house
4	Because he looked silly because he was all muddy
5	It was right in front of him and he banged into it
6	No
7	A green top, green pants, green wings and a leaf – and a face that looks like a leaf
8	In the bathroom

9	She – her face looked scared
10	(Error – didn't ask this Q)
11	In the bathroom, I think
12	Because he felt funny ***Why?*** Because he didn't expect the place to look like that **A**
13	The little tree fairy
After he went – after he finished rugby he went to – ah, he saw these two girls walking when he hopped off the bus and he knew them and they laughed at him cause he looked all muddy and then he kept on looking at them and then he banged into a tree and then he saw this little hole that he looked through and then there was this tree fairy and it said, 'Watch where you're going or else' and he said 'Or else what?' And then he felt dizzy cause he just woke up and his mum looked surprised and the sky was different because it was covered with branches and leaves	

Code Name: **MA3** Sch: 1c Tape: 2	Session: 1	Story C Second Reading	T & P 8y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	She was looking on the computer		
3	Because she saw a little boy in there a face and it started to talk		
4	To she how big her room is and he said nice space		
5	Cramped **A**		
6	Because he has to stay in his old place		
7	Blue shorts with an orange top brown hair and that's it		
8	Because he says her phone wire but she's scared and she starts to cry on her bed		
9	In her bedroom. Yes (in her own home)		
10	In the kitchen		
11	They're probably talking in the kitchen about something		
12	Because she was crying and the aunt wanted to know what was wrong in there		
13	No because it would be impossible for a little boy to live in the telephone line ***So why did she think she saw him?*** Because I think she believed in him		
In the night this girl, Janet, was on her computer then she found this head and she clicked it and there was this little boy and he looked behind Janet and he found – he found her room was really big and he said, 'It's getting cramped in here.' And Janet said, 'Where do you live?' and he said, 'In the telephone lines.' **A** And – but she was on the bed and she started to cry and then the boy said to her, 'Shhh!' and then her aunt came and – because the boy described her and then her aunt came and she had curly hair and she recognised her.			

Code Name: **MA3** Sch: 1c Tape: 7	Session: 2	Story B First Reading	T only 8y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	They were trying to build – they builded a sand castle
3	To the beach
4	She was going to take a picture of their sand castle
5	His foot
6	A wave came in and it got destroyed
7	She had yellow hair – a silver tail – and that's it
8	A wave probably picked them out of the bucket and put them on the rocks
9	In the rock pool
10	Because Josh didn't have a tail
11	Because it's time to go home
12	I don't know
13	No because sometimes adults don't believe what kids say

They were at the beach and Josh cried, 'There goes our sand castle!' then he found a little silver fish in a rock pool and then he tripped because of a wave and then he felt somebody's hand and grabbed it and then the mermaid came out and then he came out behind her and then their mum waved the towel telling them to go home

Code Name: **MA3** Sch: 1c Tape: 7	Session: 2	Story D Second Reading	T only 8y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	She was collecting water
3	Pop her head out of the tent
4	Because she's probably thirsty
5	They're in the woods
6	Scruffing around
7	Brown ground - green trees - dark sky – that's it
8	Because some mooses can look like horses
9	Collecting more water or fixing the tap
10	Sleeping or probably reading a book
11	The moose
12	Because there's no mooses in New Zealand ***What is it then?*** I think it's their mum
13	She has to go to sleep – both of them probably

They were in a tent and Karen was carrying a bucket and she said her arms were tired and I think the other girl said, 'Is the tap fixed yet?' and then the other girl said, 'No'. Then they heard a moose and they thought it was a horse but then they popped their heads out of the flap and they saw that it was a moose and their dad – they didn't – he didn't think it was a moose because there's no mooses in New Zealand and he said it was probably their mum

Code Name: **MA4** Sch: 1c Tape: 2	Session: 1	Story A First Reading	T & P 8y 2m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Playing rugby with his team mates
3	Home
4	Because they think he's got mud on his face
5	Home I think because I think when he woke up he was home because his mum was there
6	No. I think he was only asleep
7	Tiny- Very tiny? ***Anything else?*** And it would glow in the dark
8	I think at home
9	I think she was waking him up
10	He went in a little hole in a tree
11	I think still at home
12	I think – I think because of the bus. He got dizzy at the bus.
13	The girls
I can remember he went in a hole and two girls laughed at him and before – before he waved bye for his team mates he was in a bus and he – I think that's all I can remember	

Code Name: **MA4** Sch: 1c Tape: 2	Session: 1	Story D Second Reading	T & P 8y 2m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Still nothing
2	Lifting the bucket up
3	Eat
4	Because it wasn't working
5	I think on the back yard of their house
6	I think the moose was drinking some of the water in the bucket because when she came out when she lifted the bucket, the bucket wasn't heavy anymore
7	In the tent and their house back yard
8	Because I think it looked like a horse – the shadow of it * ***The shadow of it?*** When she looked the tent was zipped up
9	Inside their house
10	Cooking
11	I think it was the moose running away
12	Because he thinks that Emma was fooling him
13	Carry the buckets up again ***Why?*** Because she didn't do it when the moose came **A – see 6**
I remember that she was carrying a bucket and when she woke up Emma, Emma said that she was hungry and when the moose came they went – they got scared and went inside and they screamed and then when her dad came the moose ran away and their dad thought that Karen – oh, Emma was fooling him and that's all.	

Code Name: **MA4** Sch: 1c Tape: 7	Session: 2	Story B First Reading	T only 8y 2m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	It only made me remember that once I went to the beach and built my sandcastle
2	They were going to the beach **A**
3	I'm not sure
4	Go to get the camera because I think she was going to take a picture of Finn and Josh
5	His foot
6	It got destroyed because the wave destroyed it
7	Only that she's got a long fish tail and she's got long hair and that's all I know
8	Oh, I think when the wave came and some shells with it and some shells went on the rocks and on the pointy bits of the rocks and the shells holes came onto it
9	Oh, I think it was near the sandcastle
10	Ah, cause he was picking up a bucket of shells
11	So when Josh and Finn see it they'll know it's time to get dry
12	(Missed this Q out – error)
13	No cause she'll think that mermaids are just fairy tales
Ah, I remember that a wave destroyed their sand castle **A** and Finn was picking shells and putting it in the bucket and Finn and Josh and Josh's mum was calling them to get dried and that's it	

Code Name: **MA4** Sch: 1c Tape: 7	Session: 2	Story C Second Reading	T only 8y 2m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Pushing in the mouse ***What sort of a mouse?*** Oh, I think it's like a computer mouse
3	I think cause she saw a boy
4	So he could see her room
5	Poor
6	Cause he was poor
7	Oh, I think that his clothes – I think he's got black hair – his clothes have got a smudge, I think and his jeans have got holes
8	I'm not sure
9	In a house
10	At work
11	I think sleeping
12	Because she was back from shopping, I think
13	No, it was really just a dream
I remember that there was a boy that came in while she was pulling her mouse and the boy was looking around her room and that's it	

Code Name: **MA5** Sch: 2 Tape: 10	Session: 1	Story D First Reading	T & P 8y 1m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	She was going to get a bucket of water and there was a steep bank and she had to carry it up
3	I'm not sure of that one – (refers to book) – she was hungry
4	So Karen didn't have to go down to the stream and see if the tap was working yet
5	They're like in a camping site with their tent out **A (see 4 & re-telling)**
6	It made a loud coughing noise
7	Well it's got – in the background it's got a tree and in this picture it's got like a hedge and at the back the tent on the outside is blue and it's got a couple of plants *
8	Because if you take away a moose's antlers they can look similar to horses
9	In the tent ***The same tent?*** No because it looks like all their junk and stuff is in the tent *
10	Resting outside
11	The scream – they thought there was a moose
12	Because they frightened their mum
13	She has to fill the bucket up with water ***Why?*** So they can wash and drink and get dinner ready *Why do you think it was empty?* So they can fill it up again

Well, at the first part of the story there was a girl named Karen and she just finished getting water and there was a steep bank that you have to climb up – that she had to climb up from the river to get down to the stream **A** and then her arm hurts and then she woke up Emma and she said, "I'm hungry." And then on the next page they heard a noise and then they both jumped and – they both went to the tent and they poked out again just to see what it was and Emma thought it was a horse but then on the second time they looked a bit further she saw antlers so it was a moose and then they both crashed back into the tent clinging together and their dad came and he went into the tent and he said to Karen and Emma, "What did – what's happening around here?" And then they said there's a moose outside – it's dangerous – that's what they said and then they said don't be silly there's no mooses in New Zealand and then dad said, "You frightened your mother." And then the dad gave Karen another bucket to fill up with water again

Code Name: **MA5** Sch: 2 Tape: 10	Session: 1	Story A Second Reading	T & P 8y 1m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Well, I have climbed into a tree before and it was pretty fun ***How high did you get?*** Pretty high, actually
2	He was waving – well, he was playing rugby
3	Going home
4	Because he had a muddy shirt and he was all messed up
5	On the path that he passed

6	No, because fairies aren't true and he said, 'Watch where you're going or else."
7	Well, it'd probably have a wand like all fairies and a tree fairy might have something like leaves around it and it might have something like branches
8	In the kitchen in the sink
9	Trying to help him get out
10	His hair was all like scrunched down and he had a different top on *
11	In between the place where he fell and the hole in the side of the tree ***Inside the tree or beside the tree?*** Well, when he fell it felt like a different kind of place
12	Because he was like confused how he got there
13	The tree fairy
Right - the first part when he got off the bus he was waving to his mates good-bye when these two pretty girls he knew were walking by and he waved to his mates when the bus went away and he nodded to the girls when they both started laughing and then he went into this park to get home and after he went into the park he saw this tree with the tree fairy. The tree fairy was there and he said, "I am the tree fairy" and the man went "I'm Jason and there's no such thing as fairies" and then the tree fairy was like, "Watch where you're going or else." And he went, "Or else what?" and he said, "Would you like me to show you?" and he went through the hole and he fell down and then he went into this like forest place and then his mum saw him in the kitchen down the sink and saw him so his mum said, "Wake up" and when they get up he was breathless and dizzy cause he was confused.	

Code Name: **MA5** Sch: 2 Tape: 12	Session: 2	Story C First Reading	T only 8y 1m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No, not really		
2	Playing on the computer		
3	She was supposed to be in bed		
4	I'm not sure		
5	I'm not sure of that either – it's like on the computer – it's probably like an internet place or something		
6	Because Janet was going to turn it off – the computer		
7	Well I think he might have looked like – something like blond hair like with this kind of reddish top and bright skin		
8	Maybe because she's not like at home		
9	In a room ***Is it a room in her own house?*** I think so		
10	Down the stairs		
11	Maybe watching TV		
12	Because she wanted to see if she was asleep		
13	No – because it might have been a dream		

Well, there was a girl named Janet and she was playing on the computer when she was supposed to be in bed and suddenly a boy popped up on the screen and she almost fell off her chair and when she – and when the boy said 'Hello, where do you live?' Janet was – shivered again – shivered – shivered because she didn't like – she was somewhere not liking the house and after – and when the boy – the boy – then Janet was going to turn the computer off so the boy got sad and when the boy suddenly – ah, before Janet turned it off the boy said, 'Watch out, your grandmother's coming' and then Janet quickly pressed 'close' – the close button – and jumped into bed.

Code Name: **MA5** Sch: 2 Tape: 12	Session: 2	Story B Second Reading	T only 8y 1m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes because I did go to the rock pools before ***Did you? What did you find?*** I found a couple of starfish.
2	They were building a sandcastle
3	To go rock pools and – because he saw a silvery fin **A**
4	Going to get a camera because of the sandcastle but the sandcastle broke because of the tide
5	His feet
6	The tide washed it away
7	Well, it looked like she had like long hair like a girl usually has – and then on the bottom she had like silvery scales for the fin and the body's like the same as usual sort of
8	Because Finn dropped them
9	In the water
10	I'm not sure – because he was still picking up shells
11	Cause they got wet when they were in the water so they needed to get dry
12	I'm not sure
13	No – because they don't – if it just like disappeared they won't have any proof – because they didn't have a camera or anything to take a photo

Well, there was two boys named Josh and Finn and they were at the rock pools and they built a sandcastle but it got washed away by the tide so then Finn said that the tide was coming up really fast so they had to go back and then he dropped the shells by accident and when he collected the shells they saw a silvery fish fin and Josh went as fast as he could to get to the rock pool that the fish tail was in and then he was like 'Wow!' because he said 'What are you?' and when he picked up one of the shells that he collected and then the mermaid popped back into the rock pool and then a big – another bigger wave got them both wet and then their mum waved a towel and said 'It's time to get dry'.

Code Name: **MA6** Sch: 2 Tape: 10	Session: 1	Story C First Reading	T & P 8y 2m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	She was on the computer
3	Because the man said her aunt was coming
4	Don't know
5	All tight

6	Because it was too small for him
7	Don't know
8	Because she already knew the answer – she was asking him a question and she was afraid she already knew the answer
9	In her room probably in her auntie's house
10	At home
11	In bed
12	To see what she was doing
13	Yes because if she was dreaming she would have woken up when her auntie sort of opened the door
She was on the computer and then a boy came up and he asked her what it was like in there where he lived and then the boy's face went sad and he said it was cramped up in here and then the boy said her aunt was coming so she went into bed and she ducked under the covers and she didn't see her aunt's hair through the door.	

Code Name: **MA6** Sch: 2 Tape: 10	Session: 1	Story A Second Reading	T & P 8y 2m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Playing rugby		
3	Home		
4	Don't know		
5	Inside the fence ***Which fence?*** Jason's fence		
6	No because he was only – he got – he sort of got like knocked out		
7	Probably have wings and little things so it could climb up a tree		
8	In the kitchen		
9	She was doing the dishes		
10	Don't know		
11	Beside him		
12	Because he hit the tree		
13	The tree fairy – he thought it was the tree fairy ***Do you think it was the tree fairy?*** He was all dizzy so he was having a re-run		
He got off the bus from rugby. Two girls came along and they laughed at him. Then he frowned as they walked past. And then he was going and he hit the tree. Then he thought he saw – heard – the tree fairy in a hole then his mother looked up from washing the dishes and came out and he waked up.			

Code Name: **MA6** Sch: 2 Tape: 12	Session: 2	Story D First Reading	T only 8y 2m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes – going camping – every year		
2	Going to the river to get water		

3	Cause she was hungry *So what does she want to do* Make some tea
4	For water
5	Camping **A (see 7)**
6	I don't know **A (see re-telling and 13)**
7	In a forest – heaps of trees –a river – a stream
8	Maybe it sounded like a horse
9	Sleeping ***Where?*** In a tent
10	Maybe sleeping or having a rest
11	I don't know
12	Cause they frightened their mother
13	Get some more water ***Why? What happened to the water?*** The moose might have drunk it
She went to get some water – she came back and woke up Emma who asked if the tap was working – she said 'no' – they heard slurping noises from outside **A** and the girls thought it was a horse but when she put her head up through the roof it was a moose. She told Emma to come and look.	

Code Name: **MA6** Sch: 2 Tape: 12	Session: 2	Story B Second Reading	T only 8y 2m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes – going swimming at the beach and we went with my cousins and we went through and I slipped on a rock ***Did you!*** It was in the middle with water all around it.		
2	Collecting shells **A1**		
3	I don't know **A2**		
4	Get a camera to take a picture of the sandcastle		
5	His feet		
6	It got washed away by the wave		
7	A green tail – long hair		
8	By the wave		
9	Don't know		
10	Because he didn't know what it was and it could have been dangerous		
11	Cause they need to get dry		
12	No ideas		
13	No – because mermaids aren't real		
Their sandcastle **A1** got washed away by the wave when their mother was getting the camera. Finn said the tide was coming up fast so they'd better go out **A2** then he stood on a rock – he said 'ouch' – and they saw a waving silver tail up ahead and then Josh went up to see what it was and Finn just stayed there and then Josh fell into the water and Finn pulled out the mermaid and the mermaid pulled out Josh and then his mother was waving a towel so they would come and got dry.			

Code Name: **MA7** Sch: 2 Tape: 10	Session: 1	Story A First Reading	T only 8y

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	At home
3	To school
4	Because he banged into a tree
5	At his rugby practice place
6	No because it was his mum
7	Error – missed Q
8	In the house
9	Error – missed Q
10	He banged into a tree
11	In bed
12	Because he'd banged into the tree
13	The girls
He banged into a tree and these girls were laughing and he thought it was a fairy but he'd banged into a tree	

Code Name: **MA7** Sch: 2 Tape: 10	Session: 1	Story B Second Reading	T only 8y

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	They were at the beach picking shells up and making a sandcastle
3	The rock pools
4	She wants to go to a café
5	His foot
6	The wave washed it down
7	She had a silver fish tail and she was in the rock pool
8	Because a wave came and he dropped the bucketful
9	Rolling down onto the beach
10	Because he thought it was just a shark and might eat them
11	Because it's time to go
12	To see what they were doing
13	No because some people say that mermaids aren't real
The wave knocked over their sandcastle and they saw a silver fish tail and then Josh went to go see what it was and then they dropped the bucketful of shells and all the shells fell out and the mermaid picked a shell up and went back into the rock pool	

Code Name: **MA7** Sch: 2 Tape: 12	Session: 2	Story C First Reading	T & P 8y

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	She was on the computer
3	Because her auntie was coming
4	To see her bedroom
5	All squashed up – crowded
6	Because she's going to turn him off
7	No
8	Cause he might be like living downstairs
9	Her bedroom – maybe in her own house
10	In the lounge
11	Watching TV
12	Because she's trying to find out what's going on
13	No – maybe yes – because she jumped back and fell off the chair
Well, at the beginning she said, 'after pushing a rat' – and she was on the computer and then her aunt came in and – yeah.	

Code Name: **MA7** Sch: 2 Tape: 12	Session: 2	Story D Second Reading	T & P 8y

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Sleeping
3	Have a drink of water
4	She's thirsty – she's asking if the tap is working ***Why do you think she wants to find out?*** She's hungry
5	Camping
6	Talking
7	The camping ground place
8	She couldn't see the full body ***What could she see?*** The face
9	In a different part **A**
10	Getting tea ready or something
11	Him running there
12	Because they woke up their mum
13	Help their dad make tea
First they heard – one woke up to get them some water but the tap wasn't working so then she went back in there to see if the girl was awake in there – Emma – and then they heard a tramping noise or something and they thought it was a moose but it was a horse and their dad came running along to see what was happening cause they'd woke their mum up **A** – yeah.	

Code Name: **MA8** Sch: 3a Tape: 16	Session: 1	Story B First Reading	T only 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes. We made this really big pool and a castle around the side and the sea came up and washed it away so dad couldn't take a picture of it.
2	Building a sandcastle
3	He wants to go home and take the shells back so he can keep them
4	Go get towels and bring them back up and dry them
5	His foot
6	It got washed by the tide
7	It was a girl with the legs of a fish and she had hands and she had scales on her fish tail
8	They washed up with the sea when it comes in
9	On the ground where he dropped it
10	Because he was scared
11	Because she wants them to come and get dry
12	Because they live under water
13	No I don't because I don't think that mermaids are real
Their sandcastle got washed away and they started going back up and Finn hurt his foot on the rocks and then Josh jumped into the water where he seed the scaly fish back and then Finn dropped his bucket and jumped in as well and he came up with the mermaid and thought it was Josh because when he came up it was the girl with the fish tail and then mum came waving a towel to get them to come back	

Code Name: **MA8** Sch: 3a Tape: 16	Session: 1	Story A Second Reading	T only 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	He finished his rugby game and hopped on – hopped off – got on the bus and hopped off and walked home
3	Home
4	Because he had mud all over his face and his hair and he looked funny
5	Outside his front gate
6	I don't think so because if he'd hurt himself he could have just been dreaming – sometimes when you hurt yourself you get knocked off and you dream like that
7	A tiny little thing dressed in green leaves a person's shape
8	In the – by the basin in the bathroom
9	Washing her hands
10	He'd been dreaming sort of
11	Outside where he banged into the tree
12	Because he hit himself hard on the tree
13	The tree fairy
He gets off the bus and says good-bye to his friends and then he's walking along and he sees two girls that he loves – that he likes – and he smiles at them and they laugh at him as they pass and then he slams straight into a tree and then the – a tree fairy – or made up, might be – says, 'Hey, watch out – don't hit me' and he says, 'What are you?' and he says, 'I'm Jonah Lomu' and the tree fairy says, 'Do you know what I'm going to do because you hit me?' and his mum wakes him up and then his mum brings him inside and tells him where she saw him.	

Code Name: **MA8** Sch: 3a Tape: 17	Session: 2	Story D First Reading	T & P 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No, not really
2	Filling up a bucket of water
3	Have a drink and have breakfast
4	Because the tap probably didn't – probably the tap round by the tent wasn't working so she had to walk up to the house and get some water and bring it back
5	Out by the tent in their back yard probably
6	Slurping – it was probably drinking the water in the bucket
7	Inside the tent? ***It could be inside the tent or out side the tent.*** Well, inside the tent it's full of lots of stuff and outside there's lots of flax and grass and things *
8	Because it's the same colour as a horse apart of it - from its antlers - and maybe a bit of the shape – roughly the same
9	Well, at the house – at a cabin, house or their house near
10	With their mother
11	The moose going away
12	Because they scared their mother
13	They had to clear up and go back – get all their stuff and take it back

Well, Karen comes with a big bucket of water and opens the tent and says, 'Emma can you wake up?' and Emma says, 'Is the tap working?' and she says, 'Still no – I brought a bucket of water and my arm hurts' and they're in the tent and they hear a slurping noise and they stay in there and at last Karen peeps out and she thinks she sees a horse and then she peeps out more and it's even more like a horse and it's drunk – drink – drunken the water – drinked the water – and – and they scream and their dad comes and the moose goes away and then their dad gets angry with them for scaring their mother and then they have to pack up and go.

Code Name: **MA8** Sch: 3a Tape: 17	Session: 2	Story C Second Reading	T & P 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No – no I don't think so
2	Playing a game on the computer
3	Because her aunt or uncle or both might find out **A3**
4	To see if anybody's there **A**
5	Cramped **A2**
6	Because it's so cramped where he lives
7	I'm not sure
8	Because he might – he might be somebody just holding a camera and putting it on the computer and he might not want to tell her
9	In a room with a computer – it's at her aunty and uncle's house
10	Maybe they were asleep at their house
11	Somewhere else in the house thinking Janet's asleep
12	To see if she's asleep
13	No – because you can't just click and then be a face on the screen and you can't really

	live in a computer **A2** ***So why does she think she's sees the boy then?*** Well, she didn't really because she thinks she was dreaming.
Janet is playing a game with the computer and clicks to – clicks to escape and turns off the computer and her hand's really tired **A3** using the mouse and she probably got off the computer because her hand was really tired and then she – when the boy appeared on the screen and talks to her and looks behind her and says, 'Nice big room you've got here'. **A** She asks, 'Where do you live? In a house?' and he says, 'It's rather cramped' and he looks sad and then he says her aunt is coming and she thinks, 'How does he know that?' So that anyway, she gets into bed and closes her eyes and pretends she's asleep and her aunt comes in and goes out and shuts the door again.	

Code Name: **MA9** Sch: 3a Tape: 16	Session: 1	Story A First Reading	T only 8y 7m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Playing rugby in the (?)		
3	He might have been walking home		
4	Because his face was all dirty and his hair was all rough		
5	It might have been on the foot path		
6	No – it was just a dream		
7	No		
8	It might have been outside because it says 'blue sky and clouds behind it – tree branches' – what was the question again? **Q is repeated and immediately he says:** Oh, she was by the sink.		
9	She might be washing dishes or something like that		
10	Well, he probably got a bit dizzy and went into a dream **A**		
11	Outside		
12	He probably - when he knocked his head		
13	The tree fairy – it's a dream		
Well, first he was playing rugby and then he came off the bus, saw some girls and they laughed at him so he got a bit dizzy when he knocked his head **A** and he got a bit shocked when he saw a tree fairy and then when he woke up he realised it was just a dream and his mum was there and – yeah, that's all.			

Code Name: **MA9** Sch: 3a Tape: 16	Session: 1	Story C Second Reading	T only 8y 7m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	She might have been playing a game – you wouldn't just push a live mouse around *So what kind of mouse was it?* Probably a plastic toy mouse		
3	Because her auntie and uncle might come and punish her because she's staying up late		
4	I'm not sure		
5	It might not be quite a good place because if he's blushing he probably doesn't want to say		
6	Probably because he's thinking, 'Oh, wow, this is such a great house I wish I had this!'		
7	No idea		

8	Because she was afraid that she already knew the answer
9	In her room. (Doesn't know if it's in her house or not)
10	They're probably up in another room somewhere
11	They're probably with the parents of Janet
12	To probably check if she's in bed or asleep or…
13	I don't know because – it kind of seems like another dream again because it says here 'Janet didn't like this at all' – so probably not
Well, first Janet was playing a game and then a boy appeared behind her so the boy turned around so he could see behind Janet or something and they were talking about where they live and then Janet suddenly thought that she should get back into bed and then the auntie opened the door and then quietly shut it again and she got right under the blankets and …. Yeah.	

Code Name: **MA9** Sch: 3a Tape: 17	Session: 2	Story B First Reading	T & P 8y 7m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Probably collecting up shells **A**		
3	I think he wants to go home. The tide's coming in fast.		
4	Not sure		
5	His foot, probably		
6	It got bowled over by a wave		
7	Long tail and scaly – that's all		
8	Probably a big wave came and splashed them up		
9	Not sure		
10	Because he thought it was a shark at first		
11	Because they got wet or something		
12	Because a big wave came over and she probably got washed in as well		
13	Probably not because it doesn't usually happen to see a mermaid – it would never happen really		
Well, they were just collecting shells and their sandcastle **A** got bowled over and they decided to go back up but then I think Finn or Josh – or whoever – hurt himself on the sharp rocks and then a big wave came over and one of them fell in and saw – then the other one fall in and then a mermaid appeared and their mum told them to come back up and they turned around and it was gone.			

Code Name: **MA9** Sch: 3a Tape: 17	Session: 2	Story D Second Reading	T & P 8y 7m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Going to fill up the bucket with water **A**		
3	Probably eat		
4	Because she might have thought Karen had fixed it or something		
5	Camping somewhere – I don't know – in New Zealand		
6	Probably drinking the water		
7	Well, it's got bush, trees and probably wild animals *		
8	She might not have seen the antlers probably		
9	She might be down at the river **A-see 1** or wherever they got the water from		

10	He might be making the food – probably making food
11	I'm not sure
12	Because they made a loud screaming noise and they were frightened
13	Probably apologise to her father
Well, Karen was – she got the water from the bucket and then she went inside the tent, woke Emma up and then they heard a – whatever it was, I've forgotten what that was -then they went out and thought it was a cow but then they realised it was a – don't know – and then they went back in the tent and they heard a coughing noise and then a loud thundering noise and then their dad came in and told them off for making a loud noise and a screaming noise and then the thing was gone.	

Code Name: **MA10** Sch: 3b Tape: 15	Session: 1	Story A First Reading	T only 7y 5m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	He was playing rugby		
3	To his home		
4	Because his head and face was muddy		
5	In front of him		
6	No because it was just his mum		
7	Lots of different things – it could look like it could be invisible – it could be like with wings		
8	In the tree		
9	Climbing or something		
10	He'd been laughed at		
11	Sitting there at the bottom of the tree		
12	Because he had fallen on his head or been knocked out or something		
13	The girls		
Well, Jason was coming home from his rugby practice and he saw the girls and he thought that he looked cool with all his rugby gear on but they laughed at him because his face was muddy and his hair was muddy but he didn't know that and then he bumped into a tree and a voice came to him and he said, it said that he's the tree fairy and he said, 'No – there's no such thing as tree fairies' and the tree fairy said, 'Do you want me to show you?' and he said, 'OK' and so she did – **or he** – or whoever it was – and then it was his mother up the tree and then they had a small talk and then they went home.			

Code Name: **MA10** Sch: 3b Tape: 15	Session: 1	Story D Second Reading	T only 7y 5m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Kind of – yes. Well, sometimes you imagine you see something and you actually don't.		
2	Going to get water from the river because the tap wasn't working		
3	Go out and play or do something to her dad		
4	Because she's thirsty		
5	At a camp site in New Zealand **A (see 7 and 1)**		
6	Gulping water		
7	It's a grassy area and there are tents – they're obviously, if there's more than one tent		

	the others were seen because they scared their mother and their father saw and – yeah
8	Because it had hooves and four legs
9	In the same tent or in a different tent listening and watching
10	Sitting doing something in the tents or something
11	Their father
12	Because they scared their mother
13	I don't know – she has to fill the water up again ***Yes, why?*** Because the moose gulped it down
Well, Karen went to fill up the bucket and she came back and she was waking up Emma and they heard this gulping sound outside so they were really frightened and they peeped out and Karen said it was probably a horse and it was actually a moose and then they were really frightened and they screamed and the moose looked at them and then their father came and said, 'What are you doing? You scared your mother!' and they said, 'There's a moose here' and he said, 'Stop fooling around. There are no moose in New Zealand – go and fill up that bucket of water.' And so she went and there was no sign of the moose but it was empty.	

Code Name: **MA10** Sch: 3b Tape: 17	Session: 2	Story B First Reading	T & P 7y 5m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Not really		
2	Making a sandcastle		
3	He wants to go to get a picture of his sandcastle because he wants his mum to know about it or something		
4	Take a picture of the sandcastle		
5	His feet		
6	Been washed down by a big wave		
7	She had like the tail of a body of a fish and then half a body of a human and a head and green scales and things on her fish body and just the usual non-clothed human with hair		
8	By being washed up by waves		
9	In the water		
10	Because he didn't want to fall in		
11	Because they need to get dry		
12	Because she's been washed up there by a wave		
13	No because mermaids aren't real and she didn't see it		
Well, John and Finn have just made a sandcastle and then their mum's gone to get the camera and a wash – a wave gets up and they start walking up because the tide's coming in fast and Finn – he hurts his feet on the rocks and then they see this strange fish in a rock pool and Finn stays where he is and Josh goes up to look and then he falls in and then Finn goes up and he drops his bucket and then he dives in and he pulls out Josh but it isn't actually Josh – it's a mermaid and then Josh comes out and they say – and then their mum comes waving a towel at them and then they say to her, 'Look what we found!' and then the mermaid was gone.			

Code Name: **MA10** Sch: 3b Tape: 18	Session: 2	Story C Second Reading	T & P 7y 5m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Sometimes, yeah. Like when someone comes up to you and you think you don't know them but you actually do.
2	Playing the computer game
3	Because she's afraid that her aunt or uncle might come in and punish her
4	To see his aunt
5	Cramped
6	Because she has to go
7	No
8	Because she has never seen him before and she thinks he might be mean or something
9	In – on the computer in the room – it's in her aunt and uncle's house
10	Back at home or something – on holiday or something
11	Probably coming - about to come in and check or discussing 'you should be in bed now' or something like that
12	So she can see if she's asleep
13	Yes because – no, not for real, on the computer
Well, Janet was playing this computer game and she was about to click 'close' and then a face appeared on the screen – it was this boy – and the boy asked her a few questions and she asked him how was it where he lived and he said it was cramped and then he said, 'Your aunt's coming' and she said, 'How do you know that?' and she went to bed and then her aunt was coming.	

Code Name: **MA11** Sch: 4a Tape: 21	Session: 1	Story D First Reading	T only 8y 1m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Well, kind of when I was in a tent. ***Oh, yes.*** And, ah – but I didn't see a moose.
2	Maybe she was – she was just – she was just arrived at a part of the city in New Zealand and – and then she put her tent up
3	She wanted to peek her eyes out for a look outside
4	What? (Q is repeated) Because the cup – they needed the cup of tea and…
5	Well, they're in a – oh, I forgot that one. New Zealand. **A – see 7**
6	I think they were – because they heard a moose but it wasn't actually a moose ***Yes. What was it doing?*** It was – it was moving around – kind of like the bucket kind of wobbling cause of the water inside
7	I think it kind of was like – it kind of looked like they were in – near a bush – well it kind of looked like they were in kind of like a wild bush kind of thing – that was in my imagination
8	Oh, that was because maybe the water was coming around – and wiggling around because it was too full and maybe nearly falling but didn't fall and maybe some water came out and that would be because – yeah – because the water was so heavy
9	I think they would be right behind them in a different kind of place in the tent – they have kind of a door that went in

10	I think they were in – he was in bed probably having breakfast or like just staying in bed and just woken up
11	Maybe it was something like – not the real moose but kind of dad coming walking in
12	I think he's angry because he thought there was a moose
13	She has to believe that there's no mooses in New Zealand and think that it's just something else or something walking by a tree coming like – going back and forth like the leaves coming over from wind
I can remember that they were in a tent at the beginning but they didn't show any parts when they were driving to get there and they were in the tent and when they woke up Karen had a peek outside to see what's going on and she thought she saw a moose but it wasn't a moose. Then they wanted a cup of tea and they got – and after that they realised there was no moose in New Zealand because their dad told them and then their mum said, 'Come with the hot water,' and after – after that was the end.	

Code Name: **MA11** Sch: 4a Tape: 21	Session: 1	Story A Second Reading	T only 8y 1m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Well, not really because one time I banged into a tree but there were no fairies and the tree - I think the tree would be kind of like a bushy type of thing – that's what I was imagining except when they came in the door it kind of – *Disturbed you a bit?* Yes		
2	I think he was just coming – I think he was just coming to the meeting and then he went with the rugby T-shirt on **A**		
3	I think he was probably like walking – walking round. I think that part was when the girls saw him		
4	Because he didn't look very good. Why not? Because I'm imagining in my head that he was pretty ugly		
5	The tree was near where he was walking on the foot path		
6	No because the hole isn't actually there he was just imagining it in his head and then he walked and he was going to look inside but there was actually nothing there that's why he bumped into his head		
7	I think it would kind of look tiny so no one could see them really and maybe like – kind of like yellow and fairy stuff around so no one could touch them		
8	I think in the bathroom		
9	She was coming at him and she picked him up and then she said – and then she went home and then she said, 'Watch where you're going'		
10	Well, I think he bumped into the tree		
11	I think he was lying in a bed or like in bed because his mum picked him up and put him in the car and brang him home		
12	Because he had bumped into the tree		
13	His mum		

Oh, first he was coming and he was at a meeting and then he went and then he was – he went on the bus and he came and he thought – and he was going past with a - and the girls looked at him and he thought he looked good with his T-shirt but then they laughed because he was ugly and then after that he went and saw – and saw a kind of hole – but it wasn't real and he thought there was a fairy in it so he came in and he bumped into the tree and he fell down and then, after that, he came and his mum – well, first he was on the ground and then his mum came, picked him up, put him in the car and went home, put him in bed and spoke to him and then probably – since he is probably so dirty from rugby maybe – or was it a rugby meeting but he probably played rugby before that **A** – he would have been in the bath or shower.

Code Name: **MA11** Sch: 4a Tape: 19	Session: 2	Story C First Reading	T & P 8y 1m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Just getting in the door to go to bed but she didn't go to bed ***So why do you think she didn't go to bed?*** Because she was on the computer
3	Because – because something went wrong with the computer
4	Because the girl looked shocked
5	Well, probably a blue house like made of bricks and painted on the inside
6	I'll have to look in the book for that one – hope I didn't miss a page – no – Oh, I forgot the question! (Q is repeated) Because she didn't – because she didn't play a game in the phone line
7	It doesn't show him here, does it ***Did you imagine him at all?*** Well, he had kind of like white face kind of with orange hair kind of with spikes and a blue T-shirt
8	I don't really know that one
9	In – I think in her bedroom with the computer on ***Is it in her own home?*** Yes, I think
10	At the table talking and having a drink or watching T.V.
11	Probably doing the same stuff as the parents
12	Because she probably heard a noise
13	No because she was too busy playing on the computer

Well it says she was playing on – she just went on the computer and she was playing on the phone line and a boy came in and talked – and like said a little bit of words to him and after that she pushed close because she heard her door open and then she went back to sleep and then her mum opened the door and then closed it carefully.

Code Name: **MA11** Sch: 4a Tape: 19	Session: 2	Story B Second Reading	T & P 8y 1m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes. Well, first thing is I didn't see one of those fish things but I went to the rock pool but not with my family I went there with the – with my class
2	Driving to the rock pool for a meeting
3	Oh, I can't believe I've already forgot it again! I haven't forgot the answer – I've forgot the question (Q is repeated) He wants to go – he wants to go see what – to see – to see something and it's because – he wants to go there because – because he wanted to look what that thing in the water was
4	Going to the beach and the rock pools and having a meeting with a kind of company or something
5	I think it was his leg or hip, I think – oh, no it was his arm
6	It got washed over by the waves
7	She had a big fin that's shaped like that (Draws shape in the air with one finger) and it was silver – that's what it said there – and it was a girl with long hair – and that's all
8	Well, at first they were on the sea and the sea came in closer and washed them on the rocks
9	In the water
10	Because he didn't want to get too close to the end otherwise he'd fall off - bit like Finn **A**
11	She was waving a towel because she'd got to get the people dry and there was probably water or something on it
12	To save Finn
13	No because mermaids aren't real and there were – and when she – when they looked over there wasn't there any more
Well, at the beginning there was – they were at the rock pool and first of all he was at the rock pool talking to Josh and then he thought it was a shark **A** that was in the water but it actually wasn't – so he went to a – he went to – he just went to look and he fell and the mermaid caught him but – and after that – after that his – he got back up and he – and he talked to the mermaid and then after that she swam away and then – and then his – his mum came with a towel.			

Code Name: **MA12** Sch: 4b Tape: 20	Session: 1	Story C First Reading	T only 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Working on the computer
3	Because the scr – because a man on the screen popped up
4	Because his head moved so he could see behind her – he wanted to see her big room
5	Cranky – like cramping – cramped
6	Because she looked sad
7	Like an ordinary boy
8	Because he lives in a computer
9	In the computer room

	In her own house? Yes
10	Kitchen
11	Looking for her
12	Because she wanted to look for her in there
13	No – because it might have been a dream
Their – Janet's aunt and uncle went to look for her and she was in the computer room and her hand was so cramped from moving the mouse around and then he saw – and then she – and then Janet saw the boy jump up onto the com – onto the screen and then she got a big, big fright and she went – and she went to the door but – or when she went to the door she saw the man – she saw the boy and – on the computer screen *then* she got the big fright and then she went back and then she talked to the boy and the – and the – and then Janet, she asked him, 'What is it like living in your world?' and then she – and she knew the answer and then – and then the boy said, 'It's cramped in here' and then her aunt comes to the door and the boy said she would and then Janet jumped into the bed and she closed her eyes and she heard the door getting shut and then she went to sleep. ***Yes – interesting you said the boy said the aunt would come. Yes. How did he know if he was just a dream?*** Hmmm. If it's just a dream that means the boy wouldn't have knewn – known that.	

Code Name: **MA12** Sch: 4b Tape: 20	Session: 1	Story A Second Reading	T only 8y 8m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Played rugby		
2	He was playing rugby		
3	Home		
4	Because his hair was covered in mud		
5	In front of him		
6	No because when he smacked into the tree he got knocked out and then – then he had a dream		
7	A horse ***Big horse or a little horse?*** A little horse		
8	In her house – in the house		
9	Washing the dishes		
10	He smacked into the tree **A (see 6 and re-telling)**		
11	Still by the tree **A**		
12	Because he smacked into a tree		
13	His dream because it might have been the tree fairy in his dream		

That Jason was playing rugby before he got onto the bus and he got on the bus then he got took to – got took to the path where – that leads to his home – and then he saw two – two girls and he smiled at them and he thought he was looking good in his rugby shirt but the girls laughed at him because – the girls laughed at him because his face was covered in mud. Then he - he – he just remembered that his face was covered in mud then he ran – then he walked back to the girls and then a tree was in front of him and then he whacked into the tree. Then he had a dream and he looked into the hole in the tree and he heard a voice and there was Jonah Lomu and he talked to Jonah Lomu and then his mother came to him because her mother – his mother – looked above the sink when she was doing the dishes and then she saw Jason smack flat out on the ground. **A** Then she woke up Jason. Then Jason followed her back home but before he did he heard a laughing noise and he turned around but the hole in the tree was disappeared.

Code Name: **MA12** Sch: 4b Tape: 19	Session: 2	Story D First Reading	T & P 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes, I've been camping once
2	Sleeping in the tent **A**
3	Tell her that it was really hard to get up the steep hill with the heavy bucket of water **(adjust Q2)**
4	Because she wanted to know if the water was coming through
5	Somewhere up a hill
6	Drinking out of the bucket
7	No
8	Because horses have big noses like mooses but they don't have antlers
9	Next door in the other tent
10	Sleeping
11	The moose
12	Because the moose ran away and he didn't see the moose and he thought they were joking around
13	Look for a moose and prove it to her dad

Karen and her sister, I think, went on a camping trip up a hill and – and Karen woke up early and went down to get the bucket of water and bring it up a really steep hill **A** and then woke her sister up and said 'Karen' and said her name and just like – I had to – she had to go up a steep hill to get water and she said her arm was real tired and then they went back – they left a bucket outside and went back into the tent then they heard a loud slurping noise and then the – then – then Emma – she peeped out the tent and she saw a big moose and she thought it was the horse drinking but – but then she put her head further and then she saw the antlers and she knew it was a moose and they both screamed and held each other and then their dad came running out and then they heard a loud thundering noise and then he ran into the tent and he was like, 'Why are you two scared?' and they said that there's a dangerous moose outside and then he looked around for the moose but it wasn't there and then they got in big trouble because there was no proof to the moose and then they both got out the tent and they were looking for the moose.

Code Name: **MA12** Sch: 4b Tape: 19	Session: 2	Story B Second Reading	T & P 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes, we went on a school trip to the rock pools
2	Making a sandcastle at the rock pools
3	Finn wants to go in the water so he could look for some more shells
4	She was planning to get the camera so she could take a picture of the sandcastle they made
5	His feet
6	It got swept away by the waves
7	She had a green tail. She left a silver trail on the ground and – yeah
8	Because he slipped into the water and he dropped his bucket
9	In the sea
10	Because he was scared
11	Because she wanted them to get dry and just in case they couldn't see her, she waved a towel
12	Why was the mermaid in the rock pool? Strange… I think for food
13	No because she might think mermaids don't exist

Josh and Finn went to the rock pools and they made a sandcastle and their mum was watching them make it and then she went to find the camera and just when she went to find a camera a wave came and pushed it over – the sandcastle and then Josh found a – oh, no, Finn found a silver fish tail and followed it and he slipped into the pool and then a mermaid was grabbing her – I mean him and then the mermaid grabbed onto him with her hands and arms and then he got a big fright but he just – and he thought she was Josh and he pulled a mermaid up and then it wasn't Josh at all – it was the mermaid – and he asked, 'What are you?' or 'What is she?' and – and she laughed and she grabbed one of his shells and dived back in with it and another splash came up to him and then their mum came and with the camera and she waved the towel and the boys – and Josh and Finn came and she said, 'Come and dry yourselves', and then they said, 'Mum! Mum! You've got to know what me and Finn saw!' and then they went home, I guess.

Appendix 7

Responses by female good readers

Code Name: **FA1** Sch: 1a Tape: 1	Session: 1	Story A First Reading	T & P 8y 3m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Kind of ***Such as?*** I walked into a pole in the alley way ***You didn't knock yourself out, did you?*** Just about. My father, he went off a cliff on his motorbike ***Oh, no! That's terrible*** People still don't believe that he's not dead
2	I think he was walking along to school or something He's walking somewhere. He's walking home or – he's walking home I think*
3	Probably to school **A**
4	He didn't – he smiled at them – he made them laugh
5	It's in a little cottage or in his house. I'm not sure. It might not be his house it might be at his friend's house ***Why do you think that?*** Maybe because I can see a house and a garage or something? * ***You can see it in the picture?*** Yes
6	No, I don't think so. He might have been dreaming.
7	There's be a little green dress and a big huge tree on the front of it. He'd pop it out of his chest and say, 'I love trees!'
8	She was looking out the kitchen window.
9	She was probably making his tea or she got a fright when she looked up
10	He might have just been lying on the ground
11	Probably outside his house or at the park
12	I don't know. Maybe when he smashed into the tree because he got sore or got really dizzy or ***Did that happen to you when you hit the pole?*** Yes. I fell backwards ***Oh, did you?***
13	His friends, or some of those other people or those girls or something

OK. He was walking along and he'd just got off the school bus to walk home **A** or to school or something like that and he smacked into a tree fell backwards and people were laughing at him and then his mum came out or, like, his mum saw him out the kitchen window and went out and helped him up. She was shocked. Scared.

Code Name: **FA1** Sch: 1a Tape: 1	Session: 1	Story B Second Reading	T & P 8y 3m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Not really. It only reminds me of when I went to the beach and or the river and I – actually no, it reminds me of three things that I've done in my life. I went to the river once with my father and I went on – I was going to get a – and then I just fell on something and I just about drowned. ***Oh, no.*** And he had to pull me out by the leg. ***Oh, dear. That was dangerous.*** Yes. ***What else did it remind you of? You lead a dangerous life.*** Cause I broke my wrist two times and I am dangerous. I broke that one and that one. And it reminded me of when I was at my aunt's for some days and I said to myself I want to try and swim and I swam but then I lost breath in the water and I was right by the edge and I hit my head and sank down to the bottom and then somebody dived down and saved me. ***Oh my goodness. So it made you think of that, did it.*** Yes, and then at the beach I was with my dad and his dog, Kim, and I was just about one or two and I was in the sea and this big wave was coming and Kim just pulled me by my togs and pulled me backwards. ***That was dangerous – it's surprising.*** Kim could actually jump in the air and catch a frisby
2	They were probably making sand castles and playing with their dog and digging up holes and playing in the water *
3	Which one is Finn? ***You'll have to look at the story.*** Is it the dog? ***No.*** Oh, I was thinking it was the dog. He probably wants to go back up home or something ***Do you know why?*** Or climb up the rocks **A1**
4	Take a video of them playing
5	Probably his limb. ***Why?*** Well, I can see in the picture that the dog's playing with him – playing with some people – or – and kind of bit one of them. *
6	The tide came in and washed it away.
7	She looks like a normal girl but – hmmm – she looks normal - except she's got fins. She's got a grey tail and it's sparkly and it's very scaly and then she's got like a little top on and it's got like flower prints on it and a circle*
8	I don't know. Finn – or the person – dropped the bucket and the shells went flying out
9	Probably in the water. He might have dropped it in the water.

10	Maybe because he thought it was like something that would bite him like a shark. He thought it was a shark
11	She wants them to get dried and get warm
12	Maybe because she wanted to stay away from danger or she knew that somebody was going to fall back **A2 – but see discussion**
13	No. She probably doesn't believe them because they will probably be all happy and they'll be smiling while they're telling it and she'll think they're lying

How shall I start off – oh, man – a little boy – it was about two little boys and a mother and a dog who were at the beach. They were making sand castles and finding shells and playing with the dog and throwing sticks. And then they – this boy called Finn wanted to go up the rocks because the tide was coming in **A1** and it washed away the sand castle. And then they heard, like, they heard like a mermaid kind of sound and they thought it was a shark so they went over by the rock pool and um, what's 'er name, one of those little boys fell in the rock pool and saw a mermaid and then the other little boy was pulling him out and then the mum was holding out a towel and putting it around him and dried him and then they probably went home

(When camera off she says she knows now how the mermaid got in the rock pool – so camera switched back on and she says the following.)

When the tide came in the mermaid probably got washed into the rock pool.

Right. And you've just thought of that now?

Yes.

What made you think of that?

Well, they said that the tide was coming in so I just thought, hmm, how would the mermaid get in? She wouldn't be able to swim over it – she wouldn't be able to swim under it – so I thought, oh, when the tide came in she probably got washed up into the rock pool. **A2 – but not used to change score – see discussion on her scoring sheet.**

Code Name: **FA1** Sch: 1a Tape: 4	Session: 2	Story C First Reading	T only 8y 3m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes. At my father's house my dad has a lap top and I've got an MP3 and I plug my MP3 into the computer and then I'll download songs off the internet		
2	She was probably on the computer – playing a game or something		
3	Because her aunty would tell her off if her aunty came in and saw her on the computer		
4	Because there was lots more space		
5	He lives in a little computer world kind of like that picture (points to a mural on the wall)		
6	Because he feels like he wants to come out and play with her because he's quite lonely because he has no friends maybe		
7	Yes, he might have light brown hair and dark green eyes and he's probably a nice – a very nice person		

8	Because he might say, 'Come on, I'll show you!' and pull her into the computer or something if she's dreaming
9	She's in her own bedroom and she's just on the computer and I bet she's daydreaming or something ***Is it a bedroom in her own home?*** It might be at her auntie's
10	Probably at their house or they've gone to the movies or gone away
11	Probably just sitting down in the lounge or having a cup of coffee or tea or something or just watching TV
12	To see if she's asleep or she heard something
13	No because I haven't heard of anyone who's actually seen a little boy in a computer except for on a TV game or something **A – see 8&9** ***So why does she see him then?*** Maybe because of her mum and dad and she has a brother maybe?
Janet was in her room playing on the computer and a little boy popped up on the computer and was talking to her and the little boy said that her aunty was coming up so she jumped quickly back into bed and pretended that she was asleep	

Code Name: **FA1** Sch: 1a Tape: 5	Session: 2	Story D Second Reading	T only 8y 3m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes, actually. I've been camping with my mum's ex-partner and his daughter and I was sleeping in the tent with her and they were going to get married and we would have been step-sisters but they didn't and we went camping and there was a hedgehog outside our tent and it was going (does pushing action with her head) sort of bumping against our tent – it was funny		
2	She would have been playing around outside or being with her mother or father or just having tea or something **A1**		
3	Oh, Karen was hungry ***So what does she want Emma to do?*** She wants Karen to go to their mum in the next tent just to ask if they can have like a cracker or a sausage left over from tea or something		
4	She might have been a bit thirsty or she was filling up a bucket of water – she was filling up the bucket of water		
5	There might be a camping site or maybe a park **A2 (see 7)**		
6	Maybe Karen might have already brought up the bucket of water that her dad told her to – whether he told her I don't know – and the moose was really thirsty with it being running away or something and it needed a drink – a little bit of a drink outside and its antler was just accidentally scratching against the outside of the tent		
7	They're probably staying in a camping site just outside by a river or like a little river but its got algae on it and it's got mosquitoes round it and nice long grass and heaps of trees and heaps of people and caravans and – you know…		
8	Maybe because its antlers – the moose's antlers – probably looked a bit like ears		
9	In the other tent or in a caravan or at the car		
10	They probably have like a little portable radio or something and they've got it in their tent and they're listening to the radio		

11	Probably somebody kicking against the tent or just teasing them or something
12	Because they scared their mother and their mother wasn't very happy because she thought that her kids were in danger
13	She has to get a bucket of water and go fill it up with – I mean she has to go fill it up with water
Karen was just – Karen and Emma were just sitting inside the tent trying to go to sleep and they had a book or were listening to the radio or maybe they have like a little TV and were watching a bit of TV and then they heard a rustling noise outside so Karen peeped out and looked and she said she thought there was a horse but then she had another peek and there was a moose and she was like, 'Oh, Emma! Look at this!' and they thought it was amazing and dad was coming out and the dad came out of the tent and was angry because all the water out of the bucket like was gone when he told Karen to go fill up the bucket with water and she hasn't – she hasn't bothered to – well she was carrying the bucket along **A1** and she dropped all the water and she hadn't bothered to go and get some more.	

Code Name: **FA2** Sch: 1b Tape: 1	Session: 1	Story B First Reading	T & P 8y
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes. Once we were in New Plymouth at our bach and then our poppa came with us and we went to rock pools and we found lots of crabs and sea creatures and stuff		
2	Collecting shells and rocks and things maybe ***Any other ideas?*** Exploring the beach		
3	He wants to go up to the rock pool because he saw something in it*		
4	Building sand castles and stuff		
5	His foot		
6	It got washed over with the wave		
7	She's got a scaly tale and it's greeny-bluey and she's got long hair and she can swim very well*		
8	Because of the mermaid. She put them up there like she'd left maybe an invitation for them to go in*		
9	Under the water because he dropped it because he was so scared*		
10	Because he was afraid there might be something that might hurt him or something		
11	To help - um to get dry		
12	Because other sea creatures might have hurt her she might have thought that was the best place for her		
13	No. Because she probably doesn't think they exist		
Finn and Josh were exploring the beach and Josh hurt his foot because he hurt his foot on the rocks and a big wave knocked over their sand castle and they met a mermaid and dived into the rock pool			

Code Name: **FA2** Sch: 1b Tape: 1	Session: 1	Story A Second Reading	T & P 8y
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Not really		
2	He'd just finished playing a rugby game and he was going out to catch the bus		
3	Maybe to see his friend or to go home		
4	Because he wanted them to think he looked good in his rugby outfit.		

5	On the side of the footpath on the road – because you can see a lady walking along*
6	No I think it was just the girls
7	Maybe wearing a sparkly outfit with little fairy wings ***Would it be a girl then?*** Probably
8	In front of a tree
9	She'd discovered the fairy, too.
10	She'd got a fright or something ***What frightened her?*** The raccoon or the dog? *
11	He looked up from the tree
12	Because he thought that he'd seen something magical
13	The girls, I think
Jason had just finished playing his rugby game and he'd seen girls and then he heard a voice so he looked in the tree and then something talked to him then he went to - um – he saw his mother	

Code Name: **FA2** Sch: 1b Tape: 5	Session: 2	Story D First Reading	T only 8y
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Maybe waiting for the taps to work and I think she'd been asked to do something so she was probably a bit annoyed because her parents might have come into the room and said, 'Why isn't it done?'		
3	She might want to show her the moose again if it came back		
4	Because the moose had stopped it maybe from working because it was maybe caught up in something ***Caught up in something?*** Well, it might have stopped working because – it might have actually been working but she sort of thought it hadn't been working		
5	A camping site		
6	Like a coughing sound		
7	They're in a – they found a nice flat space in the bush and they've camped there for the night and the girls are just like exploring the place and it's got lots of trees but heaps of grass as well		
8	Because it was about the same size maybe and it was making the same sort of noise		
9	She might have been going to collect things for their dinner		
10	Helping their mum		
11	He might've just been walking back to check on the girls		
12	Because they've been telling lies, he thinks		
13	She has to take the bucket of water somewhere ***Why?*** So that they could – I don't know		

Karen and Emma were just in their tent playing maybe and then they could hear a loud roaring noise so they looked out of the tent and Karen looked out first and she thinks that there's a horse out there but then she realises it's a moose and then she looks at Emma and tells Emma to come and have a look and Emma's all frightened and then they're a little bit scared and then their father came and said that they were telling lies and they had to take the bucket of stuff to somewhere.

Code Name: **FA2** Sch: 1b Tape: 5	Session:2	Story C Second Reading	T only 8y

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Playing her game. She wasn't meant to. ***She wasn't meant to? Why?*** Because it was after her bed time and she'd already locked the door and turned out…
3	Because her aunt and uncle were coming
4	Because he thought that she was up to no good
5	Maybe quite a big house maybe
6	Because he knew that she was doing something she wasn't meant to do and he wished he could do it too, maybe
7	I didn't
8	Because he might have thought that she was going to be doing something naughty
9	In her room probably. I think her aunt and uncle might be babysitting her or her mum and dad might have died and that might be her house now
10	They might have actually been talking to the aunt and uncle
11	Sitting in the lounge
12	To check on her – to see if she's asleep
13	No because he wouldn't have been able to see her that well if he was in a different house she might have just wanted someone to play with and talk to because she doesn't have anyone to do that with
Janet was looking at – was playing her game and she wanted something else to do so she just decided to mention to her friend and when her aunt came she stopped playing the game because she thought she might get into a bit of trouble	

Code Name: **FA3** Sch: 1d Tape: 3	Session: 1	Story A First Reading	T & P 7y 4m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Shrugged
2	Was he looking in a hole
3	He was going to class
4	Because of his hair ***What was wrong with his hair?*** He didn't brush it
5	Near the gate because in the story it had the gate near the tree
6	No because it was his mum
7	It would have wings and it would be little
8	Behind him
9	She was – puffing

10	He was talking in the hole
11	He was near the tree
12	Because he was looking in the hole and speaking
13	The dog *
He got off the bus and then he was going to go to class. He couldn't see his hair and a voice was near the gate and he walked in – and then he looked down and there was a hole in the tree and then a voice speaked to him and after his mum came and then she had branches behind her.	

Code Name: **FA3** Sch: 1d Tape: 3	Session: 1	Story C Second Reading	T & P 7y 4m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Once I was playing on my computer and I was playing some games		
2	She was on the table - the chair		
3	Because something frightened her		
4	To see her room		
5	Don't know		
6	Because she wasn't talking to him		
7	No		
8	Because she's probably never seen someone live in a computer		
9	In her room. It's her auntie's home		
10	Trying to look for her		
11	Trying to look for her with her mum and dad		
12	She's looking to see if she was there		
13	No because he was in a computer at her aunt's place		
She was sitting on her table at her aunt's place and her fingers were cramped because she was trying to lift up the mouse. She was in her room sitting by her laptop. And then a boy came and he felt sad because she wouldn't talk to him and then she cried. ***At the beginning you said her hand was cramped because she was holding a mouse. What kind of a mouse was it – a computer mouse or an animal?*** A little one. An animal. *			

Code Name: **FA3** Sch: 1c Tape: 7	Session: 2	Story B First Reading	T only 7y 4m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes. I went to the beach and when we went up to Porirua and me and my friends came with with us and we dug a hole and me and my friends and my sister and their dad was building a snowman and then a hole and then a hole with a river around it		
2	They might have – well, their mum may – was driving in the car to the beach cause it might have been a Saturday then they hopped out and they – on the sand – and they collected some shells **A**		
3	He wanted to go and see the rock pool		
4	She was going to get her camera to take some photos of them		
5	His leg		
6	The river came in and it washed it away		
7	She had gold on her fin – no I mean grey – yes, grey – and she had long, wavy hair –		

	she had a gold fin
8	The boy might have tipped the bucket over
9	The girl might have taken it
10	Because he thought it was a shark
11	So they can come up and get themselves dry
12	So it can live
13	No because she might have thought there is no such thing as a mermaid
After they went they build a sandcastle **A** but the tide came in and washed it away so they went – oh, and their mother went and was getting the camera to take some photos of them and then Finn and Josh went to a little rock pool and saw a gold fin and Finn thought it was a shark so Josh went in and then – oh, he fell in – and then Josh – Finn put his hand in and then Josh was heavy, he thought, and then a mermaid came out cause he'd pulled the wrong hand and then when his – their mother came back and Josh was out their mum was waving a towel to come and dry theirself and get dressed	

Code Name: **FA3** Sch: 1c Tape: 7	Session: 2	Story D Second Reading	T only 7y 4m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes, we went to – we went camping and then we made some foods and we went to the beach and we went to sandcastles		
2	She was sleeping – oh, she wasn't sleeping – she was bringing up the bucket		
3	She wants to – oh, she was hungry ***So what did she want to do?*** She wanted to eat some breakfast		
4	Cause it might have been broken		
5	They're camping **A (see 7)**		
6	Squeaking		
7	They were camping somewhere near a beach maybe		
8	Cause she – cause it was maybe fluffy		
9	Maybe doing something with their dad		
10	He might have gone to the shop to get more wood and food		
11	The girls' mother thought it was the moose		
12	Cause they thought it was a moose and frightened their mother		
13	Get more water so they can shower and have some tea ***What happened to the water?*** It spilled		
When Emma was sleeping Karen was getting more water so they could have a shower and then when Karen came back she put the water down, opened the flap and woke Emma up and then there was a noise outside the tent and they were hiding cause they were frightened and so Karen put her arm out and then felt something and it made another noise a thundering noise and then they were more frightened and then Karen put her arm out more and then they both put their head out and they both thought it was a moose so they put their hands back in the tent and then there was a thundering noise and then their dad and he was angry with them because they thought there was a moose outside and they had frightened their mum and then their dad told Karen to go back and get more water so we can have a shower and have something to eat			

Code Name: **FA4** Sch: 1e Tape: 3	Session: 1	Story A First Reading	T & P 7y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Not really
2	Sleeping
3	To school
4	Because he looked so funny ***Why does he look funny?*** Because he might be making a funny face
5	Beside the hole
6	No. Because he had a little dream because he fainted
7	It could have had wings a tiara and a little dress
8	Beside him when he was lying down
9	Kneeling down and saying, 'Are you OK?'
10	He bumped into the tree
11	Still lying on the ground
12	Because when you bump into something you're dizzy and he was breathless because he didn't know what was happening **A – see 6**
13	His mother
Jason was on the bus and he went to school and these girls laughed at him because he looked funny and then he bumped into a tree because he wasn't looking where he was going and at the end of the story his mother came and said, 'Are you OK?'	

Code Name: **FA4** Sch: 1e Tape: 3	Session: 1	Story D Second Reading	T & P 7y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Going camping with my family
2	Filling up the bucket at the river or lake
3	Have breakfast and have a drink
4	Because she's thirsty
5	In a tropical rain forest **A (see 7)**
6	It was slurping with its lips
7	There's a bird and trees and there's the lake just beside them **A** and there's a little tap with a little nozzle to turn on and it's just got little plants and it's got camping sites and buckets and a bag and a makeup kit and sleeping bags *
8	Because the moose was standing right by the tent
9	In the tent ***Is she in their tent?*** No. Maybe there's one beside them.
10	In the other tent with their mother
11	Flap panting
12	Because they screamed so that they made their mother get a fright
13	Put the bucket away *

There were two girls. One of them was Karen and the other was Emma. They were camping in the tropical rain forest and they heard a loud slurping noise and they went outside to investigate and they saw a moose standing right by the tent but in the end it turned out to be just a daydream because there really wasn't a moose in New Zealand.

Code Name: **FA4** Sch: 1e Tape: 3	Session: 2	Story B First Reading	T only 7y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes – going to the beach and collecting shells
2	Setting up their buckets and spades and stuff
3	He wants to go home because he's scared
4	She's getting the camera so she might have wanted to picture the – get a photo of the waves and stuff
5	His feet
6	The waves washed it out
7	She had a silver tail, brown hair, sparkly pink nails and sparkling teeth
8	They got washed in by the sea
9	If he was on the sand it would've dropped on the sand but if he was by the rocks it would've dropped on the rocks
10	Because he was scared that it might be a shark
11	Because a towel helps you dry yourself with a towel and she said to come and get dry
12	Collecting shells
13	No – because mermaids are made-up creatures

There was these two boys called Josh and Finn and their mum went to get the camera and they were by the beach and they were collecting shells and they saw this tail that was silver and then Josh went into the water and Finn dropped his bucket and went to dive in and then this mermaid came up and Josh or Finn asked her if she – what she was – and the mermaid wouldn't tell him and she just swum away.

Code Name: **FA4** Sch: 1e Tape: 3	Session: 2	Story C Second Reading	T only 7y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Chasing a mice standing on a chair and getting the broom and pushing the broom where the mouse was going
3	Because she was getting tired and it was near her bed time – it was past her bed time
4	To see what her room looks like
5	Really really small
6	Because he misses his mum and dad
7	Brown curly hair, shorts and a T-shirt and the globe shoes and his eyes are brown / black
8	Because she's never been talking to someone on the TV
9	In the living room
10	Maybe gone on a holiday or talking to her aunt and uncle
11	Watching the television – maybe going in the kitchen to cook something for dinner
12	To see if she's sleeping

13	No because it's impossible for anyone to talk to the TV and for the television person to answer
Janet was on this chair with a broom chasing a mouse around and then she looked at the clock and it was past her bed time and she went into the living room and she looked at the TV and this boy said "hello" and after the boy and the girl had a little talk, Janet – she was – she said, "I'll go to bed now cause it's past my bed time" and then the boy said 'Your auntie is coming' so then she hopped back into bed and she thought 'That's impossible. How could he know that my aunt's coming – could be uncle – and then she went into bed and she kept her eyes open for a little while and the light wasn't on and she saw this brown, curly hair she said, 'Wow. That is my auntie. How could he know that?' and then a few minutes later her auntie – she heard the door – a little creaking door close and then she closed her eyes and went to sleep.	

Code Name: **FA5** Sch: 2 Tape: 10	Session: 1	Story D First Reading	T & P 7y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Carrying a heavy bucket		
3	Make her carry the bucket		
4	Because she was supposed to fix it		
5	In their garden		
6	Walking		
7	In a tent ***Any more details?*** No		
8	Because it sounded like a horse		
9	Buying food		
10	Looking around		
11	The bucket		
12	Because they get the water from the tap		
13	Collect the water		
There was two girls called Karen and Emma and Karen went to fix the tap and get the water when she's fixed it and Emma had woken up and there was a big noise and Karen went straight to the tent and Karen thought it was a moose that was there and they screamed and their father came and he wanted to know what was going on and they said there was a moose out and their father said to Karen to fix the tap and get some water so they could wash themselves			

Code Name: **FA5** Sch: 2 Tape: 10	Session: 1	Story A Second Reading	T & P 7y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Playing rugby		
3	At home		
4	Because he had mud on his face		
5	In front of him		
6	No because tree fairies can't really climb into the trees and talk to humans **A**		
7	It would have golden shoes and it would have a green outfit		
8	Sitting		

9	Shopping
10	He was talking to a tree fairy **A – see re-telling**
11	On the floor
12	Because he had a surprise that he thought he saw a tree fairy
13	The two girls
He came back from his rugby practice and he saw two girls and they laughed at him and he walked into a tree and he thought he heard a tree fairy but it was actually his imagination **A** and his mother saw him lying on the floor and woke him up **A** and then took him to back home	

Code Name: **FA5** Sch: 2 Tape: 13	Session: 2	Story C First Reading	T only 7y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Chasing a mouse		
3	Because she heard a noise		
4	Because Janet looked as if she were holding something behind her back		
5	Noisy – because he might live in the city		
6	Because it's rather cramped in there		
7	Brown hair – and kind of brownish skin		
8	Because he just came straight in – he didn't knock or anything		
9	In her bedroom ***Is it a bedroom in her own house?*** Yes		
10	Downstairs		
11	Talking to her parents		
12	To check if everything's OK		
13	No – I think she was imagining it		
Janet was chasing a mice while her auntie and uncle and her mum and dad were downstairs then she heard a boy saying hello and she was – fell off her chair then the boy went sad because he thought Janet would like to stay on the phone – would turn the phone off a bit loud and then she heard auntie coming up the stairs and she saw her shadow. She leapt back into bed and he was gone.			

Code Name: **FA5** Sch: 2 Tape: 13	Session: 2	Story B Second Reading	T only 7y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes – when we went to Castle Point and we went camping and Rebecca built loads of sandcastles and she built a very big sandcastle and then the next day it got washed away		
2	Building sandcastles		
3	He wants to go back to where they were doing – where their towels were ***Why?*** Because the tide's coming in fast		
4	Take a photo of the sandcastle they had built		
5	His foot		
6	It got washed with the sea went it came – when the wave came up to go to the shore and then it dragged the sandcastle back (lots of hand movements)		

7	She had long hair
8	Finn dropped his bucket of shells
9	On the rocks
10	Because Finn was scared and he fell into the rock pool
11	To get them clean
12	She wanted to make some friends
13	No – because it was their imagination **A**
Well, Josh and Finn were making a sandcastle and the sea splashed the sand and dragged that sandcastle and destroyed it and then Finn picked up his bucket of shells to go back to where they were – had their towels – but then Finn saw a tail and he thought it was a silver fish and then he ran up and grabbed Josh's hand but then he looked back and saw that it was a mermaid and then his mum was waving a towel and she didn't believe them because she saw that she was gone **A**	

Code Name: **FA6** Sch: 2 Tape: 11	Session: 1	Story C First Reading	T & P 8y 3m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Sometimes – yes – when I lie on my pillow and my hand's underneath it starts to like get cramped up and all that ***What do you do – do you rub it to make it better?*** I try like doing that to it (bangs one hand on the other).		
2	She was sitting on a chair and her hand was all cramped up or something like that and she was up like really late		
3	Because there was this thing in the story where this boy rang her up and told her some stuff and then like she jumped into her bed because she might have been having a bad dream or something		
4	Because he wanted to see her nice room and it had lots of space in it		
5	Probably like lonely or something		
6	Probably because – maybe because she started to cry running off or something		
7	No		
8	Because she was afraid that he might get all angry or something like that – she was afraid because she thought she already knew the answer to it		
9	In her room ***Is it in her own house?*** Yes		
10	Maybe asleep if it's that late		
11	Probably still awake watching TV or something		
12	Because she wanted to see if she's asleep or if she's OK or something		
13	Yes because she got quite of a shock when – cause it's kind of like a TV like a computer – and it can lead to a phone line so I think it might be a computer and she can see him		
She had a cramped hand and then she went up to her room and she knew what everything turned on and there was a boy talking to her and she asked 'What's your class like' and she was all afraid and all that because she started to cry and then the boy said, 'Shhh – your aunt's coming' and she jumped into her room and then the door creaked open and she was knowing it could have been her auntie because she had curly hair and that's about as much as I can remember.			

Code Name: **FA6** Sch: 2 Tape: 11	Session: 1	Story A Second Reading	T & P 8y 3m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	He was waving to his friends and he was walking along – he was waving because they were on the bus
3	Probably home
4	Because he had mud on his face and on his hair
5	It was probably on that side – probably near his home because there were lots of homes over there and his could be on that side and you can see the houses over there too *
6	No because it was only his mum
7	Probably really small and a ripped dress like at the bottom like – it's like triangles at the bottom
8	She was in a tree and she had a worried face on *
9	Worrying
10	He saw um – now I think there was a tree fairy – he saw the fairy
11	From the picture it looks like in the tree *
12	Maybe because he thought he saw a fairy or heard a fairy and it made him feel like it might have been real or something
13	The girls

Well, he was going for this kind of a meeting thing and then he got dropped off near his home and he was waving to the – to his friends from his team and in the book it said there was two pretty girls coming and then he didn't notice that he had mud on his hair and on his face and they started to laugh at him and then the girls walked a little bit ahead of him and then there was a little voice behind his feet and it was a little fairy and it was like - it was something like – something like Moko or something like that and then he ended up getting really dizzy because he might have thought that it was a dream or something and then he ended up in that big tree and his mum had a worried face when she found him –that's as much as I can remember

Code Name: **FA6** Sch: 2 Tape: 13	Session: 2	Story D First Reading	T only 8y 3m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	She was carrying a small bucket to the tent **A**
3	Probably to have breakfast or something
4	Probably because she wants to see if you can actually get water out of it or something
5	They're in a tent
6	Loud slurping or stuff – probably like loud scary noises
7	I imagined it like it had this kind – like they were in this kind of woods and they all had to stay in one while there's about three tents and they don't have – and they have to see how they have to get food and stuff
8	Because it might have made a noise like a horse does or something
9	Probably in another tent sleeping
10	Standing up near the tap or something like that
11	It was the – something to do with the horse or something – oh, I think it might be a moose because it says here 'a round wide- eyed – the moose'
12	Maybe because – probably because they weren't as like – like protective and stuff or

	something like that ***OK – he thinks he's got to protect them?*** Yes, because they think it might be dangerous
13	She has to pick up the bucket because she might have dropped it and the stuff spilled over the floor
Well, I think it was Karen that went to go get the bucket of water from the tap and she woke up Emma and then they heard this loud noise outside and then the dad came running in to see what was going on and he was breathing loudly and holding his chest and when they heard the loud noise Karen dropped the bucket and the water **A** might have spilled all over the floor and then one of the girls said, 'But there's no mooses in New Zealand' and that's all I remember.	

Code Name: **FA6** Sch: 2 Tape: 13	Session: 2	Story B Second Reading	T only 8y 3m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	They were building a sandcastle		
3	To the rock pool or something like that ***Why?*** Maybe because he wants to see what's in the rock pools		
4	Go swimming at the beach		
5	I don't know because all it says is, 'Ouch, cried Finn, treading on the sharp rocks'.		
6	The wave came in and it pushed it over, it just went down		
7	Probably young – silver fish tail and maybe blonde hair or something – and her tail was long and … yeah, that's all		
8	Probably because of the mermaid, like lift them up and put them on the rocks		
9	It was kind of like that other story but not as quite – probably just on – where the rock pools are		
10	Maybe because he was like frightened from it		
11	To dry them off		
12	Don't know		
13	No because she might think they're not like real and stuff		
They went to the beach and they built a sandcastle but then a big wave came and pushed it down and then after I think Finn went over to the rock pools with Josh and then they saw a tail come up but then I think Josh might have went away and then the mermaid – there was an arm came over Finn – or Josh – I know it was one of them – and there was a hand and then he turned around and he saw a mermaid and – and then their mum waved a towel to come to – for them to go to her so they could get dried up and then I think Finn might have got – went back to get the bucket and they might have told their mum about the story that had – what, like they saw a mermaid and stuff but their mum wouldn't believe them.			

Code Name: **FA7** Sch: 2 Tape: 11	Session: 1	Story A First Reading	T only 8y 6m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	I rode down my driveway and I looked back again and I bashed into a post on my bike and I got a graze here and a graze here and a graze here. ***When did you do that?*** A couple of months ago.
2	He waved good-bye to his team mates **A**
3	To some rugby field
4	Because he was all messy – because they laughed at his rugby shirt
5	On the path
6	No because there's no such thing as tree fairies
7	Short hair with tree branches – little leaves in his hair
8	She was standing up near him because he was lying on the ground **A – see 10**
9	She was cleaning her hands and she looked up from the sink and she saw him out of the window **A – see 8**
10	He was walking – he was playing rugby – **A – see 2** ***What did he do just before his mother saw him? Reminded you of something you did…*** He was walking along and he bashed into the tree **A**
11	Outside by the tree **A – see 8**
12	Because he bashed his head onto the tree and fell back on his back
13	The two girls

He was walking along with his rugby shirt on and these two girls were laughing at him and he bashed into the tree and he felt all dizzy and his mum saw him out of – by the sink and then the mum went outside some time and then these two girls were laughing at him again.

Code Name: **FA7** Sch: 2 Tape: 11	Session: 1	Story B Second Reading	T only 8y 6m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	They were walking along the rocks
3	To the rock pools
4	She might want to take photos of them
5	His foot
6	It got washed down on the waves
7	She had long hair. She had a silver tail.
8	By the waves coming over them
9	On the rocks by the rock pool
10	Because he wanted to know what it was **A**
11	Because she wants them to come back in now
12	Don't know
13	Because mermaids don't live in rock pools – they're probably too small

They were walking along and Josh wanted to go and see the rock pools and then their mother wanted to take the camera and take photos of them and then they saw a silver fin coming out of the rock pools ahead and Finn thought it was a shark **A** and Josh went to go ahead of him and he slipped in and Finn went to go grab Josh and then he started pulling and he pulled her out and he said, 'What are you?' and she went back in the water and their mum said, 'Come back in' and started waving a towel.

Code Name: **FA7** Sch: 2 Tape: 13	Session: 2	Story C First Reading	T &P 8y 6m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	She was on the computer		
3	It was late and someone was coming up the hall		
4	He wanted to see what it looked like in the area		
5	Don't know		
6	Because it was all cramped where he was		
7	No ideas		
8	She was afraid she already knew the answer		
9	Her bedroom at her auntie and uncle's house		
10	They're somewhere else		
11	Sitting in the lounge		
12	She wants to see what she's doing		
13	No (no reasons)		
She was on the computer playing a game and then she was going to press click close and this boy – this boy's head popped up and then she was frightened and the little boy said that he heard her aunt coming then she saw a head through the hallway – she jumped back in bed.			

Code Name: **FA7** Sch: 2 Tape: 13	Session: 2	Story D Second Reading	T & P 8y 6m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	She was filling up a bucket		
3	She woke up Emma because she was hungry ***So what do you think she wants to do?*** She wants more sleep		
4	She was thirsty		
5	In a tent		
6	They were scared ***What did they hear him doing?*** Loud coughing noises		
7	There was a little house		
8	Because she couldn't see the antlers		
9	Inside on her bed		
10	He was drinking		
11	It was their dad racing over to see if they were alright		
12	Because there wasn't a moose there		
13	Fill up the bucket		

	Why? Because the tap wouldn't work
Karen was going – had to walk up the hill with the bucket. She couldn't fill it up because the tap was empty. She woke up Emma and then they heard this thundering noise and then Karen peeped out and she said it was a horse and then she said to Emma 'Look outside because there's something out there' and then Emma peeped out and she said it was a moose and then they both clung onto each other and then their dad came running to see if they were alright. Their dad was angry with them because there was nothing out there – he went out there and there was nothing out there because – Karen said 'There aren't any moose in New Zealand' and their dad said, 'Go fill up the bucket'.	

Code Name: **FA8** Sch: 3a Tape: 15	Session: 1	Story B First Reading	T only 8y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Well, it sort of reminds me of when I went to this club thing called 'Brownies' and we went fishing and I saw heaps of sort of fishes jumping. ***Where was that, then?*** I can't remember. ***Were they big?*** No, quite small.		
2	Building a sandcastle		
3	Well, I think that he wanted to go to see what that girl with the tail was		
4	Take a photo ***What was she going to take a photo of?*** I think their sandcastle		
5	The feet		
6	It got washed away by the waves		
7	In the story it said that she was scaly and tail and – ***Did you imagine anything else?*** Well, I imagined that she'd got long hair and golden hair		
8	Because they may have got washed up onto the shore		
9	In the sea because it may have got washed		
10	Maybe because Josh didn't exactly – because he had slipped he wouldn't – I don't think he really saw it **A**		
11	To get them dry		
12	Well, she could have got stuck in the seaweed or coral and stuff		
13	I don't think so because of my mum doesn't!		
Well, first they've gone to the beach and their sandcastle's got washed away and mum was just going to get the camera and then I think they went walking along the shore and Josh slipped over the shells and Finn, he – I think he was trying to pull Josh up and then he saw the tail moving above the waves and he just wanted to dive in and see what it was because they don't think they quite knew **A** and then their mum was waving a towel to get them dried – yeah.			

Code Name: **FA8** Sch: 3a Tape: 15	Session: 1	Story A Second Reading	T only 8y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Not really, except for when I used to read these fairy books and I went into the garden because one of them said there were fairies in your garden.
2	Walking back home
3	I think he was going back to his mum's house
4	Maybe since it said 'muddy' and 'the grass was muddy' and he – his hair and face might have been all muddy
5	Probably right in front of him or maybe he kept going sideways and then he bumped into it
6	I don't think so because he bumped into the tree and he must have - sort of - fell down and sort of had a dream **A** – **see 10**
7	I think it would be quite small and maybe slightly maybe with a reddish hair and a green petal dress or something
8	Probably in the kitchen because it said, 'the sink' and the sink is usually in the kitchen or the bathroom
9	Maybe cooking their afternoon tea
10	He had bumped into the tree because the two girls had laughed at him **A**
11	Lying down because he sort of felt a bit….
12	Well, he might have hurt his head – might have – because when I fall on the ground and sometimes I bang my head a little bit I feel a bit dizzy
13	Two girls that – two girls
Well, he was walking home then he looked at the two girls and nodded and then they started laughing at him but at first he thought that they looked at him because he might look quite nice in his rugby shirt and then when they laughed at him he bumped into a tree and then when his mother looked over the sink she saw him and walked him back home – yeah.	

Code Name: **FA8** Sch: 3a Tape: 17	Session: 2	Story D First Reading	T & P 8y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Not really
2	I think she was collecting water or something
3	Tell her about the moose and see if it was actually a dream or not
4	Maybe because it's not working and maybe she had to like go down to the beach and get it or something
5	Well, I think they're in their back garden
6	Probably drinking their water because it says, 'slurping'
7	Well, it looks very bushy and stuff and there might be a lot of animals there because there's – well they think there's a moose and there's these (pointing to picture) birds in the background, so…. *
8	Maybe because of its hooves
9	I think she's inside their house or wherever they live
10	Maybe gardening or something
11	I think it was probably the moose coughing or something
12	Because he thinks that they made up that story just to get them to come over –just to get him to come over there or something
13	Maybe apologise to dad or – actually, fill up the water again

Well, first they were in the tent and they heard this slurping sound and Karen looked out and thought there was a horse but then the other girl looked out and said it was a moose and then they heard a thundering sound and they didn't – they clutched each other and they didn't know what it was and then I think dad came over and they were saying to him that there was a moose but when they looked out there was no moose as if they'd had a dream or something.

Code Name: **FA8** Sch: 3a Tape: 17	Session: 2	Story C Second Reading	T & P 8y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No, again		
2	Playing on the computer a game she thought interesting		
3	Because she saw a face on the screen and she didn't know who it was		
4	I'm not sure		
5	Very squished up because he might live in the computer or something and might be very squished up because it's tiny		
6	Well, I think it's because he doesn't have a home like Janet's		
7	No		
8	Because he might say that he actually lives in here like he's a – I don't know		
9	Probably in her room in her aunt's or granddad's or something		
10	Probably at her real house		
11	Maybe they're still sitting up and watching TV or they….		
12	To see if everything was alright because my mum does that		
13	I think she was dreaming		
Well, she got – she was on the computer and she was playing a game and then when she pressed 'close' this face came up and he was asking her some questions and stuff and then he said that her aunt's coming and so she clicked the computer 'off' and then her aunt was - she thinks that her aunt came in and then she ducked deep into her covers and she could hear her heart beating.			

Code Name: **FA9** Sch: 3a Tape: 15	Session: 1	Story A First Reading	T only 8y 10m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Well – no, not really		
2	Playing rugby		
3	Home		
4	Because his hair was messed up and he was all muddy		
5	Where – by the bus stop somewhere		
6	No – because he probably just bumped his head and got unconscious or something **A – see 10**		
7	Probably it would have like a leafy dress on, I guess – yes		
8	Probably – I don't really know – it doesn't really make sense because the guy bumped into a tree when he was on the pavement walking and so – and then the mum said, 'I looked up from the sink and saw you'. ***So where would she be?*** In the kitchen ***How would she see him from the kitchen?*** I don't really know – oh, maybe his house was like there and then there was a window beside the sink and she looked out of it because it was probably open and saw him.		
9	Probably doing the dishes		

10	He bumped his head on a tree **A**
11	I – by a tree **A**
12	Because he had bumped his head
13	At the end…. Oh, the tree fairy
Jason played rugby. He fell – he banged into a tree. The girls were laughing at him – he was muddy and his hair was yuck and he fell unconscious and breathless and he saw a tree fairy and he said that he was Jonah Lomu and – yes.	

Code Name: **FA9** Sch: 3a Tape: 15	Session: 1	Story C Second Reading	T only 8y 10m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Playing a game on the computer		
3	Because there was a little man on the screen and – and her aunt came – was coming		
4	Oh, because she has a big room and he only has a small kind of computer thing		
5	Probably really crowded with all the little computer clicking things where you click on to get onto the game		
6	Because he's probably lonely and alone just there beside all the little clicky things – nothing else to do except sit down and stand there a bit		
7	He probably is like a didgee something, I guess, like ***He's like - sorry?*** Like a didgee person or something ***Didgee?*** Yeah. ***Oh, that's a new word for me.***		
8	Well because she will probably feel sorry for him and where he lived because he's just in a computer		
9	In her bedroom – it's in her Auntie Kay's and Uncle Jamie's house		
10	Probably in the lounge just watching TV like my mum and dad do sometimes		
11	Probably watching TV		
12	She wanted to just check on her to see if she's alright		
13	Probably not because she – I don't really know – I just kind of guessed because I'd guess for 'yes' too. ***You'd guess for 'yes' too?*** I don't really know. ***What makes you think she might have really seen him?*** What was the question? (repeat Q) I think she probably did see the boy now because someone could do like as she said 'get on the phone line and a camera' and yeah.		
There was a little boy on the screen. She was on the computer. Then her Aunt Kay came – she went to bed and the boy was there because he only had a computer screen and he looked behind at her room and he said, 'Big, nice room' yeah – that's all.			

Code Name: **FA9** Sch: 3a Tape: 17	Session: 2	Story B First Reading	T & P 8y 10m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Except that I made a sandcastle and the tide got it – yeah, oddly a bit of the story did but it's not like I've seen a mermaid or something
2	Making a sandcastle and, like, playing on the beach
3	Home because they had nothing else to do because the waves they washed away the sandcastle
4	Going to get the camera for the sandcastle
5	His foot because he was on sharp rocks
6	It got washed away from the water
7	Well, she's got long hair, a scaly tail – she's quite colourful with her tail and – yeah (pointing at picture) ***And you're getting that from the picture, are you?*** Yes
8	By when the sandcastle – it must have tipped the bucket over and washed the shells onto the rocks
9	On the sand where he was
10	Because – what was the question? Because he thought it would be a bit dangerous
11	Where was she waving a towel? (Looks at the picture) Oh, because she wanted them to get dry
12	So it could get some fresh air and – yeah – just look around, I guess
13	No – because I don't think mermaids are real and – yeah

There was a mermaid in the story – she had a colourful tail – the mum was waving a towel to get the boys dry. The boys' sandcastle got knocked over – the shells went onto the rocks. There was a rock pool that they saw the mermaid in and the mermaid had a very long tail and Finn thought that the mermaid was Josh because – and then he said, 'That's not Josh, it's a mermaid!'

Code Name: **FA9** Sch: 3a Tape: 17	Session: 2	Story D Second Reading	T & P 8y 10m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	What one's Karen? Oh, is that one Karen? (points at picture) She was sleeping ***That one.*** Wait, no wait. I thought it was that one so that's why I said, 'Sleeping' OK – just forget about that one – OK – she went down to get some water and carry it up the steep hill
3	Get some breakfast and – yeah
4	Because she – I don't know
5	In New Zealand – in a camping thing **A (SEE 7)**
6	Drinking their water
7	They're staying in a camp site that is far away from their home and it's got lots of trees and it's got green grass and – yeah * **A**
8	Because when you just look at it – she couldn't really see the antlers I guess
9	Their mum? In bed sleeping like my mum
10	I guess he was probably just waking up
11	Oh! The moose coughing a loud cough
12	Because when he got there, there was no moose and they gave their mum a fright

13	Go and get some more water because the moose drank all their water
There was – I've just got to stretch – there was a moose in the story. They were in New Zealand. They were camping. Karen got some water. Emma was sleeping. Their mum got a big fright. Their dad just woke up and Karen thought the moose was a horse. Emma was really frightened and she had to go and get some water – have I already said that? I think I have. When the moose drank all of it there was a loud thundering noise and that's all.	

Code Name: **FA10** Sch: 3a Tape: 15	Session: 1	Story A First Reading	T only 8y 8m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Hurt myself ***Did you? How?*** Like bumping into a tree		
2	Going to play rugby		
3	Home		
4	Because his hair ***What was wrong with his hair?*** It looked like – it was like sticking out		
5	In the muddy field		
6	No – it was probably his imagination **A**		
7	Maybe a leaf or something		
8	In the tree		
9	Helping him		
10	He'd bumped into a tree		
11	In the tree		
12	Because he'd bumped into a tree		
13	The tree fairy		
Well, he was in his rugby shirt and he was going home and he saw these two girls and they laughed at him and he – and when he wasn't looking he bumped into a tree and he saw a tree fairy and he woke up **A** and he saw his mother in the tree and he felt dizzy and breathless			

Code Name: **FA10** Sch: 3a Tape: 15	Session: 1	Story D Second Reading	T only 8y 8m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Going camping		
2	She was filling up a bucket of water		
3	Go ride on horses		
4	Because she's probably thirsty as well		
5	In a tent		
6	Stamping its hooves		
7	Like on grass in a forest in New Zealand		
8	Because of its thundering hooves		
9	Outside the tent		
10	Going for a walk		
11	The moose **A – see 8**		
12	Because he thought they frightened their mother		
13	Fill up the bucket because they'd spilt it		

Well, they were in a tent and they – and she was waking up Emma and when they heard a loud thundering noise and so they – and they spilt the water and Karen looked out the tent and saw the moose and she thought it was a horse and then she got – she had to go and refill the bucket because they might have spilt it.

Code Name: **FA10** Sch: 3a Tape: 17	Session: 2	Story B First Reading	T & P 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	When I've gone to the beach
2	Building a castle
3	Back into the house because the tide was coming in
4	Take a photo of their sandcastle
5	His foot
6	The tide had washed it away
7	She had a scaly tail and silver hair
8	She probably put them there
9	By the rocks
10	Because he was scared – he thought it was a shark
11	She wants them to get dry
12	Because it was stuck ***How'd it get stuck?*** The waves pulled it in
13	Maybe because Josh might have thought he could be the older one
Well, Josh and Finn were at the beach and they were going to – they were – they built a sandcastle and the tide got the sandcastle and then they saw a mermaid and Finn thought it was a shark and when Josh was very close he fell in and then Finn had to try and rescue him and he thought he'd rescued Josh when he rescued a mermaid.	

Code Name: **FA10** Sch: 3a Tape: 17	Session: 2	Story C Second Reading	T & P 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Not really
2	Watching the TV
3	Because she thought that her aunt was probably coming
4	Because of the room
5	Cramped
6	Because he was getting squashed
7	He might look like the TV
8	Because she was going to be, like, living in her hand ***In her hand? How do you mean?*** Because it says Janet's hand was cramped
9	In her bedroom in her auntie's house
10	Downstairs
11	Downstairs talking
12	To check on her
13	No – because she said she was just dreaming so she was just dreaming

Well, Janet was watching the TV and a face appeared on it and it was a boy's face and then she – she – and then she was talking to the boy for a little bit and then the boy said that her aunt – her aunt was coming so she quickly hopped into bed and she thought her aunt wasn't coming when she saw a little bit of her aunt's curly hair coming in the door.

Code Name: **FA11** Sch: 4a Tape: 20	Session: 1	Story D First Reading	T only 8y 5m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Well, not really but the part about jumping back – I've gotten scared because of my sister sometimes ***She scares you?*** Yes, she scares me. ***Is she bigger than you?*** Yes, she's 11. Her birthday was July 15th. And she got a bike. ***Did she! Wow!*** You can easily adjust the gears so she can go fast and I had my bike when I was all the way in Christchurch and I've still got it and it's actually really little but I can still ride it. But not up hills. ***You need to get a bigger one. Maybe you'll get one when you're 11.*** That would be in 3 years!
2	Well, I think she was carrying a heavy bucket and into a small tent **A**
3	She thinks she wants to frighten her or something
4	Because she was probably – maybe she needed to – I don't think I can remember but it's – maybe she wanted to like have a shower or something
5	Outside their house
6	Making loud noises **A (see 13)**
7	It's a tent – I'm pretty sure – and it's kind of big or medium, I can imagine
8	Maybe because I think she thought it was a horse because when she peeped outside it was really kind of a moose and maybe she thought it was a horse because it looked like it was the horse but she probably couldn't have like imagined the antlers or something because maybe they were kind of short
9	Probably – I think she's in – I don't really know how to say this but I think she probably kind of – maybe because she had to go like and find some stuff but she couldn't and she got lost
10	The father was fixing something in the garage, I think
11	I think when he opened the garage – and maybe when it shut
12	Because the girls said it was a moose and the dad said it wasn't really funny
13	She picks up the bucket and it's not that heavy anymore because I think the moose kind of went round and drank some of the water ***So – what's she got to do at the end?*** She – I don't kind of know – but I think she found no sign of the moose
Well, I can remember that they thought it was a horse but it was a moose. Their dad was –was – well, not their dad but they were bringing a small bucket of water, and it was heavy, to the tent **A** but I think the moose drank it **A** a little bit so at the end it wasn't really heavy and maybe because the moose was pretty thirsty or something. I can remember something happened and someone got frightened and they jumped back.	

Code Name: **FA11** Sch: 4a Tape: 20	Session: 1	Story A Second Reading	T only 8y 5m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Well, yes. Once I have kind of bumped into something like he did and I got a really sore bump on my head. And – yeah.
2	He was playing some – a game of rugby, I think
3	Home
4	Because I think he had mud all over him – like mud on his face
5	In front of him near their house
6	No because he was probably imagining it because when people bump into things they – they imagine stars around their head and some stuff
7	Probably his mum
8	Probably cleaning some dishes by the sink
9	Washing the dishes or drying them
10	He'd bumped into the tree
11	Lying down on the ground
12	Because I think he was doing it because he realised that he just then bumped into the tree and he kind of probably had to walk a few or so miles to his house from the bus stop
13	Maybe the mum or the girls that walked past him or something
I remember that at the front there was these girls walked past him and started laughing and – yes – and – and I remember that Jason bumped into the – bumped into the tree and he thought that he – he imagined – he thought there was a tree fairy when he bumped into the tree and he thought his mum had – was a tree because of the branches and he – yeah.			

Code Name: **FA11** Sch: 4a Tape: 19	Session: 2	Story C First Reading	T & P 8y 5m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Well, it reminded me of sometimes when I play some games and when I hear my mum coming and I just jump in bed so my mum tells me to go to bed but I just get in bed and I turn off my light but I just turn it on but I hear them come again – I turn it off and jump in bed
2	She was playing a game that was interesting on the – on the… ***On the what?*** On the computer
3	Because she saw a boy and a voice coming out of the computer
4	Behind Janet – because he probably wanted to see the room if it was - like he said if it was – he wanted to see the room if it had a big space
5	In the computer – probably fun because he gets to talk to people and see their rooms and tell them if people are coming **A – see 13**
6	Because she didn't answer his questions and maybe the room wasn't like his
7	Maybe brownish hair – nice face – and maybe asking too much questions
8	Because he was only on the computer and her phone wasn't plugged in and she thought that he was on the phone
9	In her room. I think it's in her aunt's house
10	Probably out somewhere and they called her aunt to baby sit
11	Maybe watching TV or doing stuff that adults do
12	Maybe to check on her if she's sleeping

13	No I don't think so. I think it was a dream because in here she said, 'I'm dreaming' but I've changed my mind. I think she did see him but kind of both a dream and saw him. ***Why do you think she really did, then? Why did you change your mind?*** Because I can see that she was saying 'I'm dreaming' then but in some things -TV shows and stories – they say 'I'm dreaming' but it can be happening but in this story I think it's pretty much both. **A**
I can remember there was a girl and she was playing on the computer and the games and it was interesting and I think her hand was kind of crampled and a boy just turned up and he said, 'Can I see your room?' and she didn't ask for any… she was afraid and then the boy got a sad face and the boy said, 'Maybe I…' - the boy said, 'Your aunt Kay's coming' and – and she said, 'How can – how do you know it's my Aunt Kay and not my uncle' and then her Aunt Kay came in. **A**	

Code Name: **FA11** Sch: 4a Tape: 22	Session: 2	Story B Second Reading	T & P 8y 5m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	It reminded me of a movie – H20 – there's 3 mermaids and one of them tried to be a mermaid and the other mermaid but then the other 3 mermaids – in a different episode – the final one – they jump in the water – they get out, they're dry and they chuck the other one in and Ricky, she says, 'I haven't got a mermaid tail anymore' because there's magic in the water that gave them mermaid powers and the 3 girls had it and – yeah		
2	They were building the sandcastle and the wave crushed it out		
3	I think he was somewhere and he wanted to go back ***Go back where?*** He was at the thing and he wanted to go back to where the mum and dad was		
4	Their mum was going to go get the camera but she couldn't find it		
5	I think his feet or his back or something		
6	The waves pushed it away		
7	She had – I can figure this without looking at the picture but she had like blue and greeny tail and there's a red necklace around her with long arms and a long tail kind of frilly at the top and then skinny and then it goes to the tail * (She points to the picture and uses it but indicated by what she said that she could have done this from memory of the picture) And there's also a movie called 'Alchemry'		
8	I think maybe when the waves pushed the castle in it went with or – maybe when Josh slipped in it probably did – when he jumped in ***When he jumped in? How would that get the shells in the water?*** Maybe his feet kind of slipped them in		
9	I think at the end the bucket was probably in the water or just somewhere else and – yeah		
10	Maybe because the – that boy was scared (points to picture) and that one (points again) was just brave to get something in the water like his shells because I think he has a shell and he's saving them up there *		
11	Because when he – he was wet and they needed them to get dry for the picture because she found the camera (points to picture) *		
12	Because mermaids live there and that's where they were sometimes born		
13	No because people think that mermaids can be like fairy tales even in real life		

I can remember they were out on a beach, their mum needed to find a camera but they couldn't find one but at the end – at the end she found a camera and the boy found a wand inside of the shells. There was a mermaid with a long tail with silver and blue and green on it.

Code Name: **FA12** Sch: 4b Tape: 20	Session: 1	Story C First Reading	T only 8y 10m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	I think she was just mucking around but she was supposed to go to sleep
3	Because she might get really badly told off and she might not like that
4	He might have looked behind her just to see how big her room was or looking round the room
5	I think it might not be as more spaceful as her house and he didn't really like it there
6	Maybe because he might not be by her room, he might have remembered something and been sad about that
7	Yes, light skin colour. Brownish hair, bluish-green eyes and reasonably tall
8	Maybe she wasn't very happy about what he said or something and he might have – well she might have thought of something more different than the boy would have thought of his place. She might – she might have got the wrong idea of her place
9	Her bedroom at her auntie and uncle's house
10	Maybe her - maybe their mum and dad had to go somewhere and there might of not been able to have a kids there otherwise they might have maybe interrupted their conversation and then she might have had to gone to her auntie and uncle's house and she might have gone to stay there for a little while
11	They just watching TV and just wondering about Janet being walked up – down the hallway
12	Maybe just to check if she is sleeping but if she might have not opened the door she might have – she – Janet might just be playing around very quietly so she – so the aunt could actually see her asleep
13	No. She might have just thought of that in a very weird way ***Okay – so why would she have been thinking of him?*** She might have been thinking about people that aren't very lucky in their places and homes.

She heard a friendly type of voice and said 'hello' then she – then she said something like amazed and then she just about fell out and she saw – she saw the boy maybe in her dream or something and then she – they mentioned about cameras and stuff – plugs – and then a couple of pages after that, I think, their auntie came in and then she opened the door then she – then Janet quickly closed her eyes and hopped under the covers and then – I forgot where the boy went she just turned the camera off and I don't know where he went then the auntie, I think she closed the door and walked back. She was very glad that he was gone or she'd be in trouble I think.

Code Name: **FA12** Sch: 4b Tape: 20	Session: 1	Story A Second Reading	T only 8y 10m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	A little bit reminds me of hitting a pole at McDonald's and hitting my sister and I got a black eye – both of them
2	He must have just had like a practice or a game of rugby
3	Home
4	Because of his hair and all the mud round it
5	Right outside the house
6	No because later in the story – later in the story after he hit the tree and the hole had disappeared and there was no voice any more
7	Ratherly small – golden type of hair – nice skin colour like – like most people do – and a colourful dress or it might have worn shorts
8	She was doing the dishes and the sink must have been at the window that faced that tree and she might have saw Jason lying down
9	She was washing the dishes
10	He walked into a tree
11	He was outside still **A (also see 8 and re-telling)**
12	He was dizzy because he might have bumped into the tree hard and breathless because he was (can't make out what she says here) sounds like 'losing his grip'
13	The two girls

In the beginning Jason said good-bye to his team mates after a practice or a game of rugby and then he walked on and he saw two pretty girls and then they started laughing at him because of all the mud and stuff on him – in his hair – and then after that while he wasn't watching he must have been looking at loads of girls and bumped into a tree and then the little fairy came out and then she – she was talking to him and said, 'Watch where you're going' and stuff and then, after that, he found himself on his – wait, um – his mum looked up from the dishes – or washing the dishes - over the sink and then he – she - must have seen Jason lying down on the ground on the grass **A**, I think, and then he woke up **A** and then the hole was disappeared and the voice had gone and the mum – the mum was there.

Code Name: **FA12** Sch: 4b Tape: 22	Session: 2	Story D First Reading	T & P 8y 10m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No I've never actually been camping before outdoors ***Haven't you?*** No, we only have a cabin – it's like a cabin thing but you have a TV and stuff –it's not much camping
2	Just sleeping and she woke up
3	Oh, she was hungry
4	Maybe because she might have been thirsty or she might have wanted to tell her dad that there was something with the water
5	In a native part in a nice place like to camp somewhere in New Zealand
6	Slurping – it might have slurped up all the water that must have came out
7	Green – green – very green! Lots of leaves and maybe very native birds but they might have saw about two kiwis or so and lots of ferns and a lot of green and leaves
8	She might have sawn the horse – oh, the moose's face but she might have not seen its horns – horn things
9	In another tent – just about a couple of metres away from them

10	Might have been trying to look for some food or might have just gotten dressed and then walked over there – ran over there, I should say
11	Might have been the moose trying to run away
12	Maybe he didn't know that the moose did all that mess and he might have been angry about that or he – last night before he went to bed he might have sought have thought of a bucket like half-way full and… except the moose might have drunk it all
13	Go with the bucket and fill it up so they can like drink stuff and get washed (she's already shown that she knows the moose drank it)
Karen woke up and then she woke up Emma and said that she's hungry and then she hears this slurping noise outside their tent and then she peeks out and she goes, 'Emma, Emma come – come and see what – come and see what's outside the tent – it's a horse' and then they both look outside – 'No, it's not a horse, it's a moose' and – and after that they both scream or stuff like yell and then their father comes rushing there and says 'What's wrong?' and then they - Karen says a moose is there and their dad says, 'Don't be silly' or something, 'there are no moose in New Zealand' and after that, at the end, she has to – she's walking away with the bucket in hand with Emma and she says, 'Well now the bucket's lighter – at least the bucket's lighter'.	

Code Name: **FA12** Sch: 4b Tape: 22	Session: 2	Story B Second Reading	T & P 8y 10m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	I haven't fell into a rock pool before but we went there for a school trip		
2	Making a sandcastle near the water – just been crashing it away		
3	They're trying to get up to higher ground		
4	Walking there then the boys must have made a sandcastle and mum must have gone off to go get it ***To go get it?*** Yes, to go get the camera		
5	His foot		
6	It got wiped away with - by the water crashing all over		
7	Green scales – blue – the colour of that for a tail thing (points to a painting on the wall) and seaweed type of hair and my type of skin		
8	Might have got wiped over by the water might have like came up and then got washed onto the rocks **A**		
9	On the rock – the biggest rock that he might have trod on ***That he might have – what? Sorry?*** When he dived in – when Finn dived in to get – what's his name? - Josh		
10	Might have got scared **A**		
11	She might have seen them got wet while she was over there – she might have just grabbed the towel and went over there		
12	She couldn't have gone on land because mermaids can only live in water like – ***Yes, they live in water.*** Yes, but they can't stay on the land for a long time and she might not have wanted anybody to see her so she went in the rock pool		
13	She'll pretend to believe it then she might not probably **A**		

They were at a rock pool by the beach – like the shore – and then their castle goes away and Josh goes, 'There goes our sandcastle'. Then mum's going to go get the camera and Finn sees a scale – like a mermaid's scale – and he – Finn tells Josh and Josh tries to go look at it and Finn says, 'Is it a shark?' **A** but then as Josh tried to take a better look he fell in and then Josh made himself dive in and - with his shells still on the rock **A -** and then Finn grabbed Josh's hand and pulled him – then pulled him back out to the rocks – except when he turned around it was the mermaid and when they got out of the pool their mum was there with the towel – waving it – and then Josh, or Finn says 'Look what I've found' and then they turned around and the mermaid was gone. **A**

Appendix 8

Responses by male difference poor readers

Code Name: **MB1** Sch: 1a Tape: 12	Session: 1	Story A First Reading	T & P 7y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes. About my brothers when they smacked into a tree. ***Were they hurt?*** My little brother wasn't but my big brother was because he was running and my little brother was walking and he was just walking behind and he smacked into my big brother and my big brother fell over on top of my little brother.
2	Waving good-bye to his team mates
3	To school
4	I don't know
5	In the school's garden
6	No because when he looked back the tree disappeared
7	It would have flowers on it and branches
8	Under the tree
9	She got scared
10	He laughed
11	Away from her in the school grounds
12	Because he was really tired
13	His mum
When Jason was going to school he had to wave good-bye to his team mates and he liked these two girls and then he went on the bus and then he had a good time at school and then when school finished he heard a voice that said, 'Come here', and so he did and he looked in the hole and he couldn't see anything in it and he laughed and said, 'Come out' because he didn't know who it was.	

Code Name: **MB1** Sch: 1a Tape: 12	Session: 1	Story B Second Reading	T & P 7y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	They were making a sandcastle and then Josh did the most of the sandcastle and then he said it was his and then Finn said 'Alright' and then his dog ran through the sandcastle and then Josh didn't want to make another one
3	I forgot that bit
4	Go to the pools
5	His foot
6	The dog went through it *
7	She looked scaly and Josh never had seen one before often
8	Josh dropped the bucket
9	In the waves
10	Because he thought it was a shark

11	To let the boys get dry
12	Because she belongs there
13	No because there's no such things as mermaids
Josh wasn't really surprised then he was really mad so he just went over to the rock pool and he said 'There's a strange fish in there' and he wanted to – and leaned in to have a better look and then he slipped into the rock pool and before Josh went into the rock pool Finn said, 'It's a shark' and then he - Finn walked away and then came back and he realised that was a mermaid so he dived into the rock pool and Josh rushed him to the surface because the mermaid didn't help Josh and he didn't let her and then his mum came and waved them a towel and said, 'Come and get dry, boys' and they did.	

Code Name: **MB1** Sch: 1a Tape: 14	Session: 2	Story C First Reading	T only 7y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes. It reminded me about my grandparents. ***Oh, yes? Why was that?*** Because granddad died.		
2	Watching TV		
3	Because there might be something really horrible on TV ***She saw something really horrible on TV? What was it she saw?*** Her granddad died because someone ran over him.		
4	Because he wanted to say, 'Hi'.		
5	Really – really cramped and cold.		
6	Because he had no one to play with		
7	He looked like he had grey – um – black hair and he was white and he wore blue and red clothes		
8	Because she might have thought that she – that it might be the same place where her grandparents lived		
9	In her really warm house ***Is it her own house?*** No ***And whose house is it?*** The boy's		
10	In town		
11	Maybe in town with her mum and dad		
12	Because she wanted to say good-bye		
13	No – because she was at her own house and she thought she was at the boy's house		
The boy wanted to say 'Hi' and the girl got a fright and she didn't know who it was and she was talking to the boy and then the boy said, 'I want to turn you off' because he had a phone and a camera so the girl just rushed into her bed and she was scared and then her grandmother came in and the sun was shining on her grandmother.			

Code Name: **MB1** Sch: 1a Tape:	Session: 1	Story D Second Reading	T only 7y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes – it reminded me of a cat and dog. ***Oh, yes – what happened?*** They were fighting and then a big German Shepherd killed my friend's dog and then my friend's cat got away safely in his house
2	Carrying a big heavy water up a cliff **A (see 7)**
3	Get her to carry the next bucket of water up
4	Because she thinks it's broken
5	In a tent **A (see 7)**
6	Calling for help ***Calling for help? The moose?*** Yes **A**
7	They were in a forest and there was a lake and there was good trees and there were coconuts in the trees and birds
8	Because a moose might have looked like a horse
9	In the forest cutting wood
10	Making breakfast
11	Maybe a tree was falling down
12	Because he thought the girls did it ***Did what?*** The thundering noise
13	Carry a bucket of water up the cliff again ***What happened to the other bucket of water?*** It fell down

Karen had to carry and then when she just got in the tent she tried to wake up Emma and then the thundering noise came and then Emma's dad came in the tent to tell the girls off and then Emma poked her – was it Emma? – can't remember – I'm not sure – she poked her head out the tent and said, 'There's a horse' and then the moose was calling help because it was in a trap **A** and Emma's dad poked his head in and said 'There's a moose' and then Emma said, 'There's no mooses in New Zealand' and then the moose ran away and then Emma said – I meant Karen said – 'The moose' – and then Emma's dad didn't listen.

Code Name: **MB2** Sch: 1c Tape: 2	Session: 1	Story B First Reading	T & P 8y 4m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	They were making a sand castle
3	He wants to go collect stuff on the beach because they were collecting stuff
4	Have a nice vacation at the beach ***She's going somewhere. Why do you think she's leaving them.*** Because they were probably making too much noise
5	His feet
6	It broke ***How did it break?*** Someone must have stood on it or a wave came in
7	She has a fin – a long tail and she was – and she's got scales *

8	They probably got stuck ***Why did they get stuck?*** Because they rubbed against scales that might've been sticky
9	In the water
10	Because Josh probably didn't want to go near it ***Why not?*** Because he might still be collecting stuff
11	To keep her hot – I mean cold
12	Because mermaids live in the water
13	No because kids imagine things
They were in the beach for a vacation and they made a sand castle when it broke they found shells and they found a mermaid	

Code Name: **MB2** Sch: 1c Tape: 2	Session: 1	Story A Second Reading	T & P 8y 4m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes – I played rugby		
2	Walking back from rugby		
3	Home		
4	Because he ran into a tree		
5	In front of him		
6	No – it was Jonah Lomu		
7	It would be small and have wings		
8	She wasn't in the tree ***Where was she?*** She was by a gate		
9	She was doing a fright because she didn't see him		
10	He fell down in the hole		
11	In the hole		
12	Because he didn't have much breath – um – air		
13	The girls		
It was about this boy who played rugby and he ran into a tree trunk and thought there was a tree fairy in the tree but it wasn't and he fell down in the tree			

Code Name: **MB2** Sch: 1c Tape: 7	Session: 2	Story D First Reading	T only 8y 4m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Sleeping in the tent		
3	Eat		
4	To see if the tap's working		
5	In a tent – a small tent ***Where do you think the tent is****?* Near the heavy bucket		
6	Making loud slurping noises		
7	They was sleeping in the tent and Karen woke up Emma		
8	Cause she didn't see the antennas		

9	In the house
10	Sleeping with their mum
11	Thunder
12	Cause they were fooling their mum
13	Face up to her mum
They were in a tent and they were playing and they were fooling their mum because there was a moose but there wasn't and they said 'look' and their dad or their mum said there were no moose in New Zealand	

Code Name: **MB2** Sch: 1c Tape: 7	Session: 2	Story C Second Reading	T only 8y 4m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No because I don't have a mouse		
2	Janet's hand was cramping from pushing the mouse around		
3	Cause her hand was so hurting her		
4	Don't know		
5	Interesting ***In what way?*** It could be like a nice two-storey house		
6	I don't know that		
7	He might wear a little black because his favourite colours are red and black or something		
8	Because girls are sometimes afraid		
9	Sitting on a chair		
10	They're in the house		
11	They're talking		
12	To see what she's doing		
13	No – she might be imagining it		
Janet met a boy but was too afraid to ask him where he lived			

Code Name: **MB3** Sch: 1d Tape: 3	Session: 1	Story A First Reading	T & P 7y 8m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	He's waving good-bye to his team mates on the bus		
3	To a hole in the tree		
4	Because they thought his rugby T-shirt looked funny		
5	I don't know.		
6	No because there wasn't a voice coming back		
7	Feathers at the wings		
8	(Shakes head)		
9	Looking through the hole		
10	(Shakes head)		
11	(Shakes head)		
12	(Shakes head)		
13	The girls		

When he walked past her he said 'Hi' and nobody said 'Hi'. Them girls were laughing at the tea shirt because it was a little bit funny for them. And Jason saw his team mates on the bus.

Code Name: **MB3** Sch: 1d Tape: 3	Session: 1	Story C Second Reading	T & P 7y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes. Scary
2	She was at her computer
3	(Shakes head)
4	He might have heard her on the computer
5	(Shakes head)
6	(Shakes head)
7	His hair was curly. His arm was chopped off and hanging down like that.
8	(Shakes head)
9	In her room. In the boy's home
10	Somewhere else
11	(Shakes head)
12	(Shakes head)
13	No. Because she was faking it

She was on the computer watching something and she was bringing the mouse on it.
What kind of mouse?
The computer mouse. And then she turned off the computer and jumped on her bed and then a boy was walking down the hallway and the boy heard the sound of her heart beating.

Code Name: **MB3** Sch: 1d Tape: 7	Session: 2	Story B First Reading	T only 7y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes. I've been in a beach and last time we saw 2 dolphins in there and we were trying to catch fish and we saw some dolphins
2	They was building a sand castle
3	- a silver fish ***So he wants to go and see the silver fish?*** (nods)
4	She wanted to go get the camera ***Why did she want the camera?*** Go taking pictures
5	His knee
6	It got crushed ***Crushed? What crushed it?*** The waves
7	She had a silver tail. She's got a sharp – a sharp tail at the end
8	The boy was putting them on the rock or the wave was putting the shells on the rocks
9	On the sand
10	He was trying to collect shells
11	I don't know
12	She might be cold
13	No

They was building a sand castle and the wave pushed it then mum got a camera and they saw a silver fish

Code Name: **MB3** Sch: 1d Tape: 8	Session: 2	Story D Second Reading	T only 7y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	She was carrying a heavy bucket to the small tent **A**
3	She wants to eat
4	Because it wasn't working
5	In the forest **A (see 7 and re-telling)**
6	Squeaking
7	There's some trees and there's dirt and there's birds on the trees and there'd be a little bit of grass
8	Because she saw a horn
9	At home
10	(Shook head)
11	The sky
12	Because there's no moose in New Zealand ***Right. And why does that make him angry?*** Because the moose might be scarey for him
13	She was wishing for something
They was in the forest and there was trees **A** and they had a tent in the forest and they had some bucket of water **A** but the tap wasn't working and they saw a moose outside the tent and it was dangerous but it was a pretend moose because there are no moose in New Zealand.	

Code Name: **MB4** Sch: 1e Tape: 3	Session: 1	Story A First Reading	T & P 7y 4m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No.
2	Waving good-bye to his team mates
3	Home
4	Because he looked silly ***Why did he look silly?*** I don't know
5	I don't know
6	Yes
7	I don't know
8	Inside I think, I'm not sure
9	(Shrugged – no answer)
10	I don't know
11	At the tree
12	I don't know
13	The fairy
Jason was waving to his team mates on the bus then he went to some girls who walked past then they laughed at him because they thought he looked silly	

Code Name: **MB4** Sch: 1e Tape: 3	Session: 1	Story D Second Reading	T & P 7y 4m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Carrying a bucket
3	Don't know
4	Don't know
5	Camping ***Where abouts do you think?*** New Zealand
6	Slurping
7	In a room
8	Don't know
9	In another tent
10	Don't know
11	The moose
12	Because there was no moose
13	Carry the bucket and fill it up ***Why?*** So they can get wash themselves and drink maybe ***What happened to the water?*** The tap broke, I think
There was a moose but then there wasn't because when their father came there was no moose and at the end of the story they peeped out and then there was nothing.	

Code Name: **MB4** Sch: 1e Tape: 8	Session: 2	Story B First Reading	T only 7y 4m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	They went to the beach
3	To a rock pool I think
4	Going to get a camera ***Why?*** To take a picture ***What's she going to take a picture of?*** I think the beach – the waves
5	His foot
6	A wave crashed it
7	She had fish – a fish tail ***Anything else?*** Long hair
8	Finn's bucket dropped
9	On the rocks
10	Finn might have thought it was a shark
11	So they will see her
12	Because the wave swept her in
13	No because sometimes mermaids are just myths

There were two boys. One saw a rock pool and saw a strange-looking fish but it wasn't a fish, it turned out to be a mermaid. Finn got hurt and dropped his bucket of shells.

Code Name: **MB4** Sch: 1e Tape: 8	Session: 2	Story C Second Reading	T only 7y 4m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	I went to my nana's house
2	Going to her aunty's house and uncle's ***And what was she doing there?*** Having a sleep over
3	(Q not appropriate due to previous answer)
4	Don't know
5	Cramped
6	Because he doesn't want to go back
7	Don't know
8	Don't know that
9	At her auntie's house
10	Probably on holiday
11	Sleeping I think
12	To see if she was OK
13	No – I don't know
That girl went to her auntie's house and she had a sleep over there and then suddenly a boy came and her aunty came to see the girl to see if she was alright.	

Code Name: **MB5** Sch: 2 Tape: 10	Session: 1	Story D First Reading	T & P 8y 9m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Camping
2	She was trying to fill the bucket up **A**
3	She wants to tell her there's a moose
4	Because she wants – she was hungry **A**
5	In a tent
6	I don't know
7	In a desert kind of thing
8	Because it has four legs and she thought horses have antlers
9	In the house
10	In the house with her mum
11	The moose
12	Because he said there's no mooses where they were staying
13	Get dressed
She was trying to get some food **A** by getting some water **A** and then the tap wasn't working. She saw a moose and her dad came and then he said there's no mooses where they're staying and then her dad told them to get dressed.	

Code Name: **MB5** Sch: 2 Tape: 10	Session: 1	Story A Second Reading	T & P 8y 9m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	He was waving good-bye to his friends
3	Home
4	They were almost at his house and they laughed at his house
5	In the park
6	No
7	A dress with wings and you can see through it
8	Behind him – that's what the voice was
9	Looking up at the sky *
10	He was looking in the hole
11	Standing up
12	Because he was down and he might lose his breath when he was down like that
13	His mum

He was waving at his friends when they were on the bus and these two girls came by and he said 'hi' and he went back and he saw this thing in the park – he saw this tree with a hole in – and his mum came and he lost his breath when he stood up and his mum was looking at the sky and he said to his mum he saw a tree fairy.

Code Name: **MB5** Sch: 2 Tape: 13	Session: 2	Story C First Reading	T only 8y 9m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	She was – can't remember
3	Because she didn't want to do it anymore
4	To see what she was doing
5	Squishy
6	Because he wanted her nice big room with lots of space
7	I don't know
8	Because she thought he was in a big house kind of
9	She's outside – she's inside – it's her own house
10	Downstairs
11	Checking up to see if she is in her room
12	To see if she's asleep
13	No – just in case her parents came up (something else indecipherable)

She knew that someone she knew was coming over and she thought she was just pretending there was a – she went outside and knocked on the door – and he came back in and she pretended there was someone coming in and so her parents would just stay and they would just stay in the front room and then she put this invisible robot so her parents didn't see and then she goes back upstairs into her room and then she turns it off then her mum and dad came up and tells her 'What are you doing?' then she says 'I'm just going to sleep' then they went out then she sat up and turned on the robot again and then kept talking.

Code Name: **MB5** Sch: 2 Tape: 13	Session: 2	Story B Second Reading	T only 8y 9m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	They were in the car going to the beach and then they got to the beach and Finn and Josh went to see the rock pools and then Josh went to the rock pools and he shouted to Finn, 'Come here!' and he came over here then he said, 'There's a shark' and then Finn likes sharks and so he went and he fell in
3	He wanted to go to the beach
4	She didn't want to go to the beach
5	His head
6	It got washed over
7	He had like a dolphin tail
8	There was something inside the shells and then they got washed over to the (indecipherable)
9	It got washed away
10	Because Finn didn't believe him
11	So she knew Finn had fallen in and she didn't want Josh to fall in because she didn't want to lose both her boys
12	Because it got washed over
13	No cause she doesn't believe mermaids can….

Their mum didn't want to go to the beach and both her kids wanted to and she wouldn't let them go on their own so they went and Josh shouted, 'There's a shark over here' to Finn then Finn came over then he went to have a closer look then he went and Josh didn't like his mother and he pushed him in then his mum came then she saw what Josh did and his mum got really angry then he said when they got home they – his mum sent him to bed because he – then he told her what happened then Josh told a lie cause he said he just went like that (nods head forward) and he said actually Finn tried to push him in first then he came back out then he pushed him in when this big wave came and then he went far waved away.

Code Name: **MB6** Sch: 2 Tape: 12	Session: 1	Story C First Reading	T & P 8y 1m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Looking at something ***What do you think she was looking at?*** Looking at the mouse *
3	So she could take a better look at the mouse
4	To make sure there's no trouble coming
5	Hot, I think because it sounded like it was hot over there *
6	Because she ran away
7	He's got curly hair, he's tall and he has a long-sleeved T-shirt on and he has long pants *
8	Cause he might come out and get her
9	In her bedroom ***Is it her bedroom in her own house?*** Yes
10	The parents are outside making a barbecue or something
11	They are coming up the stairs

12	So she could see what's going on
13	No – because she lives somewhere else
There was a mouse and there was a boy and a girl and there was an aunt and uncle and there was a piece of cheese and there was a computer and there was a bed and there was books and there was wooden walls and there was a chair and table and there was pyjamas and slippers and hair brush and curlers and stuff. **(*Can you do one more for me?*– meaning read one more story but he misinterpreted my meaning and added one more item)** And there was a table. *	

Code Name: **MB6** Sch: 2 Tape: 12	Session: 1	Story A Second Reading	T & P 8y 1m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	I think he was walking somewhere		
3	To the tree		
4	Because he yelled in the tree – talked to the tree		
5	The tree was close to the house		
6	Yes		
7	That one – looked like a dog *		
8	Up in the tree		
9	She was talking to him		
10	He turned into his mum		
11	Up in the tree		
12	Because he turned into his mum		
13	His mum		
There was a cat there was a dog there was girls there was a school bus and a car there was houses there was a tree there was a cat there was a bush there was a farm there was a gate there was – and there was of course Jason.			

Code Name: **MB6** Sch: 2 Tape: 15	Session: 2	Story D First Reading	T only 8y 1m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Having breakfast		
3	Wants to make her breakfast		
4	Because she was thirsty		
5	In the house **A**		
6	Roaring		
7	Staying in a tent		
8	It was brown		
9	In the house		
10	He was in the house too		
11	The moose		
12	They didn't ask – so they didn't ask if they could sleep out in the tent		
13	Make tea		

Well, Karen had to make the tea and there was a moose and her mum and dad were in the house while they were sleeping in the tent. **A**

Code Name: **MB6** Sch: 2 Tape: 15	Session: 2	Story B Second Reading	T only 8y 1m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	They were swimming in the sea
3	He wants to go back onto the sand because there's a shark
4	Their mum wanted to take them to the aquarium
5	His body
6	Got washed away
7	No
8	They got washed up
9	In the sea
10	Because it could have been a shark
11	So they could get dried up
12	Because she wanted to say 'hello'
13	No because mermaids might not be true

There was a mermaid and Finn got hurt and his bucket got washed away and they made a sandcastle and their mum waved a towel and Finn said, 'There's a shark' and Josh was swimming in the water and Finn wants to go back on the sand.

Probing for the reason he mentions an aquarium in his answers:

Have you ever been to an aquarium? *(Nods)* ***Have you seen a shark?*** *(Nods)* ***Where was that? Was it in Wellington?***
(A name of a place) It's in Auckland.
Did you drive all the way to Auckland?
No we were on holiday last year or the year before.
Was it a big shark - did you see?
They were small shark - saw a leopard shark.
I've never seen a big shark. Well, thank you…
Oh, and I went to Sea World in Australia which had a huge shark.
Frightening. How close were you to the shark?
Real close. We were between glass. Then there were rockfish. It looks like a rock but if you step on it, it will go for your boot.
Will it! Is it dangerous?
It's poisonous
Will it kill you?
Yes.

Code Name: **MB7** Sch: 2 Tape: 10	Session: 1	Story A First Reading	T only 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	He was just good-bye to his dear old mum or something
3	To school
4	Maybe because he looks funny because he's wearing clothes like maybe poofy T-shirt and stuff
5	The tree was by the school
6	No because I don't believe in them
7	Maybe look like a tree with wings
8	Under the tree
9	Maybe saying 'Get down from there'.
10	Maybe she was walking down the pathway – maybe to the shop or something – and she saw Jason up in the tree
11	He was in the tree
12	Maybe he could have climbed up the tree and a branch could have like hit him in the head
13	This boy
Well, Jason was saying good-bye to his mum and he went to the bus stop to get on the bus so he went to school and his mum was going past him maybe to shop and he was up in a tree climbing and she saw him and she didn't want him to get hurt and she said, 'Get down' and – yeah.	

Code Name: **MB7** Sch: 2 Tape: 10	Session: 1	Story B Second Reading	T only 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes – my dad and I going to the beach and looking at the rock pools ***Did you find anything exciting in the rock pools?*** I found a big crab
2	They were driving out to the beach
3	Maybe to the rock pools
4	Maybe at the beginning she woke them to see if they wanted to go to the beach
5	The foot
6	The wave
7	She had a blue fin and a big bit like that (used arms to show a tail) and a blue sparkle and she's got human skin
8	From the sea the wave lashing the shells onto the rocks
9	It was at the rock pools
10	Because he thought it wasn't true – he may have made it up
11	To make - dry themselves because maybe they got all wet from the waves and stuff
12	Maybe it was in there because all the fish were filling the sea and it didn't have any room
13	No because she doesn't believe in mermaids
They went to the beach with Josh and Finn were looking in rock pools and they found a mermaid and she was swimming around and stuff and the bucket was by there and he was going to pick up some crabs and stuff but he left it there and that's why I remember it.	

Code Name: **MB7** Sch: 2 Tape: 13	Session: 2	Story C First Reading	T & P 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Watching TV
3	Because the TV had a commercial on it so she wanted to get the phone and ring up
4	Because – don't know
5	Not that big
6	He's unhappy
7	He was a boy and he has a T-shirt on and pants and stuff
8	Maybe because she doesn't really want to go around but she – he's unhappy so she wanted to cheer him up
9	At home sitting on her bed ***Was it in her own home?*** Yes
10	In the kitchen
11	Sitting on the couch
12	Because the boy came in
13	Yes – because on the last picture she was looking at the doorway and she had this face on herself *
It was about a boy and a girl – auntie – a TV – a commercial and that's really all	

Code Name: **MB7** Sch: 2 Tape: 13	Session: 2	Story D Second Reading	T & P 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes – ***What – have you been camping?*** Yes ***Do you go often?*** No – sometimes I go ***Do you like it when you go camping?*** Yes
2	Bringing up buckets of water and just playing around outside and stuff
3	Play with Emma – ah, actually Emma wants to see because there was a moose outside
4	Because there was a moose outside
5	They're outside in the wilderness
6	Eating
7	New Zealand – and by a mountain because how could a moose get to them if they weren't by a mountain
8	Because she saw its face and stuff – she didn't see its antlers
9	In the house where they're supposed to be staying
10	Inside the house
11	The moose must have got scared and banged into a tree
12	Because he thought that someone must have got in trouble and must have got outside and made an animal angry
13	She went outside and she was looking for the moose and her mother said 'There are no moose in New Zealand'.

There was a moose and it was brown and had antlers and Emma and the other girl – they were in a tent and they were sleeping. Emma got up and yelled and stuff.

Code Name: **MB8** Sch: 3a Tape: 16	Session: 1	Story B First Reading	T only 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Making a sandcastle
3	To see what the silver fin was **A1**
4	To get the camera to take a photo ***What was she going to take a photo of?*** The sandcastle **(leading Q not used with others so count as a '4')**
5	Feet
6	It got washed away by the water
7	She was a girl with a silver fin
8	Don't know
9	In the rock pool
10	Because he was frightened **A2**
11	So they can get dry
12	I don't know
13	No because they're mythical creatures

Josh and Finn made a sandcastle and it got washed away by the water. They were going to the car to do something **A1** but then Josh said, 'Ouch' because his feet were hurting because he treaded on a rock and then they saw a silver tail and Finn was frightened – he thought it was a shark **A2** and then a big wave came and Josh fell in and Finn went to get him and he pulled up the mermaid instead and then – don't know the rest – but their mum was waving a towel to – and said, 'Come in to get dry'.

Code Name: **MB8** Sch: 3a Tape: 16	Session: 1	Story A Second Reading	T only 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Playing a rugby game
3	Home
4	Because he had mud on his face and head
5	In front of him
6	No because they're mythical
7	Little with wings
8	In fr…- don't know – he opened his eyes and saw his mother
9	Waking him up
10	Don't know **A (see 8,9&11)**
11	On the floor
12	Because he smacked into a tree
13	The tree fairy

Jason – Jason – Jason had a rugby game and he waved bye to his team mates. As he was walking home he saw two pretty girls that he knew. He thought he looked good in his uniform but they walked past laughing because he had mud – muddy hair and face – and he was walking and walking and then smacked into a tree – fairy – don't know the rest, can't remember.

Code Name: **MB8** Sch: 3a Tape: 18	Session: 2	Story D First Reading	T & P 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Filling up a bucket of water
3	Go to her house so they can get some tea and get washed
4	Because it wasn't working – the tap didn't work – it wasn't working yet
5	Outside
6	Doing slurping noises **A – see 13**
7	Somewhere in the bushes with lots of flax and trees*
8	Because she didn't look properly
9	Somewhere hiding because they'd frightened her
10	With her – their mum
11	Clomping of the moose with its hooves
12	Because they'd frightened their mother and they – and he didn't believe them – and no mooses are in New Zealand – they're in Canada
13	Get more water because the moose drank it all

OK - Karen got some water from the big bank and going back unzipped the flap and went into the tent – woke Emma up – and then they heard a loud slurping noise and they looked out and Karen – Emma thought it was a horse and they went back and looked again but it was actually a moose and then it made a big thundering sound and they were scared so they went – screamed – so they went in and they kept on doing it and then this flap opened and it was their dad and he said, 'Stop fooling around' because – and he said, 'No moose are in New Zealand' and they came out and thought it was – the moose was gone and now they need to refill the bucket.

Code Name: **MB8** Sch: 3a Tape: 18	Session: 2	Story C Second Reading	T & P 8y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Watching TV
3	Because there's a boy who talks
4	To look how big her room is
5	Don't know
6	Don't know
7	No
8	Because she doesn't know where he lives
9	In her room in her auntie and uncle's house
10	At their own house
11	Coming up to her room
12	To look if she's awake
13	No because I think it – she had a dream

I can't remember.
It's kind of fuzzy in your head, is it?
Yes
Anything at all?
No - I know the boy was talking with – in the TV – and, yeah, that's really it.

Code Name: **MB9** Sch: 3a Tape: 16	Session: 1	Story A First Reading	T only 9y 0m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Playing rugby
3	Home
4	Because he had mud and – all over his face – and his hair was all muddied up
5	In front of him because he was looking away
6	No – his mum was talking to him
7	Just like a fairy but in a tree
8	She was standing up in front of his bed – like he was lying down and she was standing up in front of him
9	Trying to wake him up
10	Walked into the tree
11	In his house
12	Because he had walked into the tree and he would be real dizzy **A**
13	No one – I think he just felt dizzy and just heard a voice in his head

I remember that he hopped on the bus – he had just finished playing rugby – he hopped on the bus and then he got off and saw two girls who went to his school and then he was looking at them and then he walked into the tree and then he ended – and then he thought he was talking to a tree fairy but it was his mum and then she woke him up and he stood up and he walked **A** and felt a little bit dizzy and then he thought he heard a voice.

Code Name: **MB9** Sch: 3a Tape: 16	Session: 1	Story C Second Reading	T only 9y 0m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Not really
2	Playing on the computer and chasing a mouse with a cat probably
3	Because her auntie and uncle were looking for her. It was late and she was supposed to be in bed.
4	I don't know
5	Just like boring because he's stuck in a computer and he's got really no where to go especially if he's in a game and gets chased around
6	Because he doesn't like where he's living
7	Like – not really
8	Because she thought she already knew because she was playing the game with the boy
9	Playing on the computer in her room – it's a room at her auntie and uncle's house
10	At her house because she's at her auntie's and uncle's
11	Looking for her
12	To see if she's asleep
13	Most probably because she was afraid that she already knew where he lived

I remember that she was playing on the computer chasing the mouse and her hand got cramped and then she got off because she forgot that her auntie and uncle were looking for her and then she went to go push on 'close' and then a boy appeared on the screen and talked to her and then he said that – and then she said, 'Where do you live?' and she was afraid that she already knew and his face looked sad and he said that his auntie was coming and she jumped in bed and she heard the door creep open and she closed her eyes and her heart was beating loudly and then she heard it creeping and close.

Code Name: **MB9** Sch: 3a Tape: 17	Session: 2	Story B First Reading	T & P 9y 0m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes. When I was in Te Kaka I was looking in a rock pool and I saw a crab. It was real big and I fell in.		
2	Collecting shells		
3	I don't know – he wanted to go up top because the tide was coming in		
4	Video camera them		
5	His hands		
6	It got knocked over by the tide		
7	She had like a fin at the back and then she had a body up here and the fin was scaly and she had hands and they were cold and – yeah		
8	Because he was climbing up with the bucket and must have dropped it and it tipped over and fell on the rocks		
9	At the bottom – it rolled down		
10	Because Finn thought he was lying		
11	To tell them to go to her		
12	I don't know – oh, because the tide – and it would have swished her on the sand **A**		
13	No – because mermaids don't really exist		
They were collecting shells and their mum had gone to get the camera and then the tide was coming in so they went back up and then he slipped and he dropped this bucket and all the shells fell out and then the bucket rolled down then he went up and he saw a strange fish and then jumped in and he saw the mermaid and it was scaly and it was in the rock pool because the tide was coming **A** and then they got out and then went to their mum because their mum was waving the towel and the mermaid stole the shell – took a shell from the bucket.			

Code Name: **MB9** Sch: 3a Tape: 17	Session: 2	Story D Second Reading	T & P 9y 0m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Filling up the bucket with water		
3	Go into the tent		
4	Because it probably wasn't working		
5	Outside of their house		
6	Yelling – like squealing – like it does – like a deer		
7	It's like a bushy area with heaps of bush around it and like good outdoors – beautiful trees all around it and – yeah		
8	Because she probably couldn't see the horns – without the horns they would look like a horse because it sort of had the same face and – yeah		
9	Inside – by the window because she done a big scream when she heard them		

10	I don't know that one
11	The moose
12	Because they frightened their mother
13	Take the bucket back to where she got it from because she filled it up with water and then she took it to the tent and she emptied it and she went back
She was filling the bucket up with water and then she went back to the tent cause she told Emma to see if the tap was working and then she said, 'No' and then they – and then she went to the tent with Emma and then they looked out and then they saw a moose and they thought it was a horse and it was tall and it had big antlers and then after that it made a loud noise – loud thundering noise – and then they screamed and then their dad came running and then he said this ain't funny because they made their mum frightened – yeah.	

Code Name: **MB10** Sch: 3a Tape: 18	Session: 1	Story A First Reading	T only 8y 5m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Not really		
2	Probably walking home or something like that		
3	(He's already answered this) – walking home		
4	Because – probably because he had dirt all over his hair and face		
5	On a muddy field		
6	No – because it says 'Ha, said Jason, and I'm Jonah Lomu'		
7	It'd probably have like heaps of trees like sticks poking out of it – just be like a fairy like thing		
8	Lots of tree branches – I think that it's there – yes, lots of tree branches it says ***OK – so where do you think she was?*** Round where he was smacked into the tree or – yeah		
9	Probably trying to get him up because she didn't know what he was doing – she was trying to get him up		
10	He got – he got surprised by Jonah Lomu and he smacked into the tree as well and hit the tree and he got this – he heard the tree fairy but it's not real		
11	By the tree that he smacked into		
12	Probably because he smacked into the tree because he sort of run to smack into the tree		
13	Jonah Lomu		
Well, when he walked and like he when he was going home like the girls laughed at him because he had dirt all over his face and his hair and when he was running and he crashed into a tree and then Jonah Lomu said he was a tree fairy behind the tree so he would scare him and he said, 'Ha! I'm Jonah Lomu' and he was a tree fairy – yeah – and he, and after that his mum came along and saw him and he was dizzy because he'd smacked into the tree.			

Code Name: **MB10** Sch: 3a Tape: 18	Session: 1	Story D Second Reading	T only 8y 5m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yeah, a bit when I went to – when I went on holiday to this forest place, yeah ***Were you camping?*** Yeah.
2	Carrying a heavy bucket to the tent so they could like drink it or shower or something
3	Tell her about that – oh, oh that she'd carried a full bucket up a steep bank and her arms hurt now
4	I'm not sure
5	They were at probably a camping site
6	Probably just standing like trying to find its food or something because it came out – probably out of the forest from the camping site
7	Yeah, there's tents – yeah tents and moose and there's probably forest bush
8	Because moose – moose can actually have this kind of round face as them and they have the same kind of feet as well
9	Probably in a – probably maybe in the same tent that they're in or in another tent where their father jumped out
10	Probably just waking up
11	Probably the – I think it was the moose running away or – yeah running away and making a bad noise – big noise
12	Because they lied – he thought they lied to him because he – because they told him about the moose and he thought that they lied because it wasn't there
13	Make tea and get washed

Let's start at Karen had the bucket of water and was bringing it to the tent and then she – when she was in the tent she peeped out and she thought there was a m – no, a horse there – but when she came out she recognised it was a moose and asked Emma to come out and she peeped out as well and then the moose made a big noise and it probably went into the bush or forest and then their dad jumped out just – yeah.

Code Name: **MB10** Sch: 3a Tape: 21	Session: 2	Story B First Reading	T & P 8y 5m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes, once when we – when I was with my friends and we were facing boys onto girls – three boys onto two girls – so we could see who could do the best sandcastle but when the tide came up it actually washed them both away so that's why we tried to go a bit higher but then we couldn't get any water in the places that we wanted them to do
2	They were building a sandcastle to see….
3	Finn probably wanted to – Finn wanted to probably stay with his thing and – because he didn't want it to crash down because he just wanted it not to crash down – he wanted to dig a hole so it wouldn't actually destroy the whole thing
4	Probably planning to go because the tide's going up
5	Probably his feet
6	It got washed away because of the waves
7	She had a green tail and had arms and green hair – green hair and a red necklace *
8	Because the mermaid picked them up and put them up there and that he had left them on the rock when - before as well - before he fell down ***Who did – sorry?***

	Finn
9	**(Missed this Q) Can assume because of previous answer A**
10	Because then – because he might have been a bit scared of the tail and didn't – didn't want to actually touch the animal - the mermaid
11	Because they'd be really wet – because they got splashed in the water **A1**
12	I'm not sure
13	Probably not because everybody really says mermaids aren't real
Yea – first when Finn and John – they were building a sandcastle and – and the waves washed it away and then they got put into these rock pools and then they saw the mermaid and John – Finn didn't follow John at the start because he didn't want to touch it – or harm it or anything – so he didn't know – he doesn't really – probably scared of it – and then at the end it has their mum waving a towel at him so he could get dry. **A1**	

Code Name: **MB10** Sch: 3a Tape: 21	Session: 2	Story C Second Reading	T & P 8y 5m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	I thought she was probably giving a – having to – giving a mouse some food or something so it had a picture of it having food *		
3	I'm not sure – I don't know		
4	Just in case that she like – she's different to him and doesn't – just in case – I can't think what the word is – just in case that she's different to him – yeah		
5	Probably not that good because it's kind of small and that		
6	Because she's probably – she's got a bigger room than his house is really		
7	Probably he's – I'm not sure about that		
8	Because his room is so small and she's got a really big one **A**		
9	In her bedroom watching like – in her bedroom. It's not her own house but it's her bedroom, though		
10	Probably out somewhere because it's only the auntie and the uncle staying there		
11	Probably in the lounge watching TV like she's in her bedroom though		
12	Because she probably heard something in there – like heard a different voice that she's probably never heard before		
13	Probably otherwise she wouldn't be able to hear him. Probably if he was a shadow she wouldn't be able to hear him really		
It starts with her giving a mouse some food and she was watching TV and then this boy appeared and it's sad because she had a bigger room than he had his house and she was afraid that his room was so small and hers was so big that it was kind of unfair **A**. And then her aunt came in and opened the door and that's when she just jumped in bed so that she wouldn't see that there was anything different.			

Code Name: **MB11** Sch: 4a Tape: 21	Session: 1	Story D First Reading	T only 7y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yeah – camping and my father – my granddad – he fell out of the tent and into the river. This was down in Invercagill. That's where my mum's parents live because they – she was born there but they went to London and my dad – that's how they got married and my dad – they used to live in Timaru and they moved up to Wellington and she moved up to and then my other grandparents are in Wellington and – but one of my – my granddad – he died before I could see him
2	Well, she was getting a bucket of water **A1**
3	She probably wants to say, like, 'Look – there's something outside! Come on – come on!'
4	Because she wanted to have like breakfast or she might want to have like something to do with water – maybe porridge
5	Well they're camping out – camping by a – I imagine by a river **A1** with all these trees surrounding them
6	Well, they heard it going (makes sucking noise) at first and later on it starts going (makes coughing noise) ***OK – what was that first noise then?*** Slurping ***Why was it doing that?*** I think it could smell breakfast **A2**
7	Well, they're in grey tents sort of – greyee greenish and then there's like a little stream **A1** like going (hand signs to describe course of the stream) and there's like all these trees around it (more gestures) and like high grass but there's like a little soft place where they've planted their things like in the middle of nowhere but there's like a little stream.
8	Because she had to be like – say over here's like the tent she just goes (ducks head down as if looking out at the bottom of flap) like that and sees a mouth and it looks like a – it looks like – well, it is a camel's nose – but it looks like a horse's nose – and she didn't see it fully
9	Mother – well, she's inside sleeping and they frightened her – they frightened her because the father says so later on in the story
10	Probably just getting out of bed and maybe starting making ***Starting?*** Making breakfast
11	Well, the lightning or the camel. I don't know – one of them. Probably the camel maybe. It doesn't say
12	Cause they scared her mother and then he's going, 'You made me all like this because there's no camels in New Zealand – and you made me get out of bed!'
13	At the end they said 'Go back…' – oh, well she's like ashamed cause, like, there was a camel but she didn't see it and then they were yelling at her and she has to go get another bucket of water. Because probably they didn't have enough or maybe the camel drank it when it was going (makes slurping noises) slurping. **A2**

Well they first – they – at the start she was walking up the hill – probably like a hill – with her buckets – two like, maybe two buckets or just one like this full of water
(holds up imaginary bucket) and then – and then when she got there she heard the – she went in and then woke up Emma and then they heard a (makes slurping noise) so she poked out her head and saw and thought it was a horse but it was a camel and then poked her head out fully and thought it was like (yelling in high-pitched voice) 'Dangerous! Dangerous!' and then, 'Is it dangerous?' and like her - and then it started slurping and then it started coughing (makes coughing noise) and then her dad came out and goes, (mimics a man's voice) 'I'm so disappointed in you! You scared your mother and there are no camels and you made me get out of here! There are no camels in New Zealand!' And then she felt ashamed and had to go down and get another bucket of water.

Code Name: **MB11** Sch: 4a Tape: 21	Session: 1	Story A Second Reading	T only 7y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No – well, I have been on a bus a couple of times but I haven't played rugby and I've never been knocked out.
2	Playing rugby – just got off the bus
3	Probably home
4	Because he – there was mud on the floor and he had mud all over (gestures around his head) ***All over?*** Yes, all over his face and hair
5	Probably about 5 or 10 metres past the bus, just outside the bus **A (see re-tell)**
6	I would say no probably because they don't really exist and no one's discovered that – there might be – that's why I said there probably wasn't but there might be – someone might discover them later on but no one's seen one, so probably not – yeah, no. **A** (see 10)
7	Probably like real small – white hair – hair tied up – it would be long but like tied up in a bunch (gestures pulling hair back and tying it) and like with a green dress on all glittery (gestures over chest) and then like these little real little high heels (bends down sideways to gesture around his foot) about that big (showing size with fingers)
8	At the sink – in the sink – and then they walked up –yep
9	Probably doing the dishes
10	Well, he got knocked out and he was like day-dreaming about the – the little fairy thing and tried to tell him what was going to happen and everything
11	Just by the tree and then he was walking up the driveway
12	Because well he - he got just knocked down and he'd be going (does mime of someone with half-closed eyes swaying about making gasping noises) – might be frightened sort of
13	Well, he – he – it was the little fairy but he looked back and there was nothing there so he just ignored it – ignored it, I think – I think ***He just?*** Ignored it ***Annoyed it?*** Just like, oh, forget about that! (more gestures of looking back and waving hand dismissively)

Yes, well, he was probably playing a game of rugby and then he got on the bus and jumped down when he got to his house **A** and he walked out and he got knocked out because he ran into – into a tree and then – and then the - the little fairy came and told him like, well, what's going to happen (mutters here as if he's the fairy) and then his mum goes, (mimic's a woman's voice shouting) 'Jason! Jason! Wake up! Wake up!' and then he was oooh (gestures of being dizzy and waking up – he sways about in his chair with eyes shut and head flopping about) 'Good for me I looked up from the sink and saw you!' So they were walking down to their house and walking down their driveway and then he heard someone going 'Ha! Ha!' and then he looked back (quick look behind as if startled) and there was nothing there so – and then, yeah, he was feeling dizzy and breathless and he was probably going (gestures swaying about moaning a bit with chin shivering).

Code Name: **MB11** Sch: 4a Tape: 19	Session: 2	Story C First Reading	T & P 7y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Well, it said that she was pushing around the mouse – she was probably having to chase it to get it back in – but before the story started she might have been at the pet store trying to get the mouse and it was shy and started to run around
3	Because she's too tired and her hand is starting to cramp up
4	So he could see behind her, like – so he could see behind her to see what was in the room sort of like
5	Probably quite a bit smaller because he says like 'Oh, this is a big room with lots and lots of space' and he's like, 'Oh, nice room' – he probably doesn't have as much stuff – and he's poor
6	Maybe because he's like (pulls sad face) and it just reminds him of his home and he's like (pulls sad face again)
7	Black hair down to about where mine is but black – probably looking a bit tannish wearing a blue T-shirt and yellow pants
8	She couldn't see him and he like was just scaring her or something or like 'Where do you live? Go away!'
9	She's in her room watching T.V. I can imagine. ***Is it in her own house?*** Yes
10	Out in the lounge, probably – like downstairs in the lounge watching T.V.
11	They were like, probably – well, they were like probably in bed and they were like (eyes shut and shaking head as if being disturbed whilst asleep)
12	To see what she was up to
13	No because it didn't show in the picture and you asked me 'could you imagine what the boy looked like' * (referring to Q 7)

She started off getting back up to her room because she was chasing around the mouse and then she started to hear these voices like (mimics a voice calling) 'And, ah, your aunt's coming' and then she started to get a bit scared and then that guy – that boy said 'Your aunt is coming' – and then she goes, 'How did she know it was my aunt – my aunt Kay and not uncle Jamie? What? How? No one ever knows', and then she opened up the door and she saw a frizzy bobbed curly hair and said, (mimics nonchalant voice) 'Yoo – hoo – just lying back in bed' - and then she shut the door.

Code Name: **MB11** Sch: 4a Tape: 19	Session: 2	Story B Second Reading	T & P 7y 8m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes, I have, actually. Two terms ago when we were studying on the rocky shore we went all the way to Wellington to go to the rock pools and we had to collect these fishes and put them in this bucket of water and we'd put them inside and show them what we'd found and then we had to tip them back in the thing. Only two people got the – oh, put them back in the rock pool – only two people got star fish – this one person's mum and this person that had their mum there – I can't remember who it was – and I saw a star fish so I tried to pick it up – I got it – and it fell out – I just got it on the end and it fell out – and suddenly it wasn't in the rock pools but I didn't see it there and I stooped down and the water was like up to here – and I went back
2	They probably arrived about ten minutes ago and started to build a sandcastle – that's what they wanted to show their mum
3	He wanted – he wanted to grab all the – he wanted to grab the castle or all the shells and try to run back ***Run back? Run back where?*** Run back up the thing – up the – probably be – probably would have been like a little piece of sand or something like that sometimes **A**
4	Probably planning to have a – take a photo of their sandcastle that they made that got blown – that got blown over by the wave and probably wanted to have like a little run round there and have like a little something to eat like a picnic sort of
5	His feet because he stepped on all the sharp rocks
6	It got flat just like (hand gesture) because it got blown over by the waves
7	She had a silver tail and she probably would have had a nice – well, like a long white skinny body with a glittery green T-shirt with a green dress on and probably like some blond hair all the way round to about here with some sparkles on it
8	Because sometimes there's shells in the sea and then the waves might have got under it and like just pulled it up and just washed up by the high tide
9	It was probably – it was probably just down there because – probably just on the hard rocks and, like
10	Because he was starting to get a bit cold and he didn't know if he wanted to go into the thing because he was getting cold and then Josh fell in the water and he didn't want to go in because he said, 'I'm cold but I've got to save Josh' and he went in steeply
11	Because they both fell in and they've got to get dry
12	I don't know – maybe it wanted to sort of travel somewhere but it went the wrong way
13	No, I don't think so, they – I don't think they would – she would because many people don't think that mermaids are true so they're lies

At the first they builded the sandcastle and then it got washed over by the waves just as their mum went to get the camera to take a photo of it and then they – and then they go, 'Oh, look at the high tide's coming in' and they grabbed the bucket of shells – of pretty shells – and they ran back up the sharp rocks **A** and they hurt Finn's foot and then Josh fell into the rock pool and saw something – like he saw the tail – and then Finn was going, (mimics voice) 'I'm cold, I'm cold!' and then he jumped in to save Josh and he pulled out something – it wasn't the – it wasn't Josh – it was the mermaid and then he put it back in the water or like dropped it by surprise and put it in and Josh held onto it and went up.

Code Name: **MB12** Sch: 4b Tape: 21	Session: 1	Story C First Reading	T only 8y 7m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	(Reading from text) Janet's hand was cramped from pushing the mouse around
3	Because she was glad to go back tomorrow
4	To make her go to sleep
5	Down in a different country
6	Because Janet's – Janet's uncle and auntie are gone or maybe dead
7	He's got hair, blue eyes, white skin and – and brown pants and blue shirt
8	Because she was afraid because he was wiggling
9	At – at – what's the boy's name again? ***He didn't have a name, did he.*** Well, I'll just call him Jack. ***OK. So where is Janet?*** At Jack's place having a sleep over.
10	Going out to the movies or having a date
11	Going out to the movies
12	Just in case no-one's – anyone's there or not there
13	Yes – (no reasons why)
Janet was wiggling deep under her covers in her bed. That's pretty much it that I know.	

Code Name: **MB12** Sch: 4b Tape: 21	Session: 1	Story A Second Reading	T only 8y 7m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Jason waked up – it was his mother's voice ***That reminded you of something in your life, did it?*** Yes, that really happened. When I heard my mum talking to her boyfriend
2	Playing rugby and he went onto the bus waving at his friends
3	To a tree trunk and – and – yeah
4	Because he had – because he was muddy and he tried to look good
5	In his bedroom ***In his bedroom?*** I think
6	Not really because there are not really such things
7	Heaps of sparkles, and heaps of leaves and a little bit of branches
8	In his bedroom
9	Having a terrified face
10	Woke up
11	I don't really know
12	Because like he thought that he was going – because like maybe he was sick **A**
13	The girls
That's basically all I know. Jason got finished his rugby and then he went out to the bus and then these girls came onto the bus and he knew them and then they started laughing at him since he was muddy and had dirt on him, too, and he knocked on this tree trunk but it looked like – sounded like an elephant and he said – I don't really remember what he said – and then at the last bit he woked up, saw his mum – saw his mum looking at him terrified and then – and when he got up he started getting dizzy when he was walking with his mum. **A**	

Code Name: **MB12** Sch: 4b Tape:	Session: 2	Story D First Reading	T & P 8y 7m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	That there's no moose in New Zealand ***Sorry?*** That there's no moose in New Zealand ***Right. So did that remind you of anything you've done in your…*** Not really
2	Karen carried the heavy bucket to the small tent **A**
3	I'm hungry ***Yes, what do you think she wants to do?*** Karen carefully lifted up that little flap and peeped out
4	I don't know
5	They're like in a forest and they're having a camp
6	They heard it doing – it doing – making some noise – a gouging noise ***What sort of a noise?*** What's that word? ***Coughing*** A coughing noise
7	Well, they're living in a tent and their mother and dad are living in a different tent
8	Because it looked was brown and so was its face
9	At Emma's or with their dad **A** (see answer to Q 7)
10	Telling Karen to fill – I don't really see anything ***That was good what you were saying. What were you saying?*** I don't really see. I don't really know. **A – see 7**
11	Them screaming
12	Because they thought – they thought it was a horse because their dad thought it was a joke or something and they were fooling him and like and so he just got so mad and their mother was nearly going to faint
13	Karen stop fooling around and fill up this bucket so we can make tea and get washed ***Yes. So why does she have to fill up the bucket again?*** Because so their dad can make tea and get washed

What do I remember? That was pretty much what I told you at the end.
What happened at the beginning?
Well, Karen had to fill up the bucket with water **A** and then she had to carry it to the tent **A**
And then what happened?
And then the water was gone because they'd used all of it and that was the end of the story.

Code Name: **MB12** Sch: 4b Tape: 19	Session: 2	Story B Second Reading	T & P 8y 7m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	A couple of times when I went to the beach like two - one of my older cousins and my mother used to fish and my mother and my older cousin found like this big fish this size and they also found after a little fish with tails ***Did you find anything?*** Not really. Just like I found this seaweed.
2	Josh and Finn were trying to make a sandcastle but a wave crashed and it smashed their castle down
3	Finn treading on the sharp rocks – suddenly they saw a silver fishtail waving among the rocks ahead.
4	It doesn't really say anything about their mother – I can't find it
5	On the sharp rocks ***OK – which part of Finn was hurting?*** The foot
6	It got smashed down by a wave crashing
7	Well, it doesn't really have anything but I can't really see her face ***You can't really see her?*** Yes, I can only see her – like her tail *
8	Well, there's some sea creatures in shells and like they just climb up onto their – onto the rocks with their special like fins like legs
9	Finn's bucket – is that at the end of the story? ***Yes – where was his bucket at the end of the story?*** Over on the rocks but I can't really find it (expects it to be in the picture)
10	Because he didn't want to go much further just in case any other – in case any other creatures – sea creatures – came like sharks, like big jelly fish
11	Because like they can get dry
12	Because the rock pool was like – kind of like big because like it was kind of like a pool like you would like for like mermaids
13	No because there's no things like mermaids in New Zealand
Josh was taking a better look. He was pretending that he slipped down but he didn't – he was jumping so he can have a look what other – so he could get the silver fish.	

Appendix 9

Responses for female difference poor readers

Code Name: **FB1** Sch: 1a Tape: 1	Session: 1	Story A First Reading	T & P 7y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	He was waving to his friends on the bus
3	He walked along the road
4	Don't know
5	Don't know
6	No. Because fairies aren't real you know they're just made up
7	It would have wings and a crown and a wand and it would have a dress on ***Would it be a girl fairy?*** Yes
8	At the small hole at the tree
9	Looking into the hole
10	Don't know
11	At the tree
12	Because he might have been hungry or thirsty
13	The girls ***How do you know that?*** Because when I looked at them I seed that they were laughing. *
Jason, he waved to his team mates on the bus and then he noticed two girls who came up behind him and he went to the tree and he thought he heard his mother	

Code Name: **FB1** Sch: 1a Tape: 1	Session: 1	Story B Second Reading	T & P 7y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes. Once I went to the beach and fell into the water in my clothes
2	They built a sand castle and a big wave came over it and bashed the sandcastle down
3	He picked up a bucket of shells
4	Take a photo
5	His hands because his hands were like that and his hands could all touch the rocks and he could have scraped them across the rocks* ***So his hands were like that?*** Yes
6	(This Q answered as part of 2)
7	She had a tail and a necklace and she had seaweed hair* ***That's hard to imagine*** I've had seaweed before

	Oh, have you? You've eaten it? In sushi ***Was it nice?*** Yes it's rice and chicken and cucumber and tomato and seaweed wrapped around it and you can have a prawn on it as well
8	Somebody could have put them there
9	In the water
10	Because he could have been scared if it was like a shark or something
11	For them to get dry
12	Don't know
13	No because they might think that mermaids aren't real
The boy Finn fell into the water and he had a bucket of shells and the waves bashed down the sand castle and he fell in the water and he saw a mermaid and his mum was waving a towel	

Code Name: **FB1** Sch: 1a Tape: 4	Session: 2	Story C First Reading	T only 7y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Not really		
2	There was a mouse round the house		
3	Because she was worried she might be late for the meeting		
4	To give her a fright. That's what my sister always does. She creeps behind me and goes 'Rarr!' and I scream all round the back yard.		
5	It could be sunny and he might live on a beach or a farm		
6	I don't know		
7	(shakes head)		
8	Because he might live right next door and she could be scared if he comes up behind her again		
9	Don't know		
10	In their house ***Is it the same house where Janet is?*** No ***Where's Janet then?*** In her own house because she's old enough to move out		
11	Finding her		
12	Cause if she's in her room then she could be in there. If they wanted to see her they'd open the door		
13	(Shrugs and shakes head)		
The girl was going for a meeting and there was a mouse round the house and she was going to be late. The boy was up behind her and then her aunt called. They were trying to find her and her aunt opened the door.			

Code Name: **FB1** Sch: 1a Tape: 4	Session: 2	Story D Second Reading	T only 7y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Not really.
2	Carrying the heavy bucket to the small tent
3	She said, 'I'm hungry' and Emma replied 'sleepy'
4	Because it might be dripping
5	Inside ***Inside what?*** The house
6	Don't know
7	At their house and the tent's outside. Emma could be in her room. ***What does it look like? Any details?*** She might like cats and it would have posters of cats. Like when I move I'm going to have a poster of netball in my room cause I'm a netball player
8	Because she might have heard it go 'clippety clop'
9	Out shopping
10	Getting – dressing up to be a moose
11	Don't know **A**
12	Like the cat – it could have peed on him or they might have dug up in the garden like my dogs do
13	She crept out of the tent and looked around
There was their dad and Emma and the other girl and Emma was asleep and the girl woke – tried to wake her up because she said her arms were sore and she was hungry and she said 'sleepy' and then they heard a crash noise and it could have been the thunder cause it could have been raining **A** and their dad was angry	

Code Name: **FB2** Sch: 1b Tape: 1	Session: 1	Story B First Reading	T & P 8y 4m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	It did kind of because once when I went to a beach I saw all my brothers and there was like a pretty deep little rock pool and he found like a little baby octopus
2	Making a sand castle
3	Don't know
4	Get them dry
5	Maybe his wrist or his arm or something ***Why do you think that?*** Because he said they were climbing?
6	Might have got washed away by the waves
7	Well she had a bright silver tail
8	Maybe if they were like shells the waves might have washed them up
9	Probably in the water or on the rocks
10	Because it might have been – because they'd never seen anything like it - it might be a bit scary
11	Because when they fell in the water they'd be wet

12	Maybe she might be a baby or she couldn't get out cause of the rocks
13	No. Because lots of people say that there's no such things as mermaids
Well, the sandcastle was gone and I think it was Finn who fell in the water first and they saw the mermaid with a silvery greeny tail and their mother was waving a towel and when they turned back the mermaid was gone	

Code Name: **FB2** Sch: 1b Tape: 2	Session: 1	Story A Second Reading	T & P 8y 4m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Not really		
2	Waving to all his friends in the bus		
3	Maybe he was going home		
4	Maybe because he waved and nodded his head and he might feel they'd like his rugby T-shirt		
5	Near his house or by the school because it had a house there and a house there and it might be a school * **I see – you can't really tell from the picture**		
6	No because most people say there are no such things as fairies and there's no such thing as tooth fairies		
7	It might have, like, leaves of the trees as a dress and a wand or something		
8	Maybe just in front of the tree		
9	Might have a worried face on her or something		
10	He was lying on the ground		
11	Near the gate		
12	Because he bumped into a tree		
13	It might have been something that was in the tree		
Well, Jason was waving good-bye to his friends on the bus then two little girls came and they were laughing at him because he smiled and nodded his head and he bumped into a tree and there was a hole in the bottom of the tree in the trunk and he thought there was a tree fairy and then his mum came and he opened his eyes and then when he got up he was walking to the gate and he heard a laugh			

Code Name: **FB2** Sch: 1b Tape: 6	Session: 2	Story D First Reading	T only 8y 4m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Not really		
2	She might have just picked up the heavy bucket		
3	(shrugs) **A**		
4	I'm not sure		
5	In a tent		
6	Not really		
7	In the tent – it might have been cold		
8	Because it might have just seen the back of it but she didn't see the antlers		
9	I'm not sure		
10	I'm not sure		

11	Maybe a moose
12	Maybe he was angry because he was saying 'Watch out. It's dangerous outside.'
13	I'm not sure
Well, Karen was carrying a big heavy bucket and Emma was asleep and Karen was going to wake her up because she was hungry **A** and they heard a big noise outside and there was a moose outside when she peeped and her father camed in really angry and – I'm not sure.	

Code Name: **FB2** Sch: 1b Tape: 6	Session: 2	Story C Second Reading	T only 8y 4m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Not really		
2	She had a cramped hand because she was pushing the moose around ***What kind of mouse?*** Not sure		
3	Because – don't know		
4	Because – don't know		
5	(shakes head)		
6	It's rather cramped		
7	(Shakes head)		
8	Because he looked sad and she thought it might not be a good place		
9	Maybe in her house		
10	I'm not sure		
11	The aunt's coming so she quickly climbed into bed		
12	Because maybe she's coming to say goodnight and have a visit		
13	Yes because he had a sad face when she asked where he lived		
Well, Janet – the boy asked Janet where she lived and then Janet asked the boy where he lived and he had a sad face on his face when she asked him and suddenly the aunt knocks on the door so she quickly climbs into bed			

Code Name: **FB3** Sch: 1b Tape: 2	Session: 1	Story A First Reading	T & P 7y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes, when I broke my ankle – the end bit where he crashed into a tree		
2	Playing rugby		
3	Home		
4	Because he was all messy and his face was grubby and so on		
5	Maybe outside his home because there's not really much trees in the thing except that one in the picture – except that one, but I don't think it would be that one *		
6	No because he banged into the tree and he was thinking stuff. Because that sometimes happens ***That happened to you, did it?*** No but my baby brother got knocked down a little bit and he hit his head on the ground and he also cracked his head down here – he was only two years old		
7	Just small with little wings and, like, a hat with a leaf on it and a dress like – 0r shorts or something		

	Is it a girl or a boy tree fairy in your head? A girl – like – the stalk thing – ***Like the trunk of the tree?*** Yes ***So it'd look like a little tiny tree – I get it.*** With wings
8	In front of him
9	Thinking how did he do that
10	He banged into a tree
11	Lying under the tree
12	Because he must have been really frightened that he got knocked down. He got a bit scared so he got – he was dizzy. My dad spinned me round once and I got really dizzy. On this thing in the playground and you like spin it round at the top and I was like 'wooo'
13	Who was laughing? The two girls who walked past him
He just came back from rugby practice and he was walking and he saw two girls coming past – pretty girls coming past him. That's what it said in the story. And he thought he looked really good in his rugby shirt but they actually laughed at him because he had a messy face and hair and stuff. And then he walked into a tree and then his mum saw him and started talking to him	

Code Name: **FB3** Sch: 1b Tape: 2	Session: 1	Story C Second Reading	T & P 7y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No but when sometimes when I get up at night because I have to get a drink I usually wake up and it's usually when I sleep that I have bad dreams because I don't usually sleep at night time ***Don't you?*** No ***So it sort of reminds you of when you have bad dreams, does it?*** Yes		
2	Arguing with her auntie and her uncle about going to bed and she said, 'Fine, I'll go to bed' but she didn't. **A**		
3	Because she doesn't like arguing. She doesn't like yelling either. I don't like arguing and yelling either **A**		
4	Maybe to see if her room is big enough to live in		
5	Pretty squishy and tight because I don't want to live in a computer		
6	Because he knows she doesn't want him in her room and she's quite freaked out and he just wants to make friends		
7	Maybe he's got brown hair, green eyes and blue t-shirt and green shorts		
8	Because she's probably afraid that he might say he lives inside a computer or something		
9	In her room. No – it's in her auntie and uncle's house		
10	Maybe on holiday. Maybe she's there because her parents were on holiday		
11	Watching TV		

12	To see if she's asleep yet
13	No – because boys don't really come up on the screen and she could've just been dreaming
Well, she was playing a game – some games – on the computer **A** and then she was just going to go shut it down when she was going to go to bed **A** but then the boy turned up on the screen and she got really frightened and she went backwards on her chair and she went running to her bed and she heard her aunt opening the door	

Code Name: **FB3** Sch: 1b Tape: 6	Session: 2	Story B First Reading	T only 7y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Driving in their car with their mum to the beach		
3	Go to the water		
4	Maybe have a little picnic		
5	Maybe his arm because it doesn't really say		
6	The wave came over and pushed it down		
7	Some shells here (tapping her chest with both hands and smiling) and blue hair and some sparkles on her tail		
8	Because mermaids like shells because they're pretty and the mermaid might've put them on there		
9	Sitting beside the – on the land right where the sea started		
10	Maybe he thought he knew what it was already so he didn't have to go and have a look at it		
11	For them to hurry up and get everything and get dry		
12	Because that's mostly where mermaids live		
13	No because mermaids aren't real		
Well at the start their sandcastle got pushed over by the water and then at the end of the story he felt something pulling him and he looked beside him and it wasn't – Finn or Josh, I can't remember – but it was a mermaid and in the middle of the story Finn hurt himself – and I don't remember it			

Code Name: **FB3** Sch: 1b Tape: 6	Session: 2	Story D Second Reading	T only 7y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No but some of the bits I could picture in my head like when they flung back I could like see in my head I could see them screaming		
2	Going up to fill up the bucket **A see answer for 6**		
3	I'm just trying to think first – What was the question again? Maybe ask her to help her carry it inside		
4	Because she's really thirsty **A see answer for 6**		
5	In a tent		
6	Drinking some water. Can I say one other thing? ***Yes, certainly.*** The question before the one that you just asked –		

	Where she asks about the tap? Yes, cause maybe cause she's thirsty and she doesn't want to drink out of that water because it's from the bank **A**
7	Maybe a farm house and they keep seeing things and they've got lots of cows and the girls secretly have a moose but they don't actually know
8	Because sometimes moose look like horses because moose is just brown and some horses are brown as well – mostly horses are brown
9	In bed sleeping
10	Probably watching TV at 3 o'clock in the morning like my dad
11	Maybe it's like something creepy's going to happen – like on some programmes when something creepy's going to happen they just make a flash of lightning or thunder
12	Because he's scared – they scared Karen's mother
13	Their dad said, 'Stop fooling around and fill up this bucket so that we can make tea and get washed'. ***Yes. So why has she got to fill up the bucket?*** Because the tap's broken ***What happened to the water she got at the beginning?*** It got really heavy in the bucket **A – see re-telling – 'again'**
Well they're sleeping outside in the tent and they heard this noise and they peeped out a little bit then they peeped out more and then they said, 'Is it dangerous?' and they said, 'No' and then they went back into the back of the tent and then they said, 'It is dangerous!' and they were screaming. Then their dad came and said, 'Stop fooling around because you just scared your mother.' And at the end of the story she had to – she had to fill up the bucket again **A** because she scared her mother. So that they could get washed and have tea.	

Code Name: **FB4** Sch: 1c Tape: 2	Session: 1	Story A First Reading	T & P 7y 11m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Playing cricket after school		
2	He was saying good-bye to his team mates		
3	Home		
4	It doesn't say. It says they both laughed as he walked by them		
5	In his house – in his back yard.		
6	No. It was just in his imagination and it was his mum talking		
7	A fairy with a tree wand		
8	I think it was by the tree that he bashed into		
9	Helping him get up		
10	He walked into the tree		
11	By the tree cause he was walking		
12	Because he bashed into the tree and fell over		
13	His mother		
He was walking home from rugby and he bashed into the tree. His mother came and he thought it was the – a tree fairy – and that's all I can remember.			

Code Name: **FB4** Sch: 1c Tape: 2	Session: 1	Story D Second Reading	T & P 7y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Camping. Going camping.
2	She was trying to fill up the – Oh, wait – she was carrying the bucket back to the tent and it was hurting her arms
3	Fill up the bucket or something – to wash herself or something like that
4	I don't know that one
5	They are in a back yard – something like that
6	Coming towards them
7	Well, there's a tap and trees and lots of grass and coloured bush and there's lots of big trees
8	Because it was big – frightened her
9	I don't know
10	I think he was getting something to drink
11	His footsteps or something ***Whose footsteps?*** The father's
12	Because they frightened her mother
13	Go fill up the bucket with water ***Why?*** So they can have a little bath and have a little drink of water
They thought there was a moose and their mother said – I mean their dad said, 'Don't be silly. There's no moose in New Zealand." And their mother got frightened.	

Code Name: **FB4** Sch: 1c Tape: 7	Session: 2	Story B First Reading	T only 7y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	They were building a sand castle and then a wave came and smashed it down
3	Onto the rocks
4	She was going to get the camera to take pictures of the sandcastle
5	His foot
6	The wave smashed it
7	She had a silver tail
8	The wave took them away from where they were and put them somewhere else
9	Where they were building the sand castle
10	Because he didn't want to – because he was frightened
11	To say come back here
12	I don't know that one
13	No – because she probably doesn't believe in mermaids
Well Josh and Finn were building a sandcastle and a wave came and bashed it and Finn said 'ouch' because he was standing on the rocks – the sharp pointy bit – and he found a mermaid with a shiny tail	

Code Name: **FB4** Sch: 1c Tape: 7	Session: 2	Story C Second Reading	T only 7y 11m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Her hand was cramped because she was pushing the mouse around too much ***What kind of mouse?*** A toy mouse
3	Because she had a cramp and was too sore
4	To say 'Hi'
5	Fun
6	I don't know that one
7	I think he had brown hair or something
8	Because she doesn't know him
9	In her front yard
10	Talking to her friend's parents
11	They're going to get some groceries
12	To check on her
13	No – I don't know why not
Janet was playing with this mouse and got cramp in her hand and this boy came along and said 'Hello' and can't remember the rest of it	

Code Name: **FB5** Sch: 2 Tape: 14	Session: 1	Story D First Reading	T & P 8y 6m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Yes. We went camping. We went out in a tent once. ***Oh, did you.*** Yes. ***Was it fun?*** Yes
2	She was filling up a bucket
3	Have some breakfast
4	Because she might want to undo it
5	They're outside
6	The moose lifted its head up
7	They're staying in a tent and outside their house up a hill
8	Because she didn't see the things on its head
9	Outside
10	Don't know
11	Don't know
12	Because they scared their mum
13	Fill up the bucket again and go wash their hands and have tea ***Why was the bucket empty?*** Because she saw the moose

The girl woke Emma up and Emma said is the tap done – turning on – and Emma and Karen – it's getting dangerous because they thought it was a moose and then their dad came out and they – he said, 'You scared your mum' – and they – Karen filled up the bucket and went inside to have tea.

Code Name: **FB5** Sch: 2 Tape: 14	Session: 1	Story A Second Reading	T & P 8y 6m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	He waved good-bye to his friends and he saw the two girls coming along		
3	Going to school		
4	Because of his rugby shirt		
5	Near the school gate		
6	No because fairies aren't really true		
7	Don't know		
8	Probably in the house		
9	Don't know		
10	He was in a tree		
11	He was sitting – he fell out of a tree and he was in the tree again		
12	Because he walked into the tree		
13	His mother		
The two girls laughed at him because he was wearing his rugby shirt and he bumped – fell – walked into the tree and he heard a voice and looked down into the hole and then he was sitting in the tree and his mum laughed at him.			

Code Name: **FB5** Sch: 2 Tape: 15	Session: 2	Story C First Reading	T only 8y 6m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	She was creeping		
3	Because it's too late		
4	I don't know		
5	Don't know		
6	Don't know		
7	No		
8	Don't know		
9	In her bedroom ***Is it her bedroom in her own house?*** Yes		
10	Probably out to lunch		
11	Don't know		
12	To see if she's asleep		
13	No because she was probably having a dream		
Janet was talking with the boy and her auntie did all creep up and….			

Code Name: **FB5** Sch: 2 Tape: 15	Session: 2	Story B Second Reading	T only 8y 6m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	They were making sandcastles
3	He's going back up because the tide was coming in
4	She's gone to get the camera so she can take pictures
5	His foot
6	It got knocked down by the waves
7	No
8	Because the waves come into the sand
9	It would be on the sand
10	Don't know
11	To get them dry
12	Don't know
13	Probably not because their mum might think they're making it up
They were making a sandcastle at the beach and it got knocked over by the water and their mum went over to get the camera and they found a mermaid and Finn got the bucket to get the shells.	

Code Name: **FB6** Sch: 2 Tape: 11	Session: 1	Story C First Reading	T & P 8y 3m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	She was on the computer and she was playing a game and she knew she was supposed to be in bed because it was really late
3	Because a boy jumped up on the screen
4	Because he wants to come out or something
5	Cramped
6	Because he hasn't got any friends or something
7	Really small – maybe a bit thin
8	Because she already knew the answer and she didn't like that he lived somewhere else
9	In her room ***Is it her room in her own house?*** I don't think so ***Do you know where it is?*** No
10	Probably out looking for her
11	They were looking around for her as well
12	To see if she was in bed
13	No – I mean yes ***Oh, you think she really did – why?*** Because it might have been on the game – part of the game
She was playing with her computer and it was really late but she had got really into the game and then a boy jumped out of the computer and still in the computer and was talking to her and she asked questions and the boy said, 'Nice room – you've got lots of space' and then she – the boy said that her aunt's coming and she pushed 'close' and she went to bed and then her aunt came in.	

Code Name: **FB6** Sch: 2 Tape: 11	Session: 1	Story A Second Reading	T & P 8y 3m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Maybe one or two dreams
2	Playing rugby
3	Home
4	Because he was walking into a tree
5	Behind the bus stop
6	No because when he got up his mum was there and he was on the ground and his eyes were closed
7	Small – maybe a hat – wings and maybe shoes
8	She was at home and under the tree
9	Washing her hands or doing the dishes
10	He was talking to the fairy
11	Home
12	When he bumped into the tree he probably hurt himself
13	The little fairy

He was on the bus and saying good-bye to his team mates and he saw some girls and he waved at them and they laughed at him and he banged into the tree and he heard a voice and he looked down into the hole in the tree and he saw a little fairy and the fairy was saying, 'Be careful where you're going or else' and he said, 'Or else what?' and he – and then the fairy said, 'Do you want me to show you?' and then he woke up and he found his mother in front of him and she was worried about him and he was dizzy and breathless.

Code Name: **FB6** Sch: 2 Tape: 14	Session: 2	Story D First Reading	T only 8y 3m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Sleeping **A (see 13 and re-telling)**
3	Get some food
4	Maybe there's no water left
5	New Zealand
6	Like screaming
7	They're like in the woods or something
8	Maybe because it was loud and horses can be quite loud
9	In the other tent
10	Maybe making some tea and stuff
11	The moose
12	Cause he couldn't see it
13	Go and get the water ***Why? What happened to the water?*** She had her – oh, she carried it up and her arms got sore **A (see 2)**

Well, Emma was sleeping and Karen came in and woke Emma up and Karen said she was hungry and Emma said, 'Is the tap working?' and Karen said 'I'm going to carry buckets of water and my arms got sore'. **A** Then they heard the noise of the moose and they hung onto each other and then Karen has a little look and says, 'It's a moose', and she goes out and tells Emma to have a look and it screamed – the moose screamed – and they hung onto each other then their dad came in – came into the tent – and said, 'Stop screaming – you've frightened your mother' and Karen had to get buckets of water and bring it in.

Code Name: **FB6** Sch: 2 Tape: 14	Session: 2	Story B Second Reading	T only 8y 3m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Sometimes I imagine things. ***Oh, yes – like these boys.*** Yes, like I day dream and stuff
2	They were making a sand castle
3	They would go back Why? Because the wave was coming in
4	Take some photographs ***What was she going to take photographs of?*** The sandcastle and the boys **(leading Q so count as a '4')**
5	His feet
6	It got washed because of the big waves
7	She had – she was a normal girl and she had a tail
8	When the wave comes in it washes the shells in
9	It was behind him
10	Maybe he was a bit scared **A**
11	To get them dry
12	She might have – she might have been in the sea and got washed up like the shells and stuff
13	No because she might think mermaids aren't real

Well, Josh and Finn were making a sandcastle and Josh grabbed the shells and said 'The waves coming in – the tide's coming in fast so we better go back' and then they were back and Finn stood on the – some rocks and saw the rock pool and told Josh about it and said 'there - is it a shark?' **A** and then he moved closer to get a better look and they saw the mermaid and he tried to pull her out and she came out and he said, 'What are you?' and she just went – and she dived back in. They saw mum and said, 'Look what we found' and she said, 'Come and get dry'.

Code Name: **FB7** Sch: 2 Tape: 11	Session: 1	Story A First Reading	T only 8y 9m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No, not really
2	Playing rugby
3	Going home
4	Because he banged into the tree
5	On the field near the rugby court maybe
6	No, not really because fairies are not real
7	Probably all glittery with a dress and wings probably
8	I think it was maybe in the bathroom
9	Seeing maybe if he was OK
10	He was – he'd banged into the tree
11	He was in the bathroom facing down in the sink
12	Because he was sort of – just a bit confused
13	Was it his mother?

Well, he just finished the rugby game and then the girls came over to talk to him and then they just walked away and Jason was walking just to the bus and he banged into a tree. The girls were still walking and they laughed at him. Then he thought he saw a tree fairy and then he thought he woke up and a boy came along and then when he got home – I think he was still imagining it – and then when he was in the bathroom just resting in the sink his mother came in.

Code Name: **FB7** Sch: 2 Tape: 11	Session: 1	Story B Second Reading	T only 8y 9m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	They were building a – well, they were going to build a sandcastle
3	I think he wanted to go to the beach because he could just have fun and build a sandcastle
4	Don't know
5	His toe, I think
6	It got washed away with the wave
7	Well, she had brown hair, I think, and she had this scaly bit and green or blue eyes
8	Maybe from the wave
9	Maybe washed away to the sea
10	Cause he was frightened
11	Maybe just to call – or maybe to get all the sand off the towel
12	Maybe she just wanted to have a shallow bit of water and she wouldn't get as much water or anything
13	Probably not because most people think that mermaids aren't really real

They said they wanted – Josh said he wanted to go to the beach so they did and then they went off to the beach and Josh and Finn just – and Josh dropped the bucket and he said to them he was going in the rock pool and then he was just standing near the water near the rock pool and then the mermaid bit – I think – oh, no I think Finn just felt the scaly bits on his toe where he cut it or something like that and Finn got really – I think it was Josh – he got really frightened and dropped the bucket and when the mum saw Josh getting frightened and then she came over to see what happened.

Code Name: **FB7** Sch: 2 Tape: 14	Session: 2	Story C First Reading	T & P 8y 9m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	She was sitting down near – I think it was a fire or a TV – can't remember – I'm not sure – she was just sitting there and a face popped up *
3	Because she was getting a bit tired maybe
4	So maybe she wouldn't notice he's scared
5	Probably a lot different and probably – afraid – a place that it's sort of like afraid
6	I think he was sad because she was thinking about her family and maybe his family died
7	No
8	Because maybe he lived in a different world maybe – something like that
9	Janet is in her room ***In her own house?*** Yes, probably
10	They're probably looking for Janet because maybe they were doing something else and maybe went to her room
11	Looking for her
12	Because maybe she thought that she would be in her room
13	No probably – I think that she was imagining it

Well, she was in her room and then she was watching TV or was close to the fire and then while she was doing what she was doing then the boy just popped out his face and then Janet saw the boy's face and then she got frightened and then pushed her chair back and nearly fell off she was so frightened. Then Janet asked what – where does you live and then he said that he's a bit different and then he said – and then she started to talk about her family and then it made him a bit sad because maybe his family got very sick and died maybe and he had to live somewhere else and then they kept on talking and then the boy said, 'Your aunt's coming' and then she ran to her bed and she said (indecipherable) and he said alright and then her aunt opened the door and then – the end.

Code Name: **FB7** Sch: 2 Tape: 14	Session: 2	Story D Second Reading	T & P 8y 9m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	I think just when I was at a friend's house and I think that we were going on a walk and there happened to be dogs and we thought that there was one out and we were really scared – and so they were all locked up but there – we thought that the gate was unlocked and we thought that there was one dog that we thought that was going to come down because the gate was open and there was a black dog there in the driveway ***That's not funny is it really.*** No – we were really scared ***Did someone come and help you?*** No we just had to tip-toe home. And there was one little girl that was with us and she was screaming something and that attracted the dog and we thought that the gate was unlocked and we went running down the driveway.
2	She was walking up a hill with a big bucket and one of the other girls I think – Emma – was still asleep

3	I think to just tell her that there – she thinks there's a big moose out by the tent
4	Because she couldn't get to sleep because of the tap
5	They're – I think in a – camping outside
6	I think it was just making noises – I think it was doing – just tapping
7	Well it was sort of like in the woods and there was a big steep hill and they had their own tent and it's sort of like woods but it didn't really look like it had much trees *
8	Maybe she didn't maybe see the horns
9	I think she got frightened and ran somewhere to hide
10	I think he was in his tent probably
11	I think it was the moose
12	Because it scared the mother
13	Probably just think and see if there really is a moose and then look for her mother
Oh, it started when Karen was walking up the hill with the big bucket and when she got up finally to the tent she saw, I think, a moose and then she tried to wake up Emma to warn her and then I think that Karen got in the tent and then she told Emma and they both just popped their heads out and they saw it and then I think their mother heard them and then that scared her away and then their father came or they saw – they first saw that they thought it was a horse then they just popped their heads out more and then they saw it really was a moose and then I think the mother heard them and that made her run away and then so the father realised that the mother ran somewhere to hide so the father came to tell them off and said, 'There's nothing there'. And so they realised that nothing really was there.	

Code Name: **FB8** Sch: 3b Tape: 18	Session: 1	Story B First Reading	T only 8y 7m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Collecting sea shells		
3	I'm not really sure		
4	Take a picture of the sandcastle		
5	His foot		
6	It got washed away		
7	Green hair and silver tail and brown eyes		
8	Finn dropped it – the bucket		
9	On the sand		
10	He didn't know he was gone **A**		
11	To dry them		
12	To get some shells		
13	No because she might not believe in them		
I think it was Finn who tripped over and saw a tail and the other one – the other boy thought - he thought it was a shark **A** and the mermaid grabbed a shell at the end and then disappeared when the boys looked back.			

Code Name: **FB8** Sch: 3b Tape: 18	Session: 1	Story A Second Reading	T only 8y 7m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Playing rugby
3	Home
4	Because he had mud all over himself
5	On the grass by the foot path
6	No because there's no such things as fairies
7	She would be made of leaves and her dress would be leaves as well and her shoes are made of wood
8	I wasn't sure
9	Sitting up in a tree
10	He bumped into a tree
11	In a bed
12	Because he hurt himself because he bumped into a tree
13	The tree fairy
He was walking home off the bus from rugby and some girls walked past laughing at him and he came up to – he bumped into a tree and he saw a tree fairy and he was hurt so he was – he went home and he woke up and someone was laughing at him.	

Code Name: **FB8** Sch: 3b Tape: 21	Session: 2	Story D First Reading	T & P 8y 7m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Getting ready to camp outside
3	I'm not sure
4	Because she has to run back and forth to get more water
5	In a tent **A (see 7)**
6	Drinking water
7	It's brown and I think a nose and it's clumsy ***And what about the place where they're staying?*** I think there's a bit of a beach that has the ferns and other stuff like that.
8	Because it looks like one and it has ears like one
9	I'm not sure
10	Probably still – they could live on a beach and he could still be in the beach house
11	The sky
12	Because they were by an animal and they didn't – he didn't know what it was and he thought it will hurt them
13	I'm not really sure
They were outside in the tent and they couldn't find – they couldn't get water so they just stayed in the tent playing and then they saw a weird animal and they thought that it was a horse but it was actually a moose. Their dad shouted at them because they were by an animal their dad didn't know what it was and he thought it would hurt them.	

Code Name: **FB8** Sch: 3 Tape: 21	Session: 2	Story C Second Reading	T & P 8y 7m

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No
2	Playing on her computer
3	Because she saw a weird face on the computer
4	Because he wants to see her room
5	Small and there's two bedrooms with two lounges and white wallpaper with little bedrooms
6	Because she's got a better house than him
7	Brown fuzzy hair and brown eyes
8	Because her computer has a person on it and she's scared
9	In her bedroom ***Is it in her own house****?* Yeah – no… ***No?*** Yeah ***Yeah?*** (Nods)
10	Probably out. Probably out at the shop or the market
11	Don't know
12	To check on her
13	Yes because he was talking and she heard him and she looked at him
She was playing with her computer and a boy came on the screen and she got really scared and she heard her auntie coming and so she jumped into bed so he wouldn't – oh, and yeah she turned off her computer and she jumped into bed so her auntie didn't notice that she was still awake.	

Code Name: **FB9** Sch: 3b Tape: 18	Session: 1	Story A First Reading	T only 8y

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	No, not really
2	Sleeping – oh, no, no – he'd just walked off – he'd just got off the bus – the school bus – from playing rugby
3	He was about to go home
4	Because he had mud all over his face and hair
5	I think it might have been in his garden ***Why do you think that?*** Well, because his mum – I don't think it'd been somewhere else – his mum wouldn't have looked down from the sink and saw him
6	No – I think it was just when he bumped into a tree and got dizzy **A**
7	I think it would be just like a little fairy with wings like normal fairies really
8	She was – I – she might have been cleaning the sink or washing her teeth or something
9	I think she might have been washing down the sink when she saw him fall over
10	He bumped into the tree when the girls were laughing at him
11	I don't know – I don't know, really – he might have been – Well, I don't really know really – his mother just pulled – got him through the gate – it don't really say where they were

12	Because he'd just bumped – bumped into the tree and he fell over
13	His mum
Well, he was just got off the bus from school or rugby – I don't know – and he waved good-bye to his friends when he saw these girls looking at him but he thought – but he thought they were looking at his smart rugby T-shirt but they were actually laughing with all the mud all over him so he sneered and he walked away but he accidentally bumped into the tree and then he felt a bit dizzy so he thought he saw this tree fairy **A** and when, and when the tree fairy disappeared it was actually his mother and he'd just – he'd just imagined it.	

Code Name: **FB9** Sch: 3b Tape: 18	Session: 1	Story C Second Reading	T only 8y
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Well, I have been playing around when I was supposed to be in bed but I didn't hear any noises		
2	Well, I think she'd just got out of bed and she was playing with this sort of mouse when she saw a little boy		
3	Well, because the boy said, 'No you won't', and she heard her aunt coming up so she got kind of scared of the boy		
4	So I – I think he wanted to see some of her room and everything and see if there's anything else – any other little girl		
5	I think – I think he might just be a ghost or something or imaginary		
6	Well, maybe he doesn't have an auntie and uncle – maybe they'd died – and he knew that she had an auntie and uncle		
7	Well, from what I saw he was wearing this blue T-shirt and he had blond hair and peach-pale skin		
8	Well, she might have been scared because she might not have ever saw his house or him before and she might just think he's somebody else		
9	She's in her bedroom and it's supposed to be – it's way passed her bed time ***Is it in her own home?*** I think it might have been in her auntie and uncle's house because it didn't say anything about her mum and dad		
10	It might have just been a dream and they're about to come and pick her up		
11	They're downstairs but they suddenly hear her doing something so they come up but she has – she pretends she's asleep		
12	Because she – because she heard a noise and she might have – she might have – she might be a bit worried about her		
13	No, I think it was just a dream		
Well, I remember the start of the story and Janet was playing quietly with this mouse but her hand was cramped and so then – I don't know, but it said 'close' on one of it – part of the story – and I didn't know what that was for – so she just said, 'close' and this little boy came off and she went 'Ahh!' and she jumped back into bed – no she leaned back against the bed and the boy was talking to her and he said, 'Nice room – big and cramped,' and then she said – and then he said – and then she said, 'You can't stay here forever, I'm turning you off' so when she was about – and then the boy said, 'No you're not' and then her aunt heard her and she came open and then she whispered to herself, 'How does he know it's my aunt?' but it was her aunt when she came up and so when her – then she closed her eyes for a couple of seconds and she went under the covers but she knew she'd be back next morning			

Code Name: **FB9** Sch: 3b Tape: 21	Session: 2	Story B First Reading	T & P 8y

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Well, not really because I don't think I've ever been to a rock pool before. ***Really? You must go.***
2	I think they were building a sandcastle for their mum to see
3	I think – I think he wanted just to – I think he just wanted his mum to see it so he wanted to go back but the rocks – the waves came
4	I think she was planning to get – I think – I think their mother might be just getting ready to go but they saw something. They wanted her to see it. **A**
5	I think it was his foot because he was standing on a rock
6	When the waves came in it knocked it down and so they – and so they couldn't show their mum
7	I think she's got – I can't really see her hair but I think it's brown and she's got like a green scaly tail *
8	I think that when they were picking up – picking up the shells they might – when the – something – grabbed him they might have knocked the shells over onto the rocks
9	It might have been in the water because – because the little boy jumped in to get him
10	He might have thought that it could be a bit dangerous and they didn't want to go because they were a bit scared
11	Because she might be packing up ready to go now – getting the towels
12	I think she might have just wanted to see him or – or, yes
13	I don't think so because mermaids don't really come over and she might – she might just think they were day-dreaming or something

Well, when they were at the beach their mother was about to get the camera ready to come and see their sandcastle **A** but then the waves came in and knocked it down so they went up to get their shells and something grabbed – Finn – that's right – and pulled him in and then I think the little boy tried to get him but this mermaid got him and took him out.

Code Name: **FB9** Sch: 3b Tape: 21	Session: 2	Story D Second Reading	T & P 8y

Q	Participant's answers. Any comments beyond Q's from researcher in bold.
1	Well, I have been camping once and I did hear these strange noises
2	I think she was just – she was walking down the bank and getting her and her sister and her family the water
3	I think she wants her to help because she's - because her arm's sore
4	Because she don't – she probably didn't know where she got the water from so she asks if the tap was working
5	They're on a camp site somewhere
6	I think he might have been coughing – I don't know – or making noises or something
7	Well, it's got quite a lot of trees and bushes round it and there's grass quite everywhere spread out *
8	I think she was kind of sleepy so she didn't really recognise it
9	I think their mother might be just getting up or getting dressed
10	He might have been making breakfast or something
11	I think it might have been the father because he was scared about what was happening
12	Because they scared him and their mother
13	She has to – I think she has to go and get more water because they need a wash

Well, when they got to the campsite she – Karen had just walked down and her arms were sore from getting all the water from the bank and she was waking up her sister so when they heard this really loud coughing noise they grabbed each other and jumped back into the tent and then they peered out and there was this moose standing there and then they jumped back again and when – and then their father came running in and said they'd scared both of them but then she said, 'What about the moose?' and their father just laughed and said, 'Don't be silly' and – and that's all I remember.

Code Name: **FB10** Sch: 3b Tape: 16	Session: 1	Story A First Reading	T only 7y 4m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Playing rugby		
3	To school		
4	Because he was all muddy		
5	Where the bus stop was		
6	Yes – because the tree was there		
7	I think it was green with golden hair and had a wand that had a green star on top		
8	In the tree branches		
9	I think she was trying to see how Jason was		
10	He saw the tree fairy		
11	By a tree		
12	Because he saw a fairy		
13	No one		
When they laughed at Jason and then he – but when he laughed at the tree fairy, the tree fairy said or – then he said, 'Fairies aren't real' and the fairy said, 'Or else' - that's as much of the story as I can remember.			

Code Name: **FB10** Sch: 3b Tape: 16	Session: 1	Story D Second Reading	T only 7y 4m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	She was getting a bucket of water		
3	Going make tea		
4	Because Karen's got a bucket of water		
5	In the tent		
6	Sleeping		
7	Well, Emma is sleeping on a white pillow and has a purple blanket and the tent is green and Karen has a plait in her hair and she has black hair and she is wearing a purple T-shirt and blue pants and she's got some shoes on with laces		
8	Maybe because she thought the antlers were tree branches		
9	Inside the house		
10	Getting ready to make tea		
11	I think it was the wind		

12	Because they frightened their mother
13	That's tricky – she has to go outside and get the bucket and bring the bucket **OK – what happened to the bucket?** Some water – well, the bucket got most of the water splashed on the ground **Yeah, why?** Because they jumped back
Well, when they saw the moose and they heard its noise and when they thought it was a horse but it wasn't, it was a moose, but it wasn't actually there and then their father said that you frightened your mother	

Code Name: **FB10** Sch: 3b Tape: 18	Session: 2	Story B First Reading	T & P 7y 4m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	They were going to the beach		
3	Back up to the big rock pool because the tide's coming in fast		
4	Take a picture of them		
5	His hand *		
6	The tide crushed it over		
7	Well, she has a black tail - wait, a green tail and she had green – darker green hair and pink things around her neck and that's what she looked like *		
8	Because the tide might have washed them onto the rocks		
9	In the water		
10	Because Finn was scared of it, I think		
11	She waved the towel because – I think she was waving a towel because there was sand on it		
12	She was in the rock pool to catch fish or something		
13	No because she couldn't – she didn't see it and the boys might be lying because they're kids		
From the start when one of the boys went out climbing that big rock – that mountain, I think – and all the bit where they found the mermaid.			

Code Name: **FB10** Sch: 3b Tape: 18	Session: 2	Story C Second Reading	T & P 7y 4m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Well, no		
2	She was going on the computer		
3	Because a face showed up		
4	Because he's squeezed up inside the computer		
5	Just all crushed up inside the computer		
6	Because he hasn't got enough room to move around or something		
7	I just think he has curly orange hair and blue eyes		
8	Because she might think he wants to move into her room		
9	In her bedroom in her uncle and aunt's place		
10	In another house		

11	Talking in the lounge or something
12	To see if she's asleep
13	No because I think she was just imagining him
When she was on the computer about to click on close and a boy showed up and when she saw her aunt but when she was about to jump quickly back into her bed	

Code Name: **FB11** Sch: 4a Tape: 20	Session: 1	Story D First Reading	T only 8y 5m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	She was trying to wake up – she was – she was carrying a heavy bucket		
3	She wants to make something to eat		
4	Because she was going to – she was going to – she was going to make a drink of tea or something like that then		
5	They're at a camp place in a tent		
6	Singing or something – it made loud coughing noises		
7	In a camping site or – I don't know – like I think it's green and (shrugs)		
8	Because it made little horse noises		
9	Sleeping		
10	He was bursting through the – he was panting		
11	Was it the moose?		
12	Because they scared him		
13	She has to make tea for them and clean herself up or wash herself		
Well, I can remember about the – about – ***Anything at all?*** About the – no…			

Code Name: **FB11** Sch: 4a Tape: 20	Session: 1	Story A Second Reading	T only 8y 5m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes. I walk into something and then I fall ***Do you?*** Once I did but… ***You walked into something and fell over?*** Yes I walked somewhere and I banged my head and I got very dizzy		
2	He waved good-bye to his team mates and went to the bus		
3	Was it home?		
4	I have no idea – they were – was it because he was all muddy or something?		
5	At his house		
6	No because tree fairies don't exist		
7	Don't know		
8	By the tap		
9	(shrugs)		
10	Walking in front of a tree		
11	On the ground		
12	Because he – he banged into a tree and fell		
13	It doesn't tell you		

	No – who do you think was laughing at him? The girls
I can remember when Jason banged into a tree and his mum – and then – and then his mum helped him up and I remember when Jason said there's a tooth fairy and that's all I remember.	

Code Name: **FB11** Sch: 4a Tape: 22	Session: 2	Story C First Reading	T & P 8y 5m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	Watching TV		
3	Because… I don't know		
4	Because in case somebody comes		
5	Not a great place to live		
6	Because – because where he lives is bad		
7	He was sad and crying and – that's all		
8	Because she couldn't believe her eyes that the TV was talking or something		
9	In her bedroom ***Is it a bedroom in her own house?*** No ***Where is it?*** In her aunty and uncle's house		
10	In the kitchen or something		
11	Trying to go to bed or something		
12	Because she hears a strange sound		
13	No because sometimes people can't talk out of the TV like that		
I can remember that – that her aunty was about to come into her room and I can remember when the boy was talking to the girl – I can remember…. not much else			

Code Name: **FB11** Sch: 4a Tape: 22	Session: 2	Story B Second Reading	T & P 8y 5m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Yes ***What?*** When I fell into a pool ***Oh, you found a rock pool?*** Yes, when I fell into a pool – it reminds me about that		
2	They made a sandcastle		
3	He wanted to go to the rock pools because he wanted to find some more shells		
4	To get a camera		
5	Which part of him – his leg		
6	Some people bashed their sandcastle and – yeah *		
7	She was green – she's got a green tail * – she was really heavy and with silverfish tail (switched from looking at the picture to reading the text)		
8	When he dropped them they might have rolled around onto the rocks		
9	In the water		
10	Because Josh thought that Finn – that Finn was the person that Josh was pulling		
11	Because they were wet		

12	Because it was low tide and usually when it's high tide the mermaids come in with it sort of then when it gets low tide they probably go around there just to hide or something
13	No because there are no such things as mermaids
I can remember when Finn fell in the water - when the mother gave them a towel – and I can remember when Josh was pulling the mermaid out and he thought that it was Finn and – that's all I can remember.	

Code Name: **FB12** Sch: 4b Tape: 20	Session: 1	Story C First Reading	T only 8y 2m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	She was doing – doing – like she was doing a game		
3	Because – because she started to worry		
4	Because – because Janet jumped up		
5	It was like a good place		
6	Because he didn't like to play that game		
7	No		
8	Because she's shy		
9	She was – she moved next to the boy		
10	Talking to the teacher		
11	I think her aunt and uncle were at the school		
12	Because it creaks		
13	Yes because Janet was talking to the boy		
Janet was playing a game and then this boy went behind her and Janet jumped up – jumped up and…. ***Anything else?*** No			

Code Name: **FB12** Sch: 4b Tape: 20	Session: 1	Story A Second Reading	T only 8y 2m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	He waved good-bye to his team mates		
3	He was going to – he went to a muddy field		
4	I don't know		
5	The tree was near where they played		
6	Yes.		
7	It had like – an exciting fairy. ***What was exciting about it?*** It was happy.		
8	It was like – it was like a worried face		
9	She was putting on her worried face		
10	Jason woke up		
11	On the field		
12	Because he was like feeling dizzy *Why? What made him feel dizzy?*		

	By playing the game
13	Two pretty girls
This team went on the bus to go to a muddy field and their mum called out to them - to Jason and the mum was worried – yeah.	

Code Name: **FB12** Sch: 4b Tape: 19	Session: 2	Story D First Reading	T & P 8y 2m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	No		
2	She was getting up the bucket of water		
3	She would like to be frightened		
4	Because the tap's not working		
5	They're in – They were in the like forest – in the trees		
6	Talking like – was sniffing		
7	They were staying in the tent and they had heaps of things		
8	It was a moose ***Yes – why did she think it was a horse?*** Because it might have sounded like a horse		
9	Sleeping		
10	Asleep		
11	It was the moose		
12	Because there wasn't no moose outside		
13	She has to fill the bucket and make some tea ***So, why did she have to fill up the bucket?*** Because they want to make tea		
The moose was – the moose was by the tent and at the beginning she – they went to the tap and the tap didn't work and then she was getting tired and carrying the bucket.			

Code Name: **FB12** Sch: 4b Tape: 19	Session: 2	Story B Second Reading	T & P 8y 2m
Q	Participant's answers. Any comments beyond Q's from researcher in bold.		
1	Not that much		
2	Well, they were building a sandcastle and then the wave came crashing down		
3	To see a rock – to see if there was a shark in the rock pool		
4	Oh, she was trying to take a photo and she went to get the camera		
5	His head – his arm		
6	The wave crashed on their sandcastle		
7	She was blonde and she weared – she weared a mermaid outfit		
8	By the waves pushing them onto the rocks		
9	I don't know		
10	Because he didn't want to fall in		
11	To get the boys dried		
12	I don't know		
13	No because their mum didn't actually see the mermaid		
Well, the wave go on the castle and swiped the sandcastle away. One of the boys picked some rocks by the rocks – picked some shells by the rocks – and the mum gave her a towel to dry the towel with – the boys.			

Appendix 10

Scoring of responses by male good readers

Code Name: **MA1** Sch: Ia Tape: 1	Session: 1		Story A First Reading		T & P 7y 10m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5					X
6			X		
7					
8					X
9			X		
10			X		
11			X		
12				X	
13			X		
Totals	0	0	5	1	5
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: Hardly remembers anything. Can't re-tell beyond one sentence.					

Code Name: **MA 1** Sch: 1a Tape: 1	Session: 1		Story B Second Reading		T & P 7y 10m
Q	**1**	**2**	**3**	**4**	**5**
2			X*		
3			X		
4					X
5			X		
6					X
7					
8			X		
9					X
10					X
11					X
12			X		
13					**X**

Totals	0	0	5/1*	0	6
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: His retelling is very jumbled and disorganised at first. He gives up trying to say what was going on and just describes the first picture. Then he gets the fact that one got 'hurt' mixed up with the fact that the other falls in the pool. At the end he's more accurate and coherent.					

Code Name: **MA 1** Sch: 1a Tape: 4	Session: 2		Story C First Reading	T only 7y 10m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4					X
5					X
6			X		
7					
8					X
9					X
10					X
11				X	
12				X	
13				X	
Totals	0	0	2	3	6
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: This re-telling is coherent, well-organised and accurate with many details remembered well. **Contrast with T & P condition is striking.**					

Code Name: **MA 1** Sch: 1a Tape: 4	Session: 2		Story D Second Reading	T only 7y 10m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3					X
4					X
5				X	
6					X
7					
8				X	
9					X
10					X
11			X		

12			X		
13					X
Totals	0	0	2	3	6

Triggered memory of personal experiences – **Y** N – Comments: He seems to think there is a 'bank' of water rather than a steep bank leading down to a water source. The obvious inference is that there's a stream or something. Otherwise he makes well-monitored inferences. Notice how his scoring for the T & P condition is almost identical for the 2 stories and the scoring for the Text Only condition is identical, with columns 4 and 5 being over 4 times more than column 3 whereas with the pictures, literal answers in column 3 were virtually the same in number as with answers showing that he'd made inferences.

Re-telling – Soundness / memory of events / memory of linguistic items:
This is a very coherent and accurate re-telling also in stark contrast to his retelling in the text plus picture condition.

Condition	1	2	3	4	5
T & P	0	0	10	1	11
T only	0	0	4	6	12

Code Name: **MA2** Sch: 1b Tape: 2	Session: 1	Story B First Reading	T & P 8y 1m

Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4					X
5					X
6					X
7					
8			X		
9					X
10					X
11					X
12					X
13			X		
Totals	0	0	3	0	8

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items: Remembers some events but doesn't re-tell them showing coherence – that is why one thing leads to another. Not much of a sense of evaluating 'why' things happened.

Code Name: **MA2** Sch: 1 b Tape: 3	Session: 1		Story A Second Reading		T & P 8y 1m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3					X
4	X				
5			X		
6			X		
7					
8			X		
9	X				
10	X				
11				X	
12				X	
13			X		
Totals	3	0	5	2	1
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: Not a good memory of what happened and not much ability to show why one thing led to another.					

Code Name: **MA2** Sch: 1 b Tape: 5	Session: 2		Story D First Reading		T only 8y 1m
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3			X		
4	X				
5				X	
6			X		
7					
8					X
9				X	
10				X	
11			X		
12				X	
13				X	
Totals	1	0	3	6	1
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: The events in the story were remembered more coherently than in the other condition and with greater accuracy.					

Code Name: **MA2** Sch: 1b Tape: 5	Session: 2		Story C Second Reading	T only 8y 1m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4					X
5				X	
6					X
7					
8					X
9			X		
10					X
11					X
12				X	
13				X	
Totals	0	0	2	3	6
Triggered memory of personal experiences – **Y** N – Comments: Also elaborates here – the torn and shredded place he lives.					
Re-telling – Soundness / memory of events / memory of linguistic items: This is a very coherent re-telling showing evaluative inference making and elaborative inference making – computerised face and glad she was only there for one day. She might have been there longer but he infers from what she says that she's been there one day.					

Condition	1	2	3	4	5
T & P	3	0	8	2	9
T only	1	0	5	9	7

Code Name: **MA3** Sch: 1c Tape: 2	Session: 1		Story A First Reading	T & P 8y 11m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5			X		
6			X		
7					
8					X
9			X		
10	-	-	-	-	-
11				X	
12					**X**

13				X	
Totals	0	0	3	2	5
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: During the questioning he didn't refer to the book at all.					

Code Name: **MA3** Sch: 1c Tape: 2	Session: 1		Story C Second Reading	T & P 8y 11m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4					X
5					**X**
6					X
7					
8					X
9			X		
10			X		
11				X	
12				X	
13				X	
Totals	0	0	3	3	5
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: Answered all Q's without referring to the story. However, put in items that weren't there and misled him a bit – the boy saying he lived in the phone wire and the girl crying – and the boy describing the aunt.					

Code Name: **MA3** Sch: 1c Tape: 2	Session: 2		Story B First Reading	T only 8y 11m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4					X
5					X
6					X
7					
8				X	
9					X

10			X		
11				X	
12	X				
13			X		
Totals	1	0	3	2	5
Triggered memory of personal experiences – Y **N** – Comments: Very difficult to decide on scoring for his answer for number 10 without knowing what was in his mind, so went with 'literal' score.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA3** Sch: 1c Tape: 2	Session: 2		Story D Second Reading	T only 8y 11m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3			X		
4				X	
5				X	
6				X	
7					
8			X		
9				X	
10					X
11				X	
12				X	
13		X			
Totals	0	1	2	7	1
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	0	0	6	5	10
T only	1	1	5	9	6

Code Name: **MA4** Sch: 1c Tape: 2	Session: 1	Story A First Reading	T & P 8y 2m

Q	1	2	3	4	5
2					X
3					X
4					X
5					X
6					X
7					
8				X	
9			X		
10			X		
11				X	
12			X		
13			X		
Totals	0	0	4	2	5
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA4** Sch: 1c Tape: 2	Session: 1	Story D Second Reading	T & P 8y 2m	

Q	1	2	3	4	5
2			X		
3					X
4			X		
5				X	
6					X
7					
8			X*		
9				X	
10				X	
11					X
12				X	
13					X
Totals	0	0	3/1*	4	4
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA4** Sch: 1c Tape: 7	Session: 2		Story B First Reading	T only 8y 2m	
Q	**1**	**2**	**3**	**4**	**5**
2					**X**
3	X				
4				X	
5					X
6					X
7					
8				X	
9			X		
10			X		
11					X
12	-	-	-	-	-
13			X		
Totals	1	0	3	2	4
Triggered memory of personal experiences – **Y** N – Comments: Difficult to score '8' as, in essence he's saying the sea washed them up – however his answer goes much further and demonstrates elaborative inference making so seemed best to show this as a sign of making inferences although the question was designed to probe for evaluative inference.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA4** Sch: 1c Tape: 7	Session: 2		Story C Second Reading	T only 8y 2m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4				X	
5				X	
6					X
7					
8	X				
9			X		
10					X
11					X
12			X		
13				X	
Totals	1	0	3	3	4

Triggered memory of personal experiences – Y **N** – Comments:
Re-telling – Soundness / memory of events / memory of linguistic items:

Condition	1	2	3	4	5
T & P	0	0	7	6	9
T only	2	0	6	5	8

Code Name: **MA5** Sch: 2 Tape: 10	Session: 1		Story D First Reading	T & P 8y 1m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4				X	
5					**X**
6			X		
7					
8			X		
9			X*		
10			X		
11			X		
12			X		
13			X		
Totals	0	0	8/1*	1	2
Triggered memory of personal experiences – Y **N** – Comments: Nine was scored as a '3' because the information for the inference was gained solely by looking at the picture not by using text + world knowledge. The tent is full of the girls' things, so their mother must be in another tent. This is what the picture shows not what the text implies.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA5** Sch: 2 Tape: 10	Session: 1		Story A Second Reading	T & P 8y 1m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5			X		

6			X		
7					
8					X
9			X		
10			X*		
11				X	
12					X
13				X	
Totals	0	0	4/1*	2	5

Triggered memory of personal experiences – **Y** N – Comments: Pictures did distract – i.e. where the tree was. Also the hole in the tree became more significant and he did not monitor the reading of the text well.

Re-telling – Soundness / memory of events / memory of linguistic items:
* mistook mother in last picture for Jason having been 'changed' and wearing different top. Due to the influence of the pictures, the inference made was that Jason went down the hole and came up through the sink! An interesting mixture of inferences from the text + inferences from the pictures not supporting each other to make a coherent model but both being used anyway in the face of the ensuing confusion. Not monitoring well.

Code Name: **MA5** Sch: 2 Tape: 12	Session: 2	Story C First Reading	T only 8y 1m

Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4	X				
5					X
6				X	
7					
8			X		
9			X		
10			X		
11				X	
12				X	
13				X	
Totals	1	0	4	4	2

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MA5** Sch: 2 Tape: 12	Session: 2	Story B Second Reading	Text only 8y 1m

Q	1	2	3	4	5
2					X
3					**X**
4					X
5					X
6					X
7					
8					X
9				X	
10			X		
11					X
12	X				
13					X
Totals	1	0	1	1	8
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	0	0	12	3	7
T only	2	0	5	5	10

Code Name: **MA6** Sch: 2 Tape: 10	Session: 1	Story C First Reading	T & P 8y 2m	

Q	1	2	3	4	5
2					X
3				X	
4	X				
5			X		
6				X	
7					
8			X		
9					X
10					X
11					X
12				X	
13				X	
Totals	1	0	2	4	4
Triggered memory of personal experiences – Y **N** – Comments:					

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MA6** Sch: 2 Tape: 10	Session: 1		Story A Second Reading		T & P 8y 2m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4	X				
5				X	
6					X
7					
8					X
9					X
10	X				
11			X		
12				X	
13					X
Totals	2	0	1	2	6
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA6** Sch: 2 Tape: 12	Session: 2		Story D First Reading		T only 8y 2m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4				X	
5					**X**
6					**X**
7					
8			X		
9					X
10					X
11	X				
12			X		
13					X

Totals	1	0	2	1	7
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA6** Sch: 2 Tape: 12	Session: 2		Story B Second Reading	T only 8y 2m	
Q	**1**	**2**	**3**	**4**	**5**
2					**X**
3					**X**
4					X
5					X
6					X
7					
8			X		
9	X				
10					X
11					X
12	X				
13			X		
Totals	2	0	2	0	7
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	3	0	3	6	10
T only	3	0	4	1	14

Code Name: **MA7** Sch: 2 Tape: 10	Session: 1		Story A First Reading	T only 8y	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3				X	
4			X		
5			X		

6			X		
7					
8				X	
9	-	-	-	-	-
10			X		
11				X	
12				X	
13			X		
Totals	0	0	6	4	0

Triggered memory of personal experiences – Y **N**
Comments: Very nervous when he arrived – voice so timid and quiet I repeated some answers to make sure I could hear them on the tape. I think his demeanour made me a bit nervous because he was quite monosyllabic and I missed out two Q's by mistake. He relaxed a bit for the second story. He was not performing at his best for this one, but seemed more verbal and less timid for the next story.

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MA7** Sch: 2 Tape: 10	Session: 1	Story B Second Reading	T only 8y

Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4			X		
5					X
6					X
7					
8					X
9					X
10					X
11				X	
12				X	
13			X		
Totals	0	0	3	2	6

Triggered memory of personal experiences – Y **N** – Comments: Normally an answer of 'on the beach' for 9 would score '3' but he said it was rolling down onto the beach. From his other answers and the re-telling he shows he's conceptualised the fact that they climbed upwards and then dropped the bucket full of shells and then the empty bucket rolled down – which is very likely. So a very well-monitored mental model lay behind his answer to 9.

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MA7** Sch: 2 Tape: 12	Session: 2		Story C First Reading	T & P 8y	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3				X	
4				X	
5				X	
6				X	
7					
8			X		
9			X		
10			X		
11				X	
12				X	
13				X	
Totals	0	0	3	7	1
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA7** Sch: 2 Tape: 12	Session: 2		Story D Second Reading	T & P 8y	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4				X	
5			X		
6		X			
7					
8			X		
9					**X**
10				X	
11			X		
12				X	
13			X		
Totals	0	1	6	3	1

Triggered memory of personal experiences – Y **N** – Comments: Another answer plus the re-telling shows that his mental model includes the mother asleep – i.e. in a bed somewhere – which is enough of an answer to score '5' for Q9.
Re-telling – Soundness / memory of events / memory of linguistic items:

Condition	1	2	3	4	5
T & P	0	1	9	10	2
T only	0	0	9	6	6

Code Name: **MA8** Sch: 3a Tape: 16	Session: 1		Story B First Reading		T only 8y 8m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4				X	
5					X
6					X
7					
8			X		
9					X
10				X	
11					X
12			X		
13			X		
Totals	0	0	3	2	6
Triggered memory of personal experiences – **Y** N – Comments: Although it didn't come out in the discussion of the story, he says his father wanted to take a picture of the sandcastle but the sea got it first when asked if the story reminded him of anything, so perhaps Q 4 could be a '5'. It's possible his model changed from one where the mother wanted to take a picture to one where she went off to get towels due to the text at the end of the story.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA8** Sch: 3a Tape: 16	Session: 1		Story A Second Reading		T only 8y 8m
Q	**1**	**2**	**3**	**4**	**5**
2					X

3					X
4					X
5					X
6					X
7					
8					X
9					X
10					X
11				X	
12					X
13				X	
Totals	0	0	0	2	9

Triggered memory of personal experiences – Y **N** – Comments: 12 scores 5 because he clearly shows that he has inferred that Jason knocked himself out elsewhere. Also he shows he is hurt by saying 'hit himself hard'.

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MA8** Sch: 3a Tape: 17	Session: 2	Story D First Reading	T & P 8y 8m	

Q	**1**	**2**	**3**	**4**	**5**
2				X	
3					X
4				X	
5				X	
6					X
7					
8			X		
9				X	
10					X
11					X
12			X		
13		X			
Totals	0	1	2	4	4

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MA8** Sch: 3a Tape: 17	Session: 2		Story C Second Reading		T & P 8y 8m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					**X**
4				**X**	
5					**X**
6			X		
7					
8				X	
9					X
10					X
11				X	
12				X	
13				X	
Totals	0	0	1	5	5
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	0	1	3	9	9
T only	0	0	3	4	15

Code Name: **MA9** Sch: 3a Tape: 16	Session: 1		Story A First Reading		T only 8y 7m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5			X		
6					X
7					
8					X
9					X
10					**X**
11				X	
12					X
13					X

Totals	0	0	1	1	9
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA9** Sch:3a Tape: 16	Session: 1		Story C Second Reading	T only 8y 7m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3				X	
4	X				
5				X	
6					X
7					
8			X		
9			X		
10			X		
11			X		
12				X	
13				X	
Totals	1	0	4	5	1
Triggered memory of personal experiences – Y **N** – Comments: Interesting insight into monitoring in his answer for number 2, and to a certain extent in answering 5. Also good elaboration in his answer to Q6.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA9** Sch: 3a Tape: 17	Session: 2		Story B First Reading	T & P 8y 7m	
Q	**1**	**2**	**3**	**4**	**5**
2					**X**
3					X
4	X				
5					X
6					X
7					
8			X		
9	X				

10					X
11					X
12					X
13			X		
Totals	2	0	2	0	7
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA9** Sch: 3a Tape: 17	Session: 2		Story D Second Reading	T & P 8y 7m	
Q	**1**	**2**	**3**	**4**	**5**
2					**X**
3					X
4			X		
5			X		
6					X
7					
8				X	
9				X	
10				X	
11	X				
12				X	
13				X	
Totals	1	0	2	5	3
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	3	0	4	5	10
T only	1	0	5	6	10

Code Name: **MA10** Sch: 3b Tape: 15	Session: 1		Story A First Reading	T only 7y 5m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X

5			X		
6			X		
7					
8			X		
9			X		
10			X		
11				X	
12					X
13			X		
Totals	0	0	6	1	4

Triggered memory of personal experiences – Y **N** – Comments: Because he sees the branches behind his mother's head when he wakes up, he infers she's climbing in the tree which, although not a well-monitored answer, does show use of text, so scored as a '3' not a 2 – that's Q 9. He never sees Jason as lying down – he's got him sitting down so that's why he does not infer the mother is bending over his prone form so that Jason would see the branches and leaves above her head.

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MA10** Sch: 3b Tape: 15	Session: 1		Story D Second Reading	T only 7y 5m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3				X	
4				X	
5					**X**
6					X
7					
8					X
9					X
10				X	
11			X		
12			X		
13					X
Totals	0	0	2	3	6

Triggered memory of personal experiences – **Y** N – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MA10** Sch: 3b Tape: 17	Session: 2		Story B First Reading	T & P 7y 5m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4					X
5					X
6					X
7					
8			X		
9				X	
10				X	
11					X
12					X
13				X	
Totals	0	0	2	3	6
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA10** Sch: 3b Tape: 18	Session: 2		Story C Second Reading	T & P 7y 5m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3				X	
4			X		
5			X		
6				X	
7					
8				X	
9				X	
10					X
11				X	
12				X	
13			X		
Totals	0	0	3	6	2
Triggered memory of personal experiences – **Y** N – Comments:					

Re-telling – Soundness / memory of events / memory of linguistic items: One gesture when book closed and re-telling – mimed clicking on close.

Condition	1	2	3	4	5
T & P	0	0	5	9	8
T only	0	0	8	4	10

Code Name: **MA11** Sch: 4a Tape: 21	Session: 1		Story D First Reading	T only 8y 1m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4				X	
5				X	
6				X	
7					
8		X			
9					X
10					X
11			X		
12					X
13			X		
Totals	0	1	4	3	3
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA11** Sch: 4a Tape: 21	Session: 1		Story A Second Reading	T only 8y 1m	
Q	**1**	**2**	**3**	**4**	**5**
2					**X**
3			X		
4				X	
5			X		
6					X
7					
8					X

9			X		
10			X		
11				X	
12				X	
13			X		
Totals	0	0	5	3	3

Triggered memory of personal experiences – **Y** N – Comments: At the beginning the reader was disturbed for a second by someone mistakenly opening the door and he reflects on this at the beginning – that he was made aware of his imaginary 'tree' as more of a bush even though he had a real experience of banging into a tree – noticed how his mental model was different from his memory and surprised enough by this – and aware enough of it – to mention it.

Re-telling – Soundness / memory of events / memory of linguistic items: When he re-tells, his memory for the beginning of the story becomes more sound. Once the text is removed he seems more able to create a mental model which seems to be better monitored.

Code Name: **MA11** Sch: 4a Tape: 19	Session: 2		Story C First Reading		T & P 8y 1m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4			X		
5		X			
6				X	
7					
8	X				
9			X		
10			X		
11			X		
12					X
13			X		
Totals	1	1	6	1	2

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MA11** Sch: 4a Tape: 19	Session: 2		Story B Second Reading		T & P 8y 1m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		

4			X		
5			X		
6					X
7					
8			X		
9				X	
10					**X**
11					X
12			X		
13				X	
Totals	0	0	6	2	3

Triggered memory of personal experiences – **Y** N – Comments: Q2 isn't a '2' because he is using the text from the title and he has made an inference about going to a meeting. It's not well-monitored but it does show reference to the text.

Re-telling – Soundness / memory of events / memory of linguistic items: He shows no memory for the first part of the story other than in his answer to one of the questions about what happened to the sandcastle. In his re-telling, the first part of the story is ignored. Also, in answering where Finn hurt himself, he probably accessed the picture because he decides on 'arm' after a few suggestions because of the way the boy in the picture is standing. However, can't be sure of this so no asterisk by this Q.

Condition	1	2	3	4	5
T & P	1	1	12	3	5
T only	0	1	9	6	6

Code Name: **MA12** Sch: 4a Tape: 20	Session: 1		Story C First Reading	T only 8y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4					X
5			X		
6			X		
7					
8					X
9			X		
10			X		
11				X	
12				X	
13				X	
Totals	0	0	5	3	3

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MA12** Sch: 4a Tape: 20	Session: 1		Story A Second Reading	T only 8y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5			X		
6					X
7					
8					X
9					X
10					**X**
11					**X**
12				X	
13					X
Totals	0	0	1	1	9
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA12** Sch: 4a Tape: 19	Session: 2		Story D First Reading	T & P 8y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2				**X**	
3				X	
4			X		
5				X	
6					X
7					
8				X	
9					X
10					X
11				X	

12				X	
13			X		
Totals	0	0	2	6	3
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MA12** Sch: 4a Tape: 19	Session: 2		Story B Second Reading	T & P 8y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4					X
5					X
6					X
7					
8					X
9				X	
10				X	
11					X
12			X		
13			X		
Totals	0	0	3	2	6
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	0	0	5	8	9
T only	0	0	6	4	12

Appendix 11

Scoring of responses by female good readers

Code Name: **FA1** Sch: 1a Tape: 1	Session: 1		Story A First Reading		T & P 8y 3m
Q	**1**	**2**	**3**	**4**	**5**
2			X*		
3				X	
4			X		
5			X*		
6					X
7					
8					X
9					X
10				X	
11				X	
12				X	
13			X		
Totals	0	0	4/2*	4	3
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA1** Sch: 1a Tape: 1	Session: 1		Story B Second Reading		T & P 8y 3m
Q	**1**	**2**	**3**	**4**	**5**
2			X*		
3					**X**
4				X	
5			X*		
6					X
7					
8					X
9				X	
10					X
11					X

12			X		
13			X		
Totals	0	0	4/2*	2	5

Triggered memory of personal experiences – **Y** N –

Comments: **Scoring number 2** was problematic – she had to look back at the book and dwelled on the title page with the bucket and spade and then at page one and although she mentioned sandcastles it was in the plural as if a likely activity based on the picture as she listed playing with the dog – not mentioned in the text – and digging holes – due to size of the spade. And she started answering the next question by pointing to the picture to identify Finn. Scoring 2 in the fifth column would have been misrepresenting what she did in spite of the mention of sandcastles. It's not inferencing per se, it's inferencing from the text that we are looking for.

Her answer to number 7 focused on the picture – pointed to it and shaded it from the sun to see it better but misinterpreted the necklace as a circle on a top.

She thought Finn was a dog throughout because of the picture, which must have caused some confusion. Background experiences of her father's dog at the beach probably reinforced this idea.

Number 12 – showed sound inferencing in the re-telling that hadn't happened during the reading. Once the book was closed and she could really think about it, she gave an answer which showed a very sound mental model. However she got the idea after she had re-told. So to score this accurately as a T&P response the original answer to the question was used. The more sound response came as a result of her considering the text more when she re-told – "Well, they said that the tide was coming in". This inference had occurred to her only as a result of her retelling and then after the retelling was completed.

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FA1** Sch: 1a Tape: 4	Session: 2		Story C First Reading	T only 8y 3m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3				X	
4					X
5					X
6					X
7					
8					X
9					X
10					X
11				X	
12					X
13				X	
Totals	0	0	0	3	8

Triggered memory of personal experiences – **Y** N – Comments:
Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FA1** Sch: 1a Tape: 5	Session: 2		Story D Second Reading		T only 8y 3m
Q	**1**	**2**	**3**	**4**	**5**
2					**X**
3					X
4				X	
5					**X**
6					X
7					
8				X	
9					X
10				X	
11				X	
12				X	
13			X		
Totals	0	0	1	5	5
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	0	0	8	6	8
T only	0	0	1	8	13

Code Name: **FA2** Sch: 1b Tape: 1	Session: 1		Story B First Reading		T & P 8y
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X*		
4			X		
5					X
6					X
7					

8			X*		
9				X	
10					X
11					X
12				X	
13			X		
Totals	0	0	5/2*	2	4

Triggered memory of personal experiences – **Y** N
Comments: For 3,7,8 and 9 she needed to look back through the book and she pointed and even held up the picture slightly for me to see to back up her answers. Otherwise she answered most of the Q's without referring to the book at all and didn't need to take time.
Originally scored '9' as a '3' because she couldn't see the bucket in the picture and then said he dropped it because he was scared but didn't have the mental model of the shells spilling on the rocks – she thought he dropped it into the water not that the water came and washed it away. However, since others could say this and score '4' decided it was unsafe to say text and past experience hadn't been at work as well as the picture.

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FA2** Sch: 1b Tape: 1	Session: 1	Story A Second Reading	T & P 8y	

Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4				X	
5			X*		
6			X		
7	Removed				
8			X		
9			X		
10			X*		
11			X		
12				X	
13			X		
Totals	0	0	7/2*	2	2

Triggered memory of personal experiences – Y **N** –
Comments: As before, pointed and showed me the picture to back up her answers for 3 and 10, otherwise answered quickly mostly without looking at the book..

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FA2** Sch: 1b Tape: 5	Session:2		Story D First Reading	T only 8y	
Q	**1**	**2**	**3**	**4**	**5**
2		X			
3			X		
4			X		
5				X	
6			X		
7					
8			X		
9				X	
10				X	
11			X		
12				X	
13			X		
Totals	0	1	6	4	0
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA2** Sch: 1b Tape: 5	Session:2		Story C Second Reading	T only 8y	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3				X	
4				X	
5			X		
6				X	
7					
8				X	
9				X	
10			X		
11				X	
12				X	
13				X	
Totals	0	0	3	8	0
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	0	0	12	4	6
T only	0	1	9	12	0

Code Name: **FA3** Sch: 1d Tape: 3	Session: 1		Story A First Reading	T & P 7y 4m	
Q	**1**	**2**	**3**	**4**	**5**
2		X			
3				X	
4			X		
5				X	
6			X		
7					
8			X		
9			X		
10			X		
11			X		
12			X		
13			X*		
Totals	0	1	8/1*	2	0
Triggered memory of personal experiences – Y **N** Comments: Doesn't look back at book when answering Q's but shows that she got information from the pictures by mentioning the dog at the end.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA3** Sch: 1d Tape: 3	Session: 1		Story C Second Reading	T & P 7y 4m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4				X	
5	X				
6		X			
7					
8					X
9					X
10				X	
11				X	
12				X	
13			X		

Totals	1	1	3	4	2
Triggered memory of personal experiences – **Y** N Comments: Doesn't refer back to book when answering but shows that she attended to the pictures in the re-telling because she says the girl's hand was cramped from playing with a live mouse rather than a computer mouse in spite of her having the context of the computer – she was affected by the mouse in the pictures – although girl never seen touching the animal and it's an unlikely thing for a girl to do.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA3** Sch: 1c Tape: 7	Session: 2		Story B First Reading	T only 7y 4m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4				X	
5			X		
6					X
7					
8					X
9				X	
10					X
11					X
12			X		
13			X		
Totals	0	0	4	2	5
Triggered memory of personal experiences **– Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA3** Sch: 1c Tape: 7	Session: 2		Story D Second Reading	T only 7y 4m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4				X	
5					**X**
6			X		

7					
8				X	
9			X		
10				X	
11				X	
12			X		
13				X	
Totals	0	0	3	5	3
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	1	2	11	6	2
T only	0	0	7	7	8

Code Name: **FA4** Sch: 1e Tape: 3	Session: 1	Story A First Reading	T & P 7y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2		X			
3				X	
4			X		
5			X		
6					X
7					
8			X		
9			X		
10			X		
11				X	
12					**X**
13			X		
Totals	0	1	6	2	2
Triggered memory of personal experiences – Y **N** Comments: Looked at the book while answering Q's to find the answers there. More at the beginning of the questions than at the end.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA4** Sch: 1e Tape: 3	Session: 1		Story D Second Reading		T & P 7y 8m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4				X	
5				**X**	
6			X		
7					
8			X		
9					X
10					X
11			X		
12			X		
13			X*		
Totals	0	0	5/1*	2	4

Triggered memory of personal experiences – **Y** N
Comments: Relied on looking at book before answering Q's. Pointed to the picture for 13 and looked at picture while listing what she saw there for 7.

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FA4** Sch: 1e Tape: 3	Session: 2		Story B First Reading		T only 7y 8m
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3				X	
4				X	
5					X
6					X
7					
8			X		
9					X
10					X
11					X
12				X	
13			X		
Totals	0	0	2	4	5

Triggered memory of personal experiences – **Y** N
Comments: Reading session 33 days after first session due to family taking her on a holiday. Others at this school had a 13 day interval.

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FA4** Sch: 1e Tape: 3	Session: 2	Story C Second Reading	T only 7y 8m

Q	**1**	**2**	**3**	**4**	**5**
2				X	
3					X
4					X
5				X	
6		X			
7					
8				X	
9			X		
10					X
11				X	
12				X	
13			X		
Totals	0	1	2	5	3

Triggered memory of personal experiences – Y **N**
Comments: Reading session 33 days after first session due to family taking her on a holiday. Others at this school had a 13 day interval.

Re-telling – Soundness / memory of events / memory of linguistic items: Inferenced that this was a television – didn't get clues to it being a computer. Nevertheless, although her mouse was a real live 'animal' mouse, she brought a 'broom' into her mental model and had the girl standing on her chair while dealing with the mouse – this makes it more likely that the girl was pushing a mouse around because she wouldn't want to touch it with her hand and would want to be up on the chair. So there is evidence of a mental model built on experience and knowledge and interacting with elements of the text. Also since she thinks it's a TV, she has the girl go into the living room as a TV is most likely to be there.
Good memory of linguistic items – words and phrases remembered well.

Condition	1	2	3	4	5
T & P	0	1	11	4	6
T only	0	1	4	9	8

Code Name: **FA5** Sch: 2 Tape: 10	Session: 1	Story D First Reading	T & P 7y 11m

Q	1	2	3	4	5
2			X		
3				X	
4				X	
5				X	
6				X	
7					
8			X		
9		X			
10			X		
11			X		
12			X		
13				X	
Totals	0	1	5	5	0

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:
Inaccurate re tap and disjointed – recited events but not much logical cohesion and out of chronological order – i.e. father's response to the news about the moose.

Code Name: **FA5** Sch: 2 Tape: 10	Session: 1	Story A Second Reading	T & P 7y 11m

Q	1	2	3	4	5
2					X
3					X
4					X
5			X		
6					**X**
7					
8		X			
9		X			
10					**X**
11				X	
12				X	
13			X		
Totals	0	2	2	2	5

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items: Accurate and chronological – good summary.

Code Name: **FA5** Sch: 2 Tape: 13	Session: 2		Story C First Reading		T only 7y 11m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4				X	
5		X			
6					X
7					
8				X	
9			X		
10			X		
11			X		
12				X	
13				X	
Totals	0	1	5	4	1
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: Didn't infer the computer in the story.					

Code Name: **FA5** Sch: 2 Tape: 13	Session: 2		Story B Second Reading		T only 7y 11m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5					X
6					X
7					
8					X
9					X
10				X	
11					X
12				X	
13					**X**
Totals	0	0	0	2	9

Triggered memory of personal experiences – **Y** N – Comments: **Striking difference with the accuracy here and the ability to make well-monitored inferences.**
Re-telling – Soundness / memory of events / memory of linguistic items: Very accurate. Notice how the towels are mentioned early on whereas in the story the towels come at the end. The inference is made that they are going back up to where they left their towels which ties in information at the beginning with information at the end showing a good memory for the text and an ability to weave information into the mental model that is not presented nearby in the text. They are heading back up – the mother has already gone there – and at the end she's waving a towel – so the inference is made that they are going back up to where they left their towels.

Condition	1	2	3	4	5
T & P	0	3	7	7	5
T only	0	1	5	6	10

Code Name: **FA6** Sch: 2 Tape: 11	Session: 1		Story C First Reading		T & P 8y 3m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4					X
5			X		
6			X		
7					
8			X		
9			X		
10			X		
11				X	
12				X	
13				X	
Totals	0	0	7	3	1
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA6** Sch: 2 Tape: 11	Session: 1		Story A Second Reading		T & P 8y 3m
Q	**1**	**2**	**3**	**4**	**5**
2			X		

3					X
4					X
5			X*		
6			X		
7					
8			X*		
9			X		
10			X		
11			X*		
12				X	
13			X		
Totals	0	0	8/3*	1	2

Triggered memory of personal experiences – Y **N** – Comments: Number 5 was answered solely by reference to the picture so, when this is irrefutable, it gets a '3'. Compare answer to Q 6 with the re-telling. Goes from no fairy – it's just his mother – to a fairy in the re-telling. Mental model is dynamic and in the re-telling there is no access to the story.

Re-telling – Soundness / memory of events / memory of linguistic items:
Also, reliance on the pictures distracted to such an extent that the main event – Jason banging into the tree – was missed by this reader and that affected her ability to understand what transpired after that.

Code Name: **FA6** Sch: 2 Tape: 13	Session: 2		Story D First Reading	T only 8y 3m	
Q	**1**	**2**	**3**	**4**	**5**
2				**X**	
3					X
4					X
5			X		
6			X		
7					
8			X		
9					X
10				X	
11				X	
12				X	
13				X	
Totals	0	0	3	5	3

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FA6** Sch: 2 Tape: 13	Session: 2		Story B Second Reading		T only 8y 3m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4			X		
5	X				
6					X
7					
8			X		
9					X
10				X	
11					X
12	X				
13			X		
Totals	2	0	4	1	4
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	0	0	15	4	3
T only	2	0	7	6	7

Code Name: **FA7** Sch: 2 Tape: 11	Session: 1		Story A First Reading		T only 8y 6m
Q	**1**	**2**	**3**	**4**	**5**
2					**X**
3				X	
4				X	
5			X		
6			X		
7					
8					**X**
9					X
10				X	
11					**X**
12				X	

13			X		
Totals	0	0	3	4	4
Triggered memory of personal experiences – **Y** N – Comments: Difficult to score because she showed the necessary inferences had been made in answers other than the ones designed to probe for them – basically that the mother was by the sink, he was lying on the ground. However, she showed no evidence that she'd inferred that he was knocked out and dreaming.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA7** Sch: 2 Tape: 11	Session: 1		Story B Second Reading	T only 8y 6m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4				X	
5					X
6					X
7					
8			X		
9					X
10					X
11				X	
12	X				
13				X	
Totals	1	0	3	3	4
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA7** Sch: 2 Tape: 13	Session: 2		Story C First Reading	T & P 8y 6m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3				X	
4				X	
5	X				
6			X		
7					
8			X		

9					X
10			X		
11				X	
12				X	
13			X		
Totals	1	0	4	4	2
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA7** Sch: 2 Tape: 13	Session: 2		Story D Second Reading	T & P 8y 6m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3			X		
4				X	
5			X		
6			X		
7					
8				X	
9					X
10			X		
11			X		
12				X	
13			X		
Totals	0	0	6	4	1
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	1	0	10	8	3
T only	1	0	6	7	8

Code Name: **FA8** Sch: 3a Tape: 15	Session: 1		Story B First Reading	T only 8y 11m	
Q	**1**	**2**	**3**	**4**	**5**
2					X

3			X		
4					X
5					X
6					X
7					
8			X		
9				X	
10					X
11					X
12				X	
13			X		
Totals	0	0	3	2	6
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA8** Sch: 3a Tape: 15	Session: 1		Story A Second Reading	T only 8y 11m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3					X
4					X
5			X		
6					X
7					
8					X
9					X
10				**X**	
11					X
12					X
13			X		
Totals	0	0	3	1	7
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: The mental model probed for in Q10 was demonstrated in the answer to Q6 so 10 is adjusted to reflect that the boy fell down and was lying down.					

Code Name: **FA8** Sch: 3 Tape: 17	Session: 2	Story D First Reading	T & P 8y 11m

Q	1	2	3	4	5
2				X	
3			X		
4					X
5				X	
6					X
7					
8					X
9				X	
10				X	
11				X	
12				X	
13					X
Totals	0	0	1	6	4
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA8** Sch: 3 Tape: 17	Session: 2	Story C Second Reading	T & P 8y 11m

Q	1	2	3	4	5
2					X
3			X		
4	X				
5					X
6					X
7					
8					X
9					X
10					X
11				X	
12				X	
13				X	
Totals	1	0	1	3	6
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	1	0	2	9	10

T only	0	0	6	3	13

Code Name: **FA9** Sch: 3a Tape: 15	Session: 1		Story A First Reading	T only 8y 10m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5			X		
6					X
7					
8					X
9					X
10					**X**
11					**X**
12					X
13				X	
Totals	0	0	1	1	9
Triggered memory of personal experiences – Y **N** – Comments: Difficult to score 11 but if one reads all her responses, it's obvious that she sees him as lying on the pavement outside of his house – which is the inference probed for in 11.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA9** Sch: 3a Tape: 15	Session: 1		Story C Second Reading	T only 8y 10m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3				X	
4					X
5					X
6					X
7					
8					X
9					X
10			X		
11				X	
12				X	
13				X	

Totals	0	0	1	4	6
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA9** Sch: 3a Tape: 17	Session: 2		Story B First Reading	T & P 8y 10m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5					X
6					X
7					
8				X	
9			X		
10					X
11					X
12			X		
13			X		
Totals	0	0	3	1	7
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA9** Sch: 3 Tape: 17	Session: 2		Story D Second Reading	T & P 8y 10m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3					X
4	X				
5				**X**	
6					X
7					
8				X	
9					X
10					X
11			X		
12				X	

13					X
Totals	1	0	1	4	5
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	1	0	4	5	12
T only	0	0	2	5	15

Code Name: **FA10** Sch: 3a Tape: 15	Session: 1		Story A First Reading	T only 8y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4				X	
5				X	
6					X
7					
8			X		
9			X		
10			X		
11			X		
12				X	
13				X	
Totals	0	0	4	4	3
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA10** Sch: 3a Tape: 15	Session: 1		Story D Second Reading	T only 8y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3		X			
4				X	
5			X		
6				X	
7					

8				X	
9			X		
10				X	
11					X
12			X		
13				X	
Totals	0	1	3	6	1
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA10** Sch: 3a Tape: 17	Session: 2		Story B First Reading	T & P 8y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5					X
6					X
7					
8			X		
9					X
10					X
11					X
12					X
13		X			
Totals	0	1	1	0	9
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA10** Sch: 3a Tape: 17	Session: 2		Story C Second Reading	T & P 8y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3				X	
4				X	
5			X		
6			X		

7					
8			X		
9					X
10			X		
11				X	
12				X	
13				X	
Totals	0	0	5	5	1
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	0	1	6	5	10
T only	0	1	7	10	4

Code Name: **FA11** Sch: 4a Tape: 20	Session: 1	Story D First Reading	T only 8y 5m

Q	**1**	**2**	**3**	**4**	**5**
2				**X**	
3			X		
4				X	
5				X	
6					**X**
7					
8				X	
9				X	
10				X	
11				X	
12				X	
13			X		
Totals	0	0	2	8	1
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA11** Sch: 4a Tape: 20	Session: 1		Story A Second Reading		T only 8y 5m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5				X	
6					X
7					
8					X
9					X
10			X		
11				X	
12				X	
13			X		
Totals	0	0	2	3	6
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA11** Sch: 4a Tape: 19	Session: 2		Story C First Reading		T & P 8y 5m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4					X
5					X
6					X
7					
8					X
9					X
10					X
11				X	
12				X	
13					X
Totals	0	0	1	2	8
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA11** Sch: 4a Tape: 22	Session: 2		Story B Second Reading		T & P 8y 5m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4			X		
5					X
6					X
7					
8			X		
9				X	
10				X	
11					X
12			X		
13			X		
Totals	0	0	5	2	4

Triggered memory of personal experiences – **Y** N – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Answers for 10 and 11 influenced by the picture – She pointed to the pictures when answering and referred to what she saw there. 11: inferred that she needed them dry for the photograph because the camera was in the picture. However, both answers scored as 4 and 5 because these answers would be accepted as such if there were no pictures. Not as probable that they rely on just text or just pictures as some evidence of making an inference.

Condition	1	2	3	4	5
T & P	0	0	6	4	12
T only	0	0	4	11	7

Code Name: **FA12** Sch: 4b Tape: 20	Session: 1		Story C First Reading		T only 8y 10m
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3				X	
4					X
5				X	
6					X
7					
8				X	
9					X
10					X
11				X	
12				X	
13				X	

Totals	0	0	0	7	4
Triggered memory of personal experiences – Y **N** – Comments: Notice elaborations for 10, 11 and 13. All very sound and they add to the depth of the reading experience. Insight into how protagonist is feeling and why also shown by 8.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA12** Sch: 4b Tape: 20	Session: 1		Story A Second Reading	T only 8y 10m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5					X
6					X
7					
8					X
9					X
10					**X**
11					**X**
12				X	
13			X		
Totals	0	0	1	1	9
Triggered memory of personal experiences – **Y** N – Comments: 10 is probing to see if the reader has inferred that he knocked himself out – fell down – and dreamt. She shows she has done this in her answers to 6 (dreaming), 8 and in the re-telling.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA12** Sch: 4b Tape: 22	Session: 2		Story D First Reading	T & P 8y 10m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4				X	
5				X	
6					X

7					
8				X	
9					X
10					X
11					X
12				X	
13					X
Totals	0	0	2	4	5
Triggered memory of personal experiences – **Y** N – Comments: Although it was a different sort of camping, so she says 'no' she was clearly reminded of her own experiences 'camping' in a cabin – so this is scored as a Y.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FA12** Sch: 4b Tape: 22	Session: 2		Story B Second Reading	T & P 8y 10m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3				X	
4			X		
5					X
6					X
7					
8					**X**
9					X
10					**X**
11					X
12			X		
13				**X**	
Totals	0	0	2	2	7
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	0	0	4	6	12
T only	0	0	1	8	13

Appendix 12

Scoring of responses by male difference poor readers

Code Name: **MB1** Sch: 1a Tape: 12	Session: 1		Story A First Reading	T & P 7y 11m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3				X	
4	X				
5			X		
6			X		
7					
8			X		
9			X		
10			X		
11			X		
12			X		
13			X		
Totals	1	0	9	1	0
Triggered memory of personal experiences – **Y** N Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: Quite happy to invent his own story without reference to text. Will be interesting to see how his mental model relates to the text in the T only condition.					

Code Name: **MB1** Sch: 1a Tape: 12	Session: 1		Story B Second Reading	T & P 7y 11m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3	X				
4			X		
5					X
6			X*		
7					
8					X
9				X	
10					X
11					X
12			X		
13			X		

Totals	1	0	4/1*	1	5
Triggered memory of personal experiences – Y **N** Comments: Inclined to invent a story based on the picture without much reference to the text – see elaborations in answer to Q2. However, can also get a good model from the text. Since he's so prone to making a story up based on the pictures this should be kept separate when he's reading a story. Comprehension of the text is compromised in spite of his potential to make a good mental model based on text.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB1** Sch: 1a Tape: 14	Session: 2	Story C First Reading	T only 7y 11m	

Q	**1**	**2**	**3**	**4**	**5**
2			X		
3		X			
4			X		
5				X	
6					X
7					
8		X			
9				X	
10					X
11			X		
12			X		
13				X	
Totals	0	2	4	3	2

Triggered memory of personal experiences – **Y** N – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:
He elaborates but it's based in the text and is more accurate than in the first condition.

Code Name: **MB1** Sch: 1a Tape: 14	Session: 1	Story D Second Reading	T only 7y 11m	

Q	**1**	**2**	**3**	**4**	**5**
2					X
3				X	
4				X	
5					**X**
6				**X**	

7					
8			X		
9				X	
10				X	
11				X	
12				X	
13				X	
Totals	0	0	1	8	2
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: **Noticeably more accurate** – elaboration tied more closely to text – still jumbled but much less 'invention'.					

Condition	1	2	3	4	5
T & P	2	0	13	2	5
T only	0	2	5	11	4

Code Name: **MB2** Sch: 1c Tape: 2	Session: 1	Story B First Reading	T & P 8y 4m	

Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4		X			
5					X
6				X	
7					
8		X			
9				X	
10			X		
11			X		
12			X		
13			X		
Totals	0	2	5	2	2
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB2** Sch: 1c Tape: 2	Session: 1	Story A Second Reading	T & P 8y 4m

Q	1	2	3	4	5
2					X
3					X
4			X		
5			X		
6			X		
7					
8				X	
9			X		
10			X		
11			X		
12			X		
13			X		
Totals	0	0	8	1	2
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB2** Sch: 1c Tape: 7	Session: 2	Story D First Reading	T only 8y 4m

Q	1	2	3	4	5
2				X	
3					X
4			X		
5			X		
6			X		
7					
8				X	
9					X
10					X
11			X		
12				X	
13				X	
Totals	0	0	4	4	3
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB2** Sch: 1c Tape: 7	Session: 2	Story C Second Reading	T only 8y 4m

Q	1	2	3	4	5
2			X		
3			X		
4	X				
5			X		
6	X				
7					
8			X		
9			X		
10			X		
11			X		
12				X	
13				X	
Totals	2	0	7	2	0

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Condition	1	2	3	4	5
T & P	0	2	13	3	4
T only	2	0	11	6	3

Code Name: **MB3** Sch: 1d Tape: 3	Session: 1	Story A First Reading	T & P 7y 8m

Q	1	2	3	4	5
2			X		
3			X		
4				X	
5	X				
6			X		
7					
8	X				
9			X		
10	X				
11	X				
12	X				
13			X		
Totals	5	0	5	1	0

Triggered memory of personal experiences – Y **N**
Comments: Looked at book to answer or to try to answer Q's – trying to find the answers there.

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MB3** Sch: 1d Tape: 3	Session: 1		Story C Second Reading		T & P 7y 8m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3	X				
4			X		
5	X				
6	X				
7					
8	X				
9				X	
10				X	
11	X				
12	X				
13				X	
Totals	6	0	1	3	1

Triggered memory of personal experiences – **Y** N – Just gave the one word, 'scary' – so the context of using a computer was not salient for him, just reminded him of scary things or being scared.

Comments: From his re-telling he obviously thought the boy came down the hallway and that the silhouette in the door was the boy. It's a 'scary' picture and he smiled when describing what he thought was the boy but was supposed to be the aunt. So the answer to number 7 was definitely affected by the picture rather than the text. Even the arm being chopped off can be explained by the picture. He also demonstrated 'hanging down like that' and held his arm in the same way as shown in the picture. The bit of text that he had attended to – about the heart beating – was remembered as being heard by the boy rather than Janet herself. This is a good example of a picture being particularly salient for the reader and over-riding attention to text. The description may be at first sight an example of elaboration, but when the picture is considered, it can be seen as a misinterpretation of the picture and a description of it.

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MB3** Sch: 1d Tape: 7	Session: 2		Story B First Reading		T only 7y 8m
Q	**1**	**2**	**3**	**4**	**5**
2					X

3			X		
4				X	
5			X		
6					X
7					
8				X	
9			X		
10			X		
11	X				
12			X		
13			X		
Totals	1	0	6	2	2
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB3** Sch: 1d Tape: 8	Session: 2		Story D Second Reading	T only 7y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2					**X**
3					X
4			X		
5				**X**	
6			X		
7					
8			X		
9			X		
10	X				
11			X		
12					**X**
13			X		
Totals	1	0	6	1	3
Triggered memory of personal experiences – Y **N** – Comments: **Striking difference with how many times he said he didn't know the answer with the picture and how he makes more 'literal' answers without – pays more attention to the text**. One of the rare readers who thought that it was the father who was scared and so 'angry'. Also appropriate elaboration – trees and birds and grass at the campsite. Difficult to score 13 – think he misread 'washed' on final page with 'wished' – so not a '2'.					
Re-telling – Soundness / memory of events / memory of linguistic items: This was a more coherent re-telling than previously given. More accurate remembrance of events. Included appropriate elaboration – trees at the campsite.					

Condition	1	2	3	4	5
T & P	11	0	6	4	1
T only	2	0	12	3	5

Code Name: **MB4** Sch: 1e Tape: 3	Session: 1	Story A First Reading	T & P 7y 4m

Q	**1**	**2**	**3**	**4**	**5**
2			X		
3					X
4				X	
5	X				
6			X		
7					
8				X	
9	X				
10	X				
11			X		
12	X				
13				X	
Totals	4	0	3	3	1

Triggered memory of personal experiences – Y **N** – Comments: Unable to remember much or answer even with story available to refer to.

Re-telling – Soundness / memory of events / memory of linguistic items: Mention's main character's name, but only recounts 2 things that he did / saw at the beginning and that's it.

Code Name: **MB4** Sch: 1e Tape: 3	Session: 1	Story D Second Reading	T & P 7y 4m

Q	**1**	**2**	**3**	**4**	**5**
2			X		
3	X				
4	X				
5			X		
6			X		
7					
8	X				
9					X
10	X				
11				X	
12			X		
13			X		
Totals	4	0	5	1	1

Triggered memory of personal experiences – Y **N** – Comments: Still unable to answer 4 Q's at all.
Re-telling – Soundness / memory of events / memory of linguistic items: No mention of characters' names and just one item – the moose – recounted. Chronological.

Code Name: **MB4** Sch: 1e Tape: 8	Session: 2		Story B First Reading		T only 7y 4m
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3			X		
4				X	
5					X
6					X
7					
8					X
9					X
10					X
11				X	
12					X
13			X		
Totals	0	0	2	3	6
Triggered memory of personal experiences – Y **N** – Comments: **Striking differnence here for columns 1 and 5 when compared with picture condition. Much better memory for the story.** Q12 is especially challenging and the one for this story not expected to be answered in a way that shows a good mental model, but he is one of the few participants who does answer it well.					
Re-telling – Soundness / memory of events / memory of linguistic items: Says there were 2 boys and names one. Says 3 items about one and then two things about Finn. Is very coherent in summarising what Josh did – as if his ability to express himself is enhanced. What happens to one boy overlaps, chronologically, what happens to the other so he doesn't just re-tell in order – he retells in order for each character.					

Code Name: **MB4** Sch: 1e Tape: 8	Session: 2		Story C Second Reading		T only 7y 4m
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3	-	-	-	-	-
4	X				
5			X		
6					X
7					
8	X				
9					X
10					X

11					X
12					X
13	X				
Totals	3	0	1	1	5

Triggered memory of personal experiences – **Y** N – Comments: Q 3 made unusable by answer to Q 2. **Again – striking difference with answers to Q's compared with picture condition.**

Re-telling – Soundness / memory of events / memory of linguistic items:
Another good summary but the fact that the girl is at her auntie's house and having a sleepover there is all inference and not stated at all in the text. He begins with this 'overall' setting rather than just listing events as before. Doesn't deal with the main events, however.

Condition	1	2	3	4	5
T & P	8	0	8	4	2
T only	3	0	3	4	11

Code Name: **MB5** Sch: 2 Tape: 10	Session: 1	Story D First Reading	T & P 8y 9m

Q	**1**	**2**	**3**	**4**	**5**
2					**X**
3			X		
4					**X**
5			X		
6	X				
7					
8			X		
9			X		
10				X	
11			X		
12			X		
13			X		
Totals	1	0	7	1	2

Triggered memory of personal experiences – **Y** N – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MB5** Sch: 2 Tape: 10	Session: 1	Story A Second Reading	T & P 8y 9m

Q	1	2	3	4	5
2			X		
3					X
4				X	
5			X		
6			X		
7					
8			X		
9			X*		
10			X		
11			X		
12				X	
13			X		
Totals	0	0	8/1*	2	1
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB5** Sch: 2 Tape: 13	Session: 2		Story C First Reading	T only 8y 9m	
Q	**1**	**2**	**3**	**4**	**5**
2	X				
3			X		
4			X		
5			X		
6					X
7					
8			X		
9			X		
10			X		
11			X		
12				X	
13				**X**	
Totals	1	0	7	2	1
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: Brings in his world knowledge and experiences but doesn't monitor them well in regard to the text. However no sign of this at all when he has the pictures.					

Code Name: **MB5** Sch: 2 Tape:	Session: 2		Story B Second Reading	T only 8y 9m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3			X		
4		X			
5			X		
6					X
7					
8			X		
9				X	
10				X	
11				X	
12					X
13			X		
Totals	0	1	4	4	2
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: Once again, brings in his own experiences and makes inferences that are not well-monitored so that his mental model deviates from the text to a large extent – more so than when answering the questions. The mental model being dynamic becomes less like the text when he's relying on memory alone.					

Condition	1	2	3	4	5
T & P	1	0	15	3	3
T only	1	1	11	6	3

Code Name: **MB6** Sch: 2 Tape: 12	Session: 1		Story C First Reading	T & P 8y 1m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3		X			
4				X	
5			X		
6			X		
7					
8					X
9			X		
10			X		
11				X	
12				X	
13			X		
Totals	0	1	6*	3	1

Triggered memory of personal experiences – Y **N** –
Comments: The glow from the computer screen in the picture is golden and looks like it could be a fire or hot – so his answer for 5 is based on the picture – no relation to text. For his answer to 7, he turned to the final picture of the aunt in the doorway – her silhouette – and just described what he saw there in terms of describing the boy.

Re-telling – Soundness / memory of events / memory of linguistic items: Just gives a list of the items in the pictures except for the boy and the uncle who were mentioned in the text. In relation to the boy, the only information is in the text, and for the questions about the boy, he shows that he has made a mental model that takes the text into account. Although he takes the picture of the aunt for a picture of the boy when questioned, this picture comes on the final page and he looked for a picture of the boy in order to describe him – he didn't remember the boy from this picture. Once could assume that he took notice of the text while reading because there was no picture of the boy when reading about him – only a picture that he took to be the boy once he had passed the text referring to the boy.

Code Name: **MB6** Sch: 2 Tape: 12	Session: 1	Story A Second Reading	T & P 8y 1m	

Q	**1**	**2**	**3**	**4**	**5**
2			X*		
3			X*		
4			X		
5			X*		
6			X*		
7					
8			X*		
9			X*		
10		X			
11			X*		
12		X			
13			X*		
Totals	0	2	9*	0	0

Triggered memory of personal experiences – Y **N** –
Comments: For 5 – the tree was close to 'the' house not 'his' house – also for 6 the answer 'yes' was shown to be based on his taking the dog in the picture as the fairy – he pointed at the dog to answer number 7. From his re-telling, it seems fair to say that probably all his answers but one were based on the pictures – the only evidence that he took the text into account was the fact that he said Jason was talking to a tree. The two answers in column 2 were probably based on the picture of the mother with the tree branches behind her and the second answer follows on from the interpretation of the first – that is he thinks the boy turned into the mother from the way the picture is presented. He's just telling himself a story from the pictures without incorporating the text.

Re-telling – Soundness / memory of events / memory of linguistic items: This was just a list of all the items he could remember from the pictures – so scored all number 3 items as taken from the pictures – no evidence of using the text to draw any inferences at all – the two in column 2 are most probably based on inferences from the pictures alone.

Code Name: **MB6** Sch: 2 Tape: 15	Session: 2		Story D First Reading		T only 8y 1m
Q	**1**	**2**	**3**	**4**	**5**
2		X			
3					X
4				X	
5				**X**	
6			X		
7					
8			X		
9				X	
10				X	
11				X	
12				X	
13			X		
Totals	0	1	3	6	1
Triggered memory of personal experiences – Y **N** – Comments: Making more inferences based on the text.					
Re-telling – Soundness / memory of events / memory of linguistic items: Very short but it's no longer just a list of items – it's a brief summary of what happened.					

Code Name: **MB6** Sch: 2 Tape: 15	Session: 2		Story B Second Reading		T only 8y 1m
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3				X	
4		X			
5			X		
6					X
7					
8			X		
9				X	
10					X
11					X
12				X	
13			X		
Totals	0	1	3	4	3

Triggered memory of personal experiences – Y **N** –
Comments: Answers to Q's included mention of an aquarium, so probed after the re-telling and he told about 2 trips to aquariums – experiences triggered by the mention of the shark since he had seen sharks at the aquariums.
More making of inferences that bear a relationship to the information in the text.

Re-telling – Soundness / memory of events / memory of linguistic items: A slightly better summary of the story. No longer just a list of items as in picture condition. Even infers protagonist's desires not just limited to what happens and why.

Condition	1	2	3	4	5
T & P	0	3	15	3	1
T only	0	2	6	10	4

Code Name: **MB7** Sch: 2 Tape: 10	Session: 1		Story A First Reading	T only 8y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3				X	
4		X			
5				X	
6			X		
7					
8			X		
9				X	
10				X	
11			X		
12				X	
13		X			
Totals	0	2	4	5	0

Triggered memory of personal experiences – Y **N** –
Comments: He monitors poorly but he does make a mental model based on items in the text and his own background knowledge. He needs to learn to monitor more closely by paying closer attention to the text.

Re-telling – Soundness / memory of events / memory of linguistic items: He makes a model but based more on past experiences, it seems, than on the text. Needs to monitor his inference-making by considering the text more.

Code Name: **MB7** Sch: 2 Tape: 10	Session: 1		Story B Second Reading	T only 8y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3			X		

4			X		
5					X
6					X
7					
8			X		
9					X
10				X	
11					X
12				X	
13			X		
Totals	0	0	4	3	4

Triggered memory of personal experiences – **Y** N
Comments: The detail of 'human skin' for the mermaid shows likely inference from the fact that Finn thought it was the hand and arm of his brother that he had grabbed while under water. Other '4' answers show imagination and making of a mental model using world knowledge plus text but poor monitoring in terms of textual clues. However, he does make a model.

Re-telling – Soundness / memory of events / memory of linguistic items: His own memories of collecting crabs comes into this re-telling. It helps in a way, because it causes him to focus on elements such as the bucket and be able to see what happened – i.e. he's worried that the bucket got left there whereas others who may not have collected things in buckets by rock pools might ignore this detail.

Code Name: **MB7** Sch: 2 Tape: 13	Session: 2		Story C First Reading		T &P 8y 8m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3		X			
4	X				
5				X	
6			X		
7					
8		X			
9			X		
10		X			
11			X		
12		X			
13			X*		
Totals	1	4	5/1*	1	0

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items: He doesn't retell events he just lists the people mentioned in the story and then he puts in two items that he mistakenly thinks were in the story. **Strikingly unlike his attempts to retell when he had text only.**

Code Name: **MB7** Sch: 2 Tape: 13	Session: 2	Story D Second Reading	T &P 8y 8m

Q	**1**	**2**	**3**	**4**	**5**
2				X	
3			X		
4		X			
5				X	
6				X	
7					
8				X	
9		X			
10		X			
11					X
12			X		
13		X			
Totals	0	4	2	4	1

Triggered memory of personal experiences – **Y** N – Comments: Since he says they're in a wilderness near mountains, the responses for 9 and 10 are scored as '2', whereas if he'd said they were camping in their garden, it would not have been. It's possible that he thinks they have a house in the wilderness and the girls are camping in the garden. Difficult to score without knowing, but this scoring does reflect the poor monitoring and is all that can be done without further information from him.

Re-telling – Soundness / memory of events / memory of linguistic items: Once again, striking different – more of a list than a re-telling. Shows a poor grasp of the story and no attempt to make up his own version.

Condition	1	2	3	4	5
T & P	1	8	7	5	1
T only	0	2	8	8	4

Code Name: **MB8** Sch: 3a Tape: 16	Session: 1	Story B First Reading	T only 8y 8m

Q	**1**	**2**	**3**	**4**	**5**
2					X
3					**X**
4				X	
5					X
6					X
7					
8	X				
9					X
10					**X**
11					X

12	X				
13			X		
Totals	2	0	1	1	7
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: Some elaboration – i.e. they were going to the car – quite a good inference.					

Code Name: **MB8** Sch: 3a Tape:	Session: 1		Story A Second Reading	T only 8y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5			X		
6			X		
7					
8			X		
9			X		
10					**X**
11				X	
12				X	
13				X	
Totals	0	0	4	3	4
Triggered memory of personal experiences – Y **N** – Comments: Q10 probing for the inference that Jason had fallen down and was dreaming as a result of knocking himself out. The reader shows elsewhere that he's made this inference by saying that the mother was waking him up and that he was on the floor.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB8** Sch: 3a Tape: 18	Session: 2		Story D First Reading	T & P 8y 8m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3			X		
4			X		

5			X		
6					**X**
7					
8			X		
9				X	
10				X	
11					X
12				X	
13					X
Totals	0	0	4	4	3
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB8** Sch: 3a Tape: 18	Session: 2	Story C Second Reading	T & P 8y 8m

Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4					X
5	X				
6	X				
7					
8			X		
9					X
10					X
11				X	
12				X	
13				X	
Totals	2	0	3	3	3
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: **Striking inability to recall story compared to other stories.** Could not re-tell the story – no memory of it. Finally remembered a little bit.					

Condition	1	2	3	4	5
T & P	2	0	7	7	6
T only	2	0	5	4	11

Code Name: **MB9** Sch: 3a Tape: 16	Session: 1	Story A First Reading	T only 9y 0m

Q	1	2	3	4	5
2					X
3					X
4					X
5			X		
6			X		
7					
8				X	
9			X		
10			X		
11				X	
12					**X**
13					X
Totals	0	0	4	2	5

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MB9** Sch: 3a Tape: 16	Session: 1	Story C Second Reading	T only 9y 0m

Q	1	2	3	4	5
2					X
3				X	
4	X				
5					X
6					X
7					
8			X		
9					X
10					X
11				X	
12				X	
13				X	
Totals	1	0	1	4	5

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MB9** Sch: 3a Tape: 17	Session: 2		Story B First Reading	T & P 9y 0m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3					X
4				X	
5			X		
6					X
7					
8					X
9					X
10			X		
11				X	
12					**X**
13			X		
Totals	0	0	4	2	5
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB9** Sch: 3a Tape: 17	Session: 2		Story D Second Reading	T & P 9y 0m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3			X		
4			X		
5				X	
6			X		
7					
8				X	
9				X	
10	X				
11				X	
12			X		
13				X	
Totals	1	0	4	6	0
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	1	0	8	8	5
T only	1	0	5	6	10

Code Name: **MB10** Sch: 3a Tape: 18	Session: 1		Story A First Reading	T only 8y 5m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3					X
4					X
5				X	
6			X		
7					
8			X		
9			X		
10				X	
11			X		
12				X	
13			X		
Totals	0	0	5	4	2
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB10** Sch: 3a Tape: 18	Session:1		Story D Second Reading	T only 8y 5m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3			X		
4	X				
5				X	
6				X	
7					
8					X
9					X
10					X
11					X
12				X	
13				X	
Totals	1	0	1	5	4
Triggered memory of personal experiences – **Y** N – Comments:					

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **MB10** Sch: 3a Tape: 21	Session: 2		Story B First Reading		T & P 8y 5m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3		X			
4			X		
5					X
6					X
7					
8				X	
9					**X**
10				X	
11					X
12	X				
13			X		
Totals	1	1	2	2	5
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB10** Sch: 3a Tape: 21	Session: 2		Story C Second Reading		T & P 8Y 5m
Q	**1**	**2**	**3**	**4**	**5**
2			X*		
3	X				
4		X			
5				X	
6					X
7					
8				**X**	
9					X
10					X
11			X		

12					X
13			X		
Totals	1	1	3/1*	2	4
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	2	2	5	4	9
T only	1	0	6	9	6

Code Name: **MB11** Sch: 4a Tape: 21	Session: 1	Story D First Reading	T only 7y 8m	

Q	**1**	**2**	**3**	**4**	**5**
2					**X**
3			X		
4				X	
5					X
6					**X**
7					
8				X	
9					X
10					X
11				X	
12				X	
13					X
Totals	0	0	1	4	6

Triggered memory of personal experiences – **Y** N – Comments: When he answers Q13 it suddenly occurs to him that the camel probably drank the water whereas first he thought the slurping resulted from the camel's mouth watering because it smelled breakfast. However, he obviously makes a very detailed mental model and this is a resistant memory and available to him to readjust when he realises the bucket is empty and can then infer that the camel drank the water and that's what the slurping noises probably were. He obviously imagined a 'camel' instead of a moose but that seems a good substitution as a camel is equally unlikely to be roaming around in NZ.

Could make a case for Q8 being a '5' due to the fact that his answer shows he's visualised the lifting of the tent flap etc. However, others who said 'nose' may have seen this too but not verbalised it. His answers show a good deal of mental imagery that he's created. He was very active in his answering and re-telling – doing actions and gestures to help describe what he was seeing in his mind.

Re-telling – Soundness / memory of events / memory of linguistic items: Shows elaboration in putting in dialogue and attributing feelings.

Code Name: **MB11** Sch: 4a Tape: 21	Session: 1		Story A Second Reading		T only 7y 8m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5					**X**
6					**X**
7					
8					X
9					X
10					X
11				X	
12					X
13				X	
Totals	0	0	0	2	9
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB11** Sch: 4a Tape: 19	Session: 2		Story C First Reading		T & P 7y 8m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3					X
4				X	
5				X	
6			X		
7					
8			X		
9			X		
10			X		
11					X
12				X	
13			X		
Totals	0	0	6	3	2

Triggered memory of personal experiences – Y **N** – Comments: Because the boy is not in the pictures, he thinks the girl can't see him either even though the text makes it clear that she does and it says what he did and how he looked sad and so on. Similar to the reader who thought it was an invisible robot. Picture seems to take precedence over text in decisions about making inferences. He showed he's got a very vivid imagination in the previous 2 stories so he might be very 'visually' inclined and so pay more attention to the pictures than the text when both are present. Q2 – elaboration about the mouse owes nothing to the text, so scored as a '3'.
Re-telling – Soundness / memory of events / memory of linguistic items: **Striking difference between this and previous 2 re-tellings. Lacks the elaboration and the sense that he's created a vivid internal image.**

Code Name: **MB11** Sch: 4a Tape: 19	Session: 2	Story B Second Reading	T & P 7y 8m	

Q	**1**	**2**	**3**	**4**	**5**
2					X
3					**X**
4					X
5					X
6					X
7					
8			X		
9					X
10		X			
11					X
12			X		
13			X		
Totals	0	1	3	0	7

Triggered memory of personal experiences – **Y** N – Comments:
Re-telling – Soundness / memory of events / memory of linguistic items: Lacks the elaboration of the re-telling without the pictures.

Condition	1	2	3	4	5
T & P	0	1	9	3	9
T only	0	0	1	6	15

Code Name: **MB12** Sch: 4b Tape: 21	Session: 1		Story C First Reading	T only 8y 7m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3		X			
4		X			
5				X	
6			X		
7					
8		X			
9				X	
10					X
11			X		
12				X	
13			X		
Totals	0	3	4	3	1
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB12** Sch: 4b Tape: 21	Session: 1		Story A Second Reading	T only 8y 7m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4					X
5		X			
6			X		
7					
8				X	
9			X		
10			X		
11	X				
12					**X**
13			X		
Totals	1	1	5	1	3
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB12** Sch: 4b Tape: 19	Session: 2		Story D First Reading	T & P 8y 7m	
Q	**1**	**2**	**3**	**4**	**5**
2				**X**	
3			X		
4	X				
5				X	
6			X		
7					
8			X		
9					**X**
10				**X**	
11			X		
12				X	
13			X		
Totals	1	0	5	4	1
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **MB12** Sch: 4b Tape: 19	Session: 2		Story B Second Reading	T & P 8y 7m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4	X				
5					X
6					X
7					
8			X		
9					X
10					X
11					X
12			X		
13			X		
Totals	1	0	4	0	6

Triggered memory of personal experiences – **Y** N – Comments: Doubts his own mental model because it isn't in the pictures – Q9.
Re-telling – Soundness / memory of events / memory of linguistic items: Q8 quite imaginative but based on world knowledge with no input from text. When he makes an inference he expects the pictures to show it – Q9. As with other stories – gradually makes more inferences as Q's proceed and he gets away from finding the 'words' in the text or the objects in the pictures and trusts his own internal image.

Condition	1	2	3	4	5
T & P	2	0	9	4	7
T only	1	4	9	4	4

Appendix 13

Scoring of responses by female difference poor readers

Code Name: **FB1** Sch: 1a Tape: 1	Session: 1		Story A First Reading		T & P 7y 11m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4	X				
5	X				
6			X		
7					
8			X		
9			X		
10	X				
11				X	
12		X			
13			X		
Totals	3	1	6	1	0
Triggered memory of personal experiences – Y **N** Comments: Pointed at picture for 13. Took her time before saying she didn't know – looked back at the story Difficult to score answer for number 3 – she's using the title in making a mental model that includes Janet attending a meeting and she interprets the whole story in this light – so it's not really a 'number 2' as she's using the text however, she's not using other textual clues to infer more soundly.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB1** Sch: 1a Tape: 1	Session: 1		Story B Second Reading		T & P 7y 11m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4				X	
5			X*		

6					X
7					
8			X		
9				X	
10					X
11					X
12	X				
13			X		
Totals	1	0	4/1*	2	4

Triggered memory of personal experiences – **Y** N
Comments: Asked Q 5 and she gazed for 7 seconds and I reminded her that she could look at the story. She opened it to page 2, stared and then copied body position of Josh falling in pool to show hands out-stretched and body leaning forward while referring to the picture – confusing Josh with Finn. And for 7, described mermaid as in picture and looked at the page and up and then down at the page again while doing so.

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FB1** Sch: 1a Tape: 4	Session: 2		Story C First Reading		T only 7y 11m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4			X		
5		X			
6	X				
7					
8			X		
9	X				
10				X	
11				X	
12			X		
13	X				
Totals	3	1	5	2	0

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FB1** Sch: 1a Tape: 4	Session: 2		Story D Second Reading		T only 7y 11m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4				X	
5		X			
6	X				
7					
8				X	
9		X			
10		X			
11			**X**		
12		X			
13			X		
Totals	1	4	4	2	0
Triggered memory of personal experiences – Y **N** – Comments: Without pictures, her own life memories are triggered more but her monitoring ability is not good.					
Re-telling – Soundness / memory of events / memory of linguistic items: Improved in second T only condition – fewer 1's. However, more 2's. More likely to have a go second time than first time.					

Condition	1	2	3	4	5
T & P	4	1	10	3	4
T only	4	5	9	4	0

Code Name: **FB2** Sch: 1b Tape: 1	Session: 1		Story B First Reading		T & P 8y 4m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3	X				
4			X		
5			X		
6					X
7					
8			X		

9					X
10				X	
11					X
12				X	
13			X		
Totals	1	0	4	2	4
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB2** Sch: 1b Tape: 2	Session: 1		Story A Second Reading	T & P 8y 4m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3					X
4			X		
5			X*		
6			X		
7					
8			X		
9			X		
10				X	
11					X
12				X	
13				X	
Totals	0	0	6/1*	3	2
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB2** Sch: 1b Tape: 6	Session: 2		Story D First Reading	T only 8y 4m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		

3			**X**		
4	X				
5			X		
6	X				
7					
8				X	
9	X				
10	X				
11				X	
12			X		
13	X				
Totals	5	0	4	2	0
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB2** Sch: 1b Tape: 6	Session: 2		Story C Second Reading	T only 8y 4m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3	X				
4	X				
5	X				
6			X		
7					
8				X	
9			X		
10	X				
11				X	
12			X		
13			X		
Totals	4	0	5	2	0
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	1	0	10	5	6
T only	9	0	9	4	0

Code Name: **FB3** Sch: 1b Tape: 2	Session: 1		Story A First Reading	T & P 7y 11m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5					X
6					X
7					
8			X		
9				X	
10			X		
11					X
12				X	
13			X		
Totals	0	0	3	2	6
Triggered memory of personal experiences – **Y** N – Comments: Although she consulted the picture to answer Number 5, she came to the conclusion that the picture was of no help and was able to infer the correct answer.					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB3** Sch: 1b Tape: 2	Session: 1		Story C Second Reading	T & P 7y 11m	
Q	**1**	**2**	**3**	**4**	**5**
2					**X**
3				**X**	
4					X
5					X
6				X	
7					
8					X
9					X

10					X
11				X	
12				X	
13				X	
Totals	0	0	0	5	6
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB3** Sch: 1b Tape: 6	Session: 2	Story B First Reading	T only 7y 11m

Q	**1**	**2**	**3**	**4**	**5**
2				X	
3			X		
4			X		
5			X		
6					X
7					
8			X		
9				X	
10		X			
11					X
12			X		
13			X		
Totals	0	1	6	2	2
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB3** Sch: 1b Tape: 6	Session: 2	Story D Second Reading	T only 7y 11m

Q	1	2	3	4	5
2					**X**
3				X	
4					**X**
5			X		
6					X
7					
8			X		
9					X
10		X			
11		X			
12					X
13				X	
Totals	0	2	2	2	5

Triggered memory of personal experiences – Y **N** – Comments: Comments that she saw the scene in her head of the girls screaming.
Improved second time in T only condition.

Re-telling – Soundness / memory of events / memory of linguistic items:

Condition	1	2	3	4	5
T & P	0	0	3	7	12
T only	0	3	8	4	7

Code Name: **FB4** Sch: 1c Tape: 2	Session: 1	Story A First Reading	T & P 7y 11m

Q	1	2	3	4	5
2			X		
3					X
4	X				
5				X	
6			X		
7					
8			X		
9			X		
10			X		

11			X		
12				X	
13			X		
Totals	1	0	7	2	1
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB4** Sch: 1c Tape: 2	Session: 1		Story D Second Reading	T & P 7y 11m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3			X		
4	X				
5				X	
6			X		
7					
8			X		
9	X				
10				X	
11			X		
12			X		
13			X		
Totals	2	0	6	3	0
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB4** Sch: 1c Tape: 7	Session: 2		Story B First Reading	T only 7y 11m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5					X

6					X
7					
8			X		
9			X		
10				X	
11				X	
12	X				
13			X		
Totals	1	0	3	2	5

Triggered memory of personal experiences – Y **N** – Comments:
This was the best score for inference making – far better than T&P condition.

Re-telling – Soundness / memory of events / memory of linguistic items:
This is the only re-telling where she includes inferences – that they built a sandcastle and the sea destroyed it – that he hurt his foot on sharp rocks – and she goes beyond the text to add that they were the 'pointy bits' – and that the mermaid's tail was shiny – not said in the text. The added descriptive words help us to 'see' what she is imagining. The rocks were pointed and the tail shone.

Code Name: **FB4** Sch: 1c Tape: 7	Session: 2	Story C Second Reading	T only 7y 11m	

Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4		X			
5		X			
6	X				
7					
8				X	
9		X			
10		X			
11		X			
12				X	
13	X				
Totals	2	5	2	2	0

Triggered memory of personal experiences – Y **N** – Comments: Whereas there was not much difference between the two stories read in the T&P condition, there was a lot of difference between the two stories in the text only condition. The necessary inference that the girl was communicating with a computer was not made in the second story. However, she scored highly for No. 2 – where she was using her knowledge of the world but not soundly monitoring it in relation to information from the text. The number of Column 2 responses is the same as the number of Column 5 responses in the previous reading – she has brought in her knowledge of the world but has not had a sound appreciation of the information in the text. Otherwise the scorings are almost the same.
Re-telling – Soundness / memory of events / memory of linguistic items:

Condition	1	2	3	4	5
T & P	3	0	13	5	1
T only	3	5	5	4	5

Code Name: **FB5** Sch: 2 Tape: 14	Session: 1	Story D First Reading	T & P 8y 6m

Q	**1**	**2**	**3**	**4**	**5**
2					X
3				X	
4			X		
5			X		
6			X		
7					
8				X	
9			X		
10	X				
11	X				
12			X		
13				X	
Totals	2	0	5	3	1

Triggered memory of personal experiences – **Y** N – Comments:
Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FB5** Sch: 2 Tape: 14	Session: 1		Story A Second Reading		T & P 8y 6m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3				X	
4				X	
5				X	
6			X		
7					
8				X	
9	X				
10			X		
11			X		
12				X	
13			X		
Totals	1	0	5	5	0
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB5** Sch: 2 Tape: 15	Session: 2		Story C First Reading		T only 8y 6m
Q	**1**	**2**	**3**	**4**	**5**
2		X			
3			X		
4	X				
5	X				
6	X				
7					
8	X				
9			X		
10		X			
11	X				
12				X	
13				X	
Totals	5	2	2	2	0

Triggered memory of personal experiences – Y **N** – Comments: Difficult to score number 2 – suspect she read 'cramped' as 'creeped' or something and got the wrong word which caused misunderstanding. However, in the re-telling she has the aunt creeping up.
Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FB5** Sch: 2 Tape: 15	Session: 2		Story B Second Reading		T only 8y 6m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4				X	
5					X
6					X
7					
8			X		
9			X		
10	X				
11					X
12	X				
13			X		
Totals	2	0	3	1	5
Triggered memory of personal experiences – Y **N** – Comments: This was the most accurate and successful of all her readings. **Striking difference with the number of well-monitored inferences made.**					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	3	0	10	8	1
T only	7	2	5	3	5

Code Name: **FB6** Sch: 2 Tape: 11	Session: 1	Story C First Reading	T & P 8y 3m

Q	1	2	3	4	5
2					X
3			X		
4				X	
5			X		
6					X
7					
8			X		
9				X	
10			X		
11			X		
12				X	
13				X	
Totals	0	0	5	4	2

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FB6** Sch: 2 Tape: 11	Session: 1	Story A Second Reading	T & P 8y 3m

Q	1	2	3	4	5
2					X
3					X
4			X		
5			X		
6					X
7					
8				X	
9					X
10				X	
11				X	
12				X	
13				X	
Totals	0	0	2	5	4

Triggered memory of personal experiences – **Y** N – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FB6** Sch: 2 Tape: 14	Session: 2		Story D First Reading		T only 8y 3m
Q	**1**	**2**	**3**	**4**	**5**
2					**X**
3					X
4					X
5			X		
6			X		
7					
8				X	
9					X
10				X	
11				X	
12				X	
13				X	
Totals	0	0	2	5	4
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB6** Sch: 2 Tape: 14	Session: 2		Story B Second Reading		T only 8y 3m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4				X	
5					X
6					X
7					
8			X		
9					X

10					**X**
11					X
12					X
13			X		
Totals	0	0	2	1	8
Triggered memory of personal experiences – **Y** N – Comments: **Striking difference between this and other answers for the number of well-monitored responses.**					
Re-telling – Soundness / memory of events / memory of linguistic items: Retelling showed a sound understanding of what was happening and why and sound inferences woven in. Accurate recall.					

Condition	1	2	3	4	5
T & P	0	0	7	9	6
T only	0	0	4	6	12

Code Name: **FB7** Sch: 2 Tape: 11	Session: 1		Story A First Reading	T only 8y 9m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4			X		
5			X		
6			X		
7					
8					X
9			X		
10			X		
11				X	
12					X
13			X		
Totals	0	0	6	1	4
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB7** Sch: 2 Tape: 11	Session: 1		Story B Second Reading	T only 8y 9m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4	X				
5					X
6					X
7					
8			X		
9				X	
10				X	
11				X	
12				X	
13			X		
Totals	1	0	3	4	3
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB7** Sch: 2 Tape: 14	Session: 2		Story C First Reading	T & P 8y 9m	
Q	**1**	**2**	**3**	**4**	**5**
2			X*		
3					X
4			X		
5			X		
6		X			
7					
8				X	
9			X		
10			X		
11		X			
12			X		
13				X	
Totals	0	2	6/1*	2	1

Triggered memory of personal experiences – Y **N** – Comments: She's relying on the pictures and also tends to monitor poorly. The picture could be interpreted as a TV but the only reason to think it's a fire is the red glow from it on Janet. It's a poorly monitored interpretation of the picture itself to say it's a fire considering it's on her desk.
Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FB7** Sch: 2 Tape: 14	Session: 2		Story D Second Reading		T & P 8y 9m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4				X	
5			X		
6			X		
7					
8				X	
9				X	
10					X
11				X	
12			X		
13				X	
Totals	0	0	5	5	1
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	0	2	11	7	2
T only	1	0	9	5	7

Code Name: **FB8** Sch: 3b Tape: 18	Session: 1	Story B First Reading	T only 8y 7m

Q	1	2	3	4	5
2			X		
3	X				
4					X
5					X
6					X
7					
8					X
9			X		
10					**X**
11					X
12				X	
13			X		
Totals	1	0	3	1	6

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FB8** Sch: 3b Tape: 18	Session: 1	Story A Second Reading	T only 8y 7m

Q	1	2	3	4	5
2					X
3					X
4					X
5			X		
6			X		
7					
8	X				
9			X		
10			X		
11				X	
12					X
13				X	
Totals	1	0	4	2	4

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FB8** Sch: 3b Tape: 21	Session: 2		Story D First Reading		T & P 8Y 7M
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3	X				
4					X
5					**X**
6					X
7					
8			X		
9	X				
10				X	
11			X		
12				X	
13	X				
Totals	3	0	2	3	3
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB8** Sch: 3b Tape: 21	Session: 2		Story C Second Reading		T & P 8y 7m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4				X	
5			X		
6				X	
7					
8					X
9			X		
10					X

11	X				
12				X	
13			X		
Totals	1	0	4	3	3
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	4	0	6	6	6
T only	2	0	7	3	10

Code Name: **FB9** Sch: 3b Tape: 18	Session: 1	Story A First Reading	T only 8y	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3					X
4					X
5					X
6					**X**
7					
8					X
9					X
10			X		
11					X
12				X	
13			X		
Totals	0	0	2	1	8
Triggered memory of personal experiences – Y **N** – Comments: Comments:aQ 11 – she notices it doesn't really say where they were – + Q5 – shows how she uses info. from text to build the scene. Q6 – uses info. from many parts of the text at once. Notice 'sneered' – good substitute for what the text said.					
Re-telling – Soundness / memory of events / memory of linguistic items: Shows a good memory for the text probably due to the amount of 'puzzling' she does when making inferences.					

Code Name: **FB9** Sch: 3b Tape: 18	Session: 1		Story C Second Reading		T only 8y
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3				X	
4				X	
5				X	
6				X	
7					
8				X	
9					X
10					X
11				X	
12					X
13				X	
Totals	0	0	1	7	3

Triggered memory of personal experiences – **Y** N – Q 7 – 'from what I saw'. She gives reasons for her inferences which provides an insight into her problem-solving processes when making her inferences. This aids her memory.

Re-telling – Soundness / memory of events / memory of linguistic items: Shows puzzle she can't solve – and how this stays in her memory – if the story were longer she could perhaps solve this before the end. She has a clear 'scene' in her imagination – see part where she changes her mind about whether Janet is in bed or is just leaning against it.

Code Name: **FB9** Sch: 3b Tape: 21	Session: 2		Story B First Reading		T & P 8y
Q	**1**	**2**	**3**	**4**	**5**
2					X
3				X	
4					**X**
5					X
6					X
7					
8					X
9				X	
10					X
11			X		
12				X	

13			X		
Totals	0	0	2	3	6
Triggered memory of personal experiences – Y **N** – Comments: Answer to Q 7 showed attention on pictures not relying on her imagination.					
Re-telling – Soundness / memory of events / memory of linguistic items: Not as good a memory of events as when in the other condition – inaccurate.					

Code Name: **FB9** Sch: 3b Tape: 21	Session: 2	Story D Second Reading	T & P 8y

Q	**1**	**2**	**3**	**4**	**5**
2				X	
3				X	
4				X	
5				X	
6			X		
7					
8			X		
9					X
10				X	
11			X		
12					X
13				X	
Totals	0	0	3	6	2
Triggered memory of personal experiences – **Y** N – Comments: Q7 shows attention on the picture again.					
Re-telling – Soundness / memory of events / memory of linguistic items: Not as good a memory as in other condition and inaccurate. Gradually gets more inaccurate as retelling proceeds.					

Condition	1	2	3	4	5
T & P	0	0	5	9	8
T only	0	0	3	8	11

Code Name: **FB10** Sch: 3b Tape: 16	Session: 1	Story A First Reading	T only 7y 4m

Q	1	2	3	4	5
2					X
3				X	
4					X
5			X		
6			X		
7					
8			X		
9			X		
10			X		
11			X		
12				X	
13					X
Totals	0	0	6	2	3

Triggered memory of personal experiences – Y **N** – Comments:

Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FB10** Sch: 3b Tape: 16	Session: 1	Story D Second Reading	T only 7y 4m

Q	1	2	3	4	5
2				X	
3					X
4				X	
5			X		
6		X			
7					
8				X	
9			X		
10				X	
11			X		
12			X		
13				X	
Totals	0	1	4	5	1

Triggered memory of personal experiences – Y **N** – Comments: Difficult to score 6 as she may have thought 'slurping' was 'snoring' and misread the word and so 'sleeping' – or she might have thought 'slurping' was 'sleeping' - would be a reasonable answer. However, it's not reflecting a 'careful' reading of the text.
Re-telling – Soundness / memory of events / memory of linguistic items:

Code Name: **FB10** Sch: 3b Tape: 18	Session: 2		Story B First Reading		T & P 7y 4m
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3					X
4				X	
5			X*		
6					X
7					
8			X		
9				X	
10				X	
11			X		
12			X		
13				X	
Totals	0	0	4/1*	5	2
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: Very scant re-telling.					

Code Name: **FB10** Sch: 3b Tape: 18	Session: 2		Story C Second Reading		T & P 7y 4m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4					X
5					X
6					X
7					

8				X	
9					X
10				X	
11				X	
12				X	
13				X	
Totals	0	0	1	5	5
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: Scant and unclear re-telling.					

Condition	1	2	3	4	5
T & P	0	0	5	10	7
T only	0	1	10	7	4

Code Name: **FB11** Sch: 4 Tape: 20	Session: 1		Story D First Reading	T only 8y 5m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3					X
4				X	
5			X		
6			X		
7					
8			X		
9					X
10			X		
11				X	
12					X
13			X		
Totals	0	0	6	2	3
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB11** Sch: 4 Tape: 20	Session: 1		Story A Second Reading		T only 8y 5m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3					X
4					X
5					X
6			X		
7					
8				X	
9	X				
10			X		
11					X
12				X	
13			X		
Totals	1	0	4	2	4
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items: Remembered nothing – at least tried but didn't seem able to re-tell anything.					

Code Name: **FB11** Sch: 4 Tape: 22	Session: 2		Story C First Reading		T & P 8y 5m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3	X				
4				X	
5				X	
6					X
7					
8				X	
9					X
10			X		
11					X
12					X
13				X	
Totals	1	0	2	4	4

Triggered memory of personal experiences – Y **N** – Comments:
Re-telling – Soundness / memory of events / memory of linguistic items: Remembered 3 main events

Code Name: **FB11** Sch: 4 Tape: 22	Session: 2		Story B Second Reading		T & P 8y 5m
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4			X		
5			X		
6			X*		
7					
8					X
9				X	
10			X		
11					X
12					X
13			X		
Totals	0	0	6/1*	1	4
Triggered memory of personal experiences – **Y** N – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Condition	1	2	3	4	5
T & P	1	0	8	5	8
T only	1	0	10	4	7

Code Name: **FB12** Sch: 4b Tape: 20	Session: 1		Story C First Reading		T only 8y 2m
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		

4			X		
5		X			
6				X	
7					
8				X	
9			X		
10					X
11		X			
12			X		
13			X		
Totals	0	2	6	2	1
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB12** Sch: 4b Tape: 20	Session: 1		Story A Second Reading	T only 8y 2m	
Q	**1**	**2**	**3**	**4**	**5**
2			X		
3			X		
4	X				
5				X	
6			X		
7					
8		X			
9			X		
10			X		
11			X		
12			X		
13			X		
Totals	1	1	8	1	0
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB12** Sch: 4b Tape: 19	Session: 2		Story D First Reading	T & P 8y 2m	
Q	**1**	**2**	**3**	**4**	**5**
2				X	
3			X		
4			X		
5				X	
6			X		
7					
8			X		
9					X
10					X
11				X	
12				X	
13			X		
Totals	0	0	5	4	2
Triggered memory of personal experiences – Y **N** – Comments:					
Re-telling – Soundness / memory of events / memory of linguistic items:					

Code Name: **FB12** Sch: 4b Tape: 19	Session: 2		Story B Second Reading	T & P 8y 2m	
Q	**1**	**2**	**3**	**4**	**5**
2					X
3			X		
4				X	
5			X		
6					X
7					
8			X		
9	X				
10				X	
11					X
12	X				
13				X	
Totals	2	0	3	3	3
Triggered memory of personal experiences – Y **N** – Comments:					

Re-telling – Soundness / memory of events / memory of linguistic items:

Condition	1	2	3	4	5
T & P	2	0	8	7	5
T only	1	3	14	3	1

Appendix 14

Results of scoring for all 4 groups of readers

MA readers

Results for all male good readers in both conditions

T & P
Text Only

	1	2	3	4	5	4+5
MA1	0	0	10	1	11	12
MA1	0	0	4	6	12	18
MA2	3	0	8	2	9	11
MA2	1	0	5	9	7	16
MA3	0	0	6	5	10	15
MA3	1	1	5	9	6	15
MA4	0	0	7	6	9	15
MA4	2	0	6	5	8	13
MA5	0	0	12	3	7	10
MA5	2	0	5	5	10	15
MA6	3	0	3	6	10	16
MA6	3	0	4	1	14	15
MA7	0	1	9	10	2	12
MA7	0	0	9	6	6	12
MA8	0	1	3	9	9	18
MA8	0	0	3	4	15	19
MA9	3	0	4	5	10	15
MA9	1	0	5	6	10	16
MA10	0	0	5	9	8	17
MA10	0	0	8	4	10	14
MA11	1	1	12	3	5	8
MA11	0	1	9	6	6	12
MA12	0	0	5	8	9	17
MA12	0	0	6	4	12	16

FA readers

Results for all female good readers in both conditions

T & P
Text Only

	1	2	3	4	5	4+5
FA1	0	0	8	6	8	14
FA1	0	0	1	8	13	21
FA2	0	0	12	4	6	10
FA2	0	1	9	12	0	12
FA3	1	2	11	6	2	8
FA3	0	0	7	7	8	15
FA4	0	1	11	4	6	10
FA4	0	1	4	9	8	17
FA5	0	3	7	7	5	12
FA5	0	1	5	6	10	16
FA6	0	0	15	4	3	7
FA6	2	0	7	6	7	13
FA7	1	0	10	8	3	11
FA7	1	0	6	7	8	15
FA8	1	0	2	9	10	19
F A8	0	0	6	3	13	16
FA9	1	0	4	5	12	17
FA9	0	0	2	5	15	20
FA10	0	1	6	5	10	15
FA10	0	1	7	10	4	14
FA11	0	0	6	4	12	16
FA11	0	0	4	11	7	18
FA12	0	0	4	6	12	18
FA12	0	0	1	8	13	21

MB readers

Results for all male difference poor readers in both conditions

T & P
Text Only

	1	2	3	4	5	4+5
MB1	2	0	13	2	5	7
MB1	0	2	5	11	4	15
MB2	0	2	13	3	4	7
MB2	2	0	11	6	3	9
MB3	11	0	6	4	1	5
MB3	2	0	12	3	5	8
MB4	8	0	8	4	2	6
MB4	3	0	3	4	11	15
MB5	1	0	15	3	3	6
MB5	1	1	11	6	3	9
MB6	0	3	15	3	1	4
MB6	0	2	6	10	4	14
MB7	1	5	7	5	1	6
MB7	0	2	8	8	4	12
MB8	2	0	7	7	6	13
MB8	2	0	5	4	11	15
MB9	1	0	8	8	5	13
MB9	1	0	5	6	10	16
MB10	2	2	5	4	9	13
MB10	1	0	6	9	6	15
MB11	0	1	9	3	9	12
MB11	0	0	1	6	15	21
MB12	2	0	9	4	7	11
MB12	1	4	9	4	4	8
Totals	30	16	115	50	53	103
Totals	13	11	82	77	80	157

FB readers

Results for all female difference poor readers in both conditions

T & P
Text Only

	1	2	3	4	5	4+5
FB1	4	1	10	3	4	7
FB1	4	5	9	4	0	4
FB2	1	0	10	5	6	11
FB2	9	0	9	4	0	4
FB3	0	0	3	7	12	19
FB3	0	3	8	4	7	11
FB4	3	0	13	5	1	6
FB4	3	5	5	4	5	9
FB5	3	0	10	8	1	9
FB5	7	2	5	3	5	8
FB6	0	0	7	9	6	15
FB6	0	0	4	6	12	18
FB7	0	2	11	7	2	9
FB7	1	0	9	5	7	12
FB8	4	0	6	6	6	12
FB8	2	0	7	3	10	13
FB9	0	0	5	9	8	17
FB9	0	0	3	8	11	19
FB10	0	0	5	10	7	17
FB10	0	1	10	7	4	11
FB11	1	0	8	5	8	13
FB11	1	0	10	4	7	11
FB12	2	0	8	7	5	12
FB12	1	3	14	3	1	4