## HYPOTHESIS

## Explicit teaching of visualization using the RIDER strategy improves literal and inferential comprehension


#### Abstract

:

Many students display difficulties in reading particularly when they lack the strategies that allow them to make connections with text and comprehend what is being read. Research has shown that explicit instructions in small focused teaching groups will have an impact on the development of comprehension. The present study examines the explicit teaching of visualization using the RIDER strategy will enable students to improve in both literal and inferential comprehension.


Three Year Three students who experience difficulties in reading, have limited vocabulary, are able to decode (but not efficiently) and who have poor comprehension skills, were explicitly taught to visualize when reading using the RIDER strategy to support and improve their comprehension at both the literal and inferential levels. Small group teaching where these students participated in ten lessons of intensive intervention enabled them to develop the skill and results proved the training of visualization, making mental pictures in their minds to retell events in greater detail from their reading, was successful.

This study hypothesizes that with explicit teaching of visualization using the RIDER strategy students will be able to improve their comprehension skills at both the literal and inferential levels.

Implications for the teaching are that students with learning difficulties need to be explicitly taught in small groups and given sufficient time to practise new skills so that the training becomes inherent and a natural inclusion of their thinking and processing.

## INTRODUCTION

Comprehension is the core component of meaningful reading. It is how readers make sense of text. Reading is a complicated process and the task of learning to read exposes a variety of problems for some. Readers may experience difficulty due to lack of prior knowledge and limited vocabulary networks therefore are unable to link ideas to the content. They may not successfully acquire the knowledge of linguistic structures or the cues that are used to become fluent readers, and may be unable to decode words having no working memory to articulate what they are reading. Therefore developing comprehension skills can be an arduous task.

Harvey and Goudvis (2000) maintain that reading comprehension goes much further than looking in the text for the answers. Comprehension is when the reader is so involved in the text to the point where they engage in their own inner dialogue to ignite emotion about what is being read and use that dialogue to gain greater insight and make connections. It is a process that develops thinking. Fountas \& Pinnell (2001) support the notion that comprehension is a fundamental component of reading. It cannot be considered as a separate entity of the reading process. Good readers use strategies to make sense of the text before, during and after reading. Comprehension is where the acquisition of new and deeper understanding increases knowledge and provides new situations for learning.

Munro (2005) developed The Multiple Levels of Text Processing (MLOTP) model that provides an explanation of what readers do when they read and the processes they undergo to develop the skills required to become proficient readers. The MLOTP model is made up of four components - Literacy Knowledge, Metacognitive Knowledge, Existing Knowledge and Sensory Input. This model is not sequential but all components have an interdependence.

The focus on the current research is to assess the level of comprehension in students who experience learning difficulties in reading and then support their learning by assisting them to create and make mental images, pictures in their mind through the strategy of visualization. Through this study this clearly impacts on the comprehension of text enabling them to connect the text to the meaning and develop better skills at both literal and inferential levels. Hibbing and Rankin-Erickson (2003) conducted research into mental imagery and their findings were that students who were able to visualize were able to
develop comprehension skills at a more rapid rate than those who could not make mental images.

Essential comprehension skills are required when reading moves beyond the literal level. Strategies such as predicting, inferring, evaluating and summarizing require the reader to comprehend and make connections from within the text and use more sophisticated skills to process the information. (Hornsby, Sukarna \& Parry, 1986) Visualization is an important component in developing the strategy of inferring. The ability to visualize according to Harvey and Goudvis (2000) when making inferences enables pictures to take the place of words and thoughts and enables the reader to extrapolate ideas from the text and to hypothesize about what is about to happen or what has to be done.

This is supported by Wood \& Endres (2004) who taught the elements of Imagine, Elaborate, Predict and Confirm known as IEPC strategy to teach participants to form pictures in their mind using their imagination before, during and after reading to help the reader to comprehend, memorize, infer, predict and to motivate them to continue reading on. This strategy also gave participants the opportunity to develop oral language skills and access their prior knowledge and experiences when discussing the topic before, during and after reading.

One of Bell's (1986) underlying principles for processing language and thinking is the use of visualization. She discovered that making mental images is a vital component of comprehension. Her research revealed that visualization directly linked to language comprehension, expression and critical thinking and supported the notion that students who displayed efficient skills in comprehension were able to visualize without difficulty. Students who had poor skills in comprehension had to be trained to form and link images and concepts.

A number of researchers have expressed concerns that teachers are excellent at testing comprehension skills yet few are expert at teaching comprehending strategies. Konza (2003) believes that modeling and explicit instructions are important elements when teaching. Clark, Deshler, Schumaker, Alley and Warner (1984) support this belief and identified that learning disabled adolescents required an extra layer of instruction to not only assist their learning development but also to support and scaffold their learning to provide techniques to help them to know how to learn and integrate the new knowledge
into their current setting. In the specific program developed for these students the design of the study was to deliver an explicit model and clear set of instructions to train them to use the strategies of visualization and self questioning to improve their reading comprehension.

Danko (1992) conducted a similar study in which remedial reading students of a younger age were explicitly taught how to use the strategies of visualizing and verbalizing to make movies or pictures to improve comprehension. This study differed slightly to that of Clark et al. (1984) by linking the teaching of the strategy to a familiar object, a video camera recorder of which all students had experiences and prior knowledge in using. This immediately focused their learning and they were able to use this existing knowledge to develop their comprehension skills through the function of a familiar object. They were able to cognitively apply the function of the video camera-recorder to scaffold their learning and support their performance in developing comprehension skills using this strategy.

Munro's (2005) Multiple Level of Text Processing (MLOTP) model confers that existing knowledge is a priority in the development of reading. Existing knowledge within this model links both oral language and experiential knowledge which forms the basis in the process of learning to read. This is considered the entry level. In this module, experiential knowledge is where the students initially demonstrate their ability to form visual images in which to link experiences. At the literacy knowledge level visualization is used at the sentence level to support development in comprehension both at the literal and inferential levels.

The present study aims to investigate the research of how focused and explicit teaching administered to Year Three students in the use of the RIDER strategy to visualize details from prose will lead to improvement in both literal and inferential comprehension.

The independent variable in this research is the ability to visualize with the support and knowledge of the RIDER strategy.

The dependent variable is improvement in both literal and inferential comprehension.

## METHOD

DESIGN: The investigation uses an OXO design in which visualization utilizing the RIDER strategy was taught to improve literal and inferential comprehension. Progress of the development of comprehension skills was monitored through ten intensive lessons teaching visualization to three Year Three students who performed poorly in literacy demonstrating difficulties in reading and lack of comprehension skills.

## SETTING:

This study took place in a Primary School with approximately 360 children in the southern area of Melbourne. There are two straight classes at each Grade Level comprising of fourteen classrooms in total. The school is in a low socio-economic area. It has a high multicultural population and there are a large number of families with a Language Background Other Than English (LBOTE). A significant amount of families are also eligible for the Educational Maintenance Allowance (EMA).

## PARTICIPANTS:

Six students (two males and four females) were selected from both Year Three classes. The mean age of the students was 8 years and 6 months. All of the students selected failed to achieve the Year Two Literacy Benchmark at the end of 2005. Results from the 2006 beginning of year pre testing indicated that these students were "at risk" at the start of Year Three and had still not reached the end of Year Two Benchmark. They experience difficulties in Literacy and exhibit poor skills in all facets of English particularly reading. They have received extra support and assistance during their time at school and three out of the six students were participants in Reading Recovery and/or small group teaching during the past two years. This group of students demonstrated difficulties in processing text at the all levels of the Multiple Levels of Text Processing (MLOTP) model. Munro. (2005). They displayed low self efficacy and poor self management strategies. They expressed their dislike with reading and find little enjoyment from it. Two of the students are from ESL background and both speak Arabic at home.
From the group of six students in Year Three, three (one male and two females) were randomly selected to be the intervention group and the other three (one male and two females) were established as the control group. The purpose of the control group was to compare the results from the intervention to determine whether teaching visualization using the RIDER (Read, Imagine, Describe, Evaluate, Read On/Repeat) strategy improved both literal and inferential comprehension.

## Student A - Female Age: 8 Years 6 Months

History - Student A is the eldest of three children. From the age of one until three years she lived in Lebanon with her parents. In 2000 the family moved back to Australia. Since returning to Australia she has learnt to speak English although the main language spoken at home is Arabic and her parents noted that even though this is her native tongue she has difficulties understanding the structure within this language. She attends Arabic school on the weekend to provide further support. She is a happy and positive girl with a pleasant disposition. During her school life she has experienced difficulties in all areas due to her ESL background. Student A failed to achieve the benchmark standard in testing throughout and is still ranked below average in all areas especially literacy. She has been supported by small group and one on one teaching since beginning school. Small manageable tasks are presented to scaffold her learning and she requires explicit instructions. Student A was a participant in the Reading Recovery program in Grade One (2004), and was referred in Year Two (2005) for a full Educational Assessment that indicated that her overall cognitive abilities were below average for her age. It was recommended that work on her oral language would benefit her greatly. Her oral language is noticeably inaccurate yet this does not deter her from participating in all set activities. In Year Two her teacher recommended where possible she be given the opportunity to experience tasks that develop sequencing of thoughts in her mind before verbally expressing them. Limited exposure to real life situations to build vocabulary and develop networks of ideas impacts on her learning. Student A finds reading a chore and she stated that at home she has to teach her other siblings and her parents. She is reasonable at decoding yet has trouble with comprehension. She displays difficulties at all levels of the Munro MLOTP model. Her achievement to date indicates that although she has made impressive gains in her learning she still requires the structured support within the classroom to make further progress.

## Student B - Male Age: 8 Years 10 Months

History - Student $B$ is an only child in a single parent family. Both parents share the responsibility of raising him and he seems well adjusted in this situation. He experiences a variety of problems in Literacy yet displays sound oral language skills. He has not achieved the expected benchmarks during his school life and his mother stated that she believed he could be dyslexic. A Behavioural Optometrist recommended vision therapy in early 2005 because RAN, Visual \& Spatial Skills, Auditory and working memory were assessed at below the expected level for his age. Student B dislikes reading and writing and displays symptoms of anxiety if the task appears to be more difficult than he thinks. He has a low self efficacy. He demonstrated problems at the word, sentence, topic and conceptual levels of Munro MLOTP model. Work is required in both phonological and orthographic processing. He is part of small intensive groups within the classroom structure and this has been the case for the past two years.

## Student C - Female Age: 8 Years 5 Months

History - Student C is the youngest of three and there is a considerable age difference between her two older siblings. She has excellent oral language skills and finds conversing with adults easy. She experiences difficulty in Literacy especially reading. Student C demonstrates problems at the word, sentence and conceptual level of Munro MLOTP model. She has some trouble decoding words and does not always comprehend text. Work on her orthographic processing would enable her to become more proficient in reading. She fears being a failure in front of her peers and has a low self efficacy.

Student C has performed below the expected Benchmark in all years of schooling. She is part of small teaching groups and tasks are presented in manageable units to scaffold her learning. In 2005 it was recommended that she see a Behavioural Optometrist and now requires spectacles for distance work. She is happy at school yet very critical of her own ability. Her mother remarked that significant difficulties with reading have been noted and it seems that the problem is increasing as she progresses.

## Student D - Male Age: 8 Years 7 Months

History - Student D is the eldest of three children. He is from an ESL background and has demonstrated some difficulties in Literacy, particularly reading. In 2004 he was part of a small pull out group managed by the Reading Recovery Teacher. He was given explicit instructions in decoding and comprehension skills. He is supported in his learning further by working in small group. Student D demonstrates problems at all levels of the Munro MLOTP model. He has struggled to achieve the expected Benchmark standards in all years of schooling and has a low self efficacy. His lack of oral language experiences hinders his progress.

## Student E-Female Age: 8 Years 2 Months

History - Student E is the middle child of five. She does not have a good grasp of oral language and cannot articulate her ideas clearly. Her Record of Oral Language supports this notion and further opportunities must be established for her to improve. From the outset of schooling she has been monitored because of her learning difficulties. In 2004 she was the second intake on the Reading Recovery program that was carried through for a number of sessions in 2005. Even with this support she has still made little gains in literacy. Student E has significant problems at all levels of the Munro MLOTP model and requires work in both phonological and orthographic processing. Tasks are broken up into manageable components to scaffold her learning and she requires explicit instructions and constant focus to even complete set tasks. She wears spectacles for both distance and near tasks within the classroom structure. In 2005 she worked with a Teacher Aid to complete homework tasks, read daily and participate in an intensive program to improve phonological awareness. She significantly failed to reach all standards to date.

## Student F - Female Age: 9 Years 1 Month

History - Student F is the eldest of two children. She has poor oral language skills and her Record of Oral language supports this. She has worked with a speech therapist in a previous school setting and recommendations were made to support her development. Some of these are currently being carried out and improvement is yet to be seen. Her family life is filled with rich experiences yet she cannot readily link these experiences when accessing prior knowledge. Student F displays problems across all levels of the Munro MLOTP model. She has a low self efficacy and there is little indication of self management strategies. She has achieved below the expected Benchmark standards in Year Two and is working in small focused teaching groups to support her learning.

## MATERIALS:

The following materials were used:

TORCH (Tests of Reading Comprehension) Second Edition - This is an assessment tool which assesses the extent to which students from Year Three - Year Ten are able through CLOZE, to obtain meaning from the text. Administered to all Students (A-F) as a pre and post test assessment and to the Intervention group (Students $A-C$ ) during a mid session review

Record of Oral Language - This is an assessment used to establish oral language skills and command of the language structure of Students. This was administered to all Students A-F at the beginning of the study only to establish their mastery of oral language skills

Munro (2002) Listening Comprehension Test- This was used to assess the main ideas of the text through detailed spontaneous retelling. During Pre and Post testing this adapted and used not as listening comprehension but as a spontaneous retell.

PM Benchmark Kit 2 Texts 13-23-This Kit formed the basis of the text used to assess the literal and inferential comprehension and spontaneous and cued retelling of students. The texts were used for both pre and post testing and throughout the teaching sessions This Kit has books accurately leveled using Fry's Readability Scale. PM Text Level13-23 used during this study were applicable for reading ages of 6.5 years -8.5 years

Tape Recorder \& audio tapes - to tape and monitor the daily progress of the Intervention Group and record discussion and testing with both Intervention and Control groups

Grey lead pencil \& paper - for each of the participants to complete set tasks

Whiteboard \& whiteboard markers - for instructions and teaching purposes

RIDER Cue Card - Students in the Intervention Group used the acronym RIDER to develop their own picture cards to prompt their use of this strategy

## PROCEDURE:

The tasks of this research were administered to Students in the following order.

All students (both in the Intervention and Control Group) were administered the following tests during Pre Testing:

## PRETEST

- Munro Listening Comprehension (adapted - see note below)
- Torch Test - "Grasshoppers"
- Five Self Efficacy Questions developed by the researcher
- Record of Oral Language
- Spontaneous Oral Retell using PM Benchmarking Kit 2 Book - "The Best Runner" Level 13

Munro (2002) Listening Comprehension - this test was used as a spontaneous oral retell test and not as a listening comprehension test, to identify whether the student could retell in detail (from their own reading) the events and sequence in the story. The students read the short passage aloud and a running record was taken to note reading ability. Immediately after the reading the student was asked to retell the story and what they thought would happen next. Responses were noted.

Students then engaged in a short discussion about Reading and how they view themselves as a reader. The following questions were asked to gain information about their self efficacy.

- Do you enjoy reading?
- What part of reading do you find difficult? Why?
- What do you do when you read?
- What are some of the things that help you to work out difficult words?
- What are some of the things you do to help you remember what you read?

After 5 minutes the students were asked to retell the John Munro Listening Comprehension passage to indicate how much they had retained from the story and if there were any more details that they included in the second retelling. They were also asked to describe what they thought would happen next and responses were noted.

Pre testing all students in both intervention and control groups took place one week before the Intervention group of students was withdrawn for an intensive program of ten lessons for the duration of one week. The lessons were conducted daily for 45 minutes before recess from 10:00-10:45am and after recess from 11:45-12:30pm. The researcher conducted these lessons. The students were withdrawn from their classrooms and lessons were held in a small room away from their classroom setting. This room was familiar to all students and they felt comfortable in this environment. All lessons, including pre and post testing and review session (after lesson five) were audio taped in order to monitor each student's progress and for collation of data and detail.

A review session after lesson five was conducted to monitor the progress of the Intervention Group. This was held at 12:30pm.
The Intervention Group only was administered the following tests during the Review Session:

## REVIEW SESSION

- TORCH Test - "Lizard Loves Eggs"
- Five Self Efficacy questions as per Pre test.

At the end of the ten teaching lessons all students in both Intervention and Control Groups were involved in post testing one week later.

All students (both in the Intervention and Control Group) were administered the following tests during Post Testing:

## POST TEST

- Munro Listening Comprehension (adapted)
- TORCH Test - "Grasshoppers" - Seen Text \& "At the Zoo" - Unseen Text
- Five Self Efficacy Questions developed by the researcher
- Spontaneous Oral Retell using PM Benchmarking Kit 2 Book - "A Miller, his Son and their Donkey" Level 23

Comparative Data was collected during pre and post testing for all Students. Anecdotal notes were made during all lessons about the student's achievements during the Intensive teaching phase for the Intervention Group (Students A-C). Formal data of a retell of both literal and inferential comprehension was collected during every lesson. Drawings and oral transcripts of what students said during the teaching lessons have been collected but not included in this study. Discussion about these is noted further in this research paper.

## DAILY LESSONS (See Appendix 1 for detailed Lesson Outlines)

## Lesson One \& Two (45 minutes)

## Text - Lesson 1"The Best Runner" - Level 13 (Same Text as Pre Test)

Lesson 2 "Little Hen, Mouse and Rabbit" - Level 14
Group reading - individuals read text aloud to the group
(Lesson 1 use the same text from pre testing one week earlier)
After each page ask students to draw what they have read.
Ask them to draw what will happen next after each page.
Ask students to individually re-tell the story from their pictures to the group.
Ask each student to tell group what they think will happen next and why? (Inferential
Comprehension) This must be asked at every lesson to gauge inferential comprehension and help the student to develop this skill.

Record each student's responses.
Continue this sequence page by page until the story is completed.
Students reflect - What do you do when you read? How do you remember what happens in a story?

## Lesson Three (45 minutes) (Prepare text without pictures for this lesson onwards)

## Text - "Skip Goes to the Rescue" - Level 15

Students recap the story from lesson 2. Include the question what will happen next.
Read new text individually not as a group.
Introduce the RIDER strategy
Read
Imagine - what picture do you make in your head when you read? Close your eyes and imagine.
Describe- What do you see in your mind? What pictures did you make about the story when you closed your eyes?

Evaluate - By re-reading and listening to others - Do our pictures match what we've read? Based on others' description/reflection of the text students go back to reread (if needed), and check to see if their description was accurate. What do you think will happen next in the story?
Read on/Repeat - continue reading and repeat all of the above steps As a group, discuss the steps of the RIDER strategy.
Reread the text stopping after each page to practise the RIDER strategy Individually students tell what they think will happen next and why? (Inferential Comprehension)

## Lesson Four and Five (45 minutes)

## Text - Lesson Four "The Classroom Play" - Level 16 Lesson Five "The Greedy Dog and the Bone" - Level 17

## (Students read individually from this lesson onwards)

Reflect on the stages of the RIDER strategy as a group
Individuals prepare their own cue card with the acronym RIDER and a picture prompt (Lesson four only).

Rehearse the strategy before reading the text. Use new bookmarks as a prompt.
Read new text individually stopping at each page.
Read the passage
Imagine and make a picture/movie in your mind
Describe in words pictures that are in your mind that will help to retell the story
Evaluate - check the story matches your description
Read On/Repeat
Before reading the last page individually students tell what they think will happen next and why? (Inferential Comprehension)

Ask the students individually to rehearse what RIDER means. Ask them to add a physical movement to each of the steps eg: Imagine - close eyes and put finger tips on temples

## MID - SESSION REVIEW

Administer

- TORCH Test - "Lizards Love Eggs" to the Intervention group only
- Self-efficacy reflection -

Do you enjoy reading?
What part of reading do you find difficult? Why?
What do you do when you read?
What are some of the things that help you to work out difficult words?

What are some of the things you do to help you remember what you read?

## Lesson Six (45 minutes)

## Text - "Harvest Mice" - Level 18

Without assistance students use the RIDER strategy bookmark they designed along with the physical movements they have developed as they are reading the text individually. Ask individuals to retell the story - record responses.
Before reading the last page individually students tell what they think will happen next and why? (Inferential Comprehension)

Reflect on how RIDER is helping them - engage in short discussion with the group.
Adapt the stage DESCRIBE. Add the words DRAW, DETAIL
Rehearse the strategy with new addition to it
Read
Imagine
Describe or Draw in Detail
Evaluate
Read on/Repeat

## Lesson Seven - Ten (45 minutes)

## Text - Lesson Seven "The Old Hut in the Forest" - Level 19

Lesson Eight - "Leo the Lion Cub" - Level 20
Lesson Nine - "Kwan the Artist" - Level 21
Lesson Ten - "Trees on our Planet" - Level 22
Rehearse the RIDER strategy with new addition to D step (Lesson Seven only)
Before reading the last page individually students tell what they think will happen next and why? (Inferential Comprehension)
Discuss what students are doing when they are reading now when using RIDER (during lesson ten only)

## Results

After Pre and Post testing with all Students A - F and the ten intensive teaching lessons to the Intervention Group Students A - C were completed some interesting results were observed. In Figure 1 below, the graph shows that all students made improvement in the TORCH test measuring comprehension on the same passage - Grasshoppers. This test was first administered one week before the formal teaching and then again three weeks later. During the Pre Testing phase Student B, C \& F did not attempt to fill all of the gaps. Student B \& C were deemed to be feeling under pressure and anxious about the testing that was reported by their classroom at the conclusion. Student B failed to attempt four of the 19 answers, Student C failed to attempt 11 of the 19 answers and Student $F$ failed to attempt one. The results show that whilst all students made gains Students B \& C made the most significant. Student B made gains of $26 \%$ on the post test and Student C increased by $73 \%$ approximately four times greater than the initial attempt. Student A improved by the smallest margin of 5\%. It was encouraging that all Students were able to answer all questions the second time. (See Appendix 2 for Raw Score and Percentile Rank of all Students TORCH results relating to Figure 1, 2 and 3.)

## FIGURE 1



Figure 2 shows the Intervention group Students A - C achieved remarkable results from the Pre to Post testing. This graph shows the results of Unseen Text using TORCH to measure gains in comprehension of text. Students A \& B made small gains of $9 \%$ and $2 \%$ respectively however Student C who failed to attempt more than half of the answers in the Pre test increased by $39 \%$ and all answers were completed. All Students in the Post Test attempted to answer all parts. The Control Group Students D - F all performed more poorly on the Post Test with Student F showing the greatest decline of $27 \%$.
FIGURE 2


Figure 3 below highlights the individual gains made by the Intervention Students A-C. Student A increased by $8 \%$ from the Pre to Post testing using TORCH. Interestingly whilst gains were small she improved gradually from the Review Session test to the Post Test showing a tiny growth in comprehension of text. Student B's results see-sawed showing little progress over the three week period. Student C made significant gains from the beginning and although sight unseen text in the post test caused a drop in results from seen text in the post testing she was able to complete all parts without the feeling of anxiety. This supports that Students $A-C$ have improved in their level of comprehension.

FIGURE 3


FIGURE 4


FIGURE 5


Figure 4 and 5 highlight students' progress in both literal and inferential comprehension. Using the Spontaneous and Cued Retelling model Munro, J. (2005). This was administered to all Students in both Pre and Post testing. Figure 4 indicates all students in literal comprehension. The retell enabled the students to articulate their understandings of the prose in detail. All students improved by at least $8 \%$. The greatest gains are both Students B \& C who made significant improvement in detailed retelling at the literal level. At the inferential level improvements were noted by Students B, C, D \& F. Students B \& C were able to retell $25 \%$ at this level than Students D \& F. Student A \& E did not make any improvements at this level. (See Appendix 3 for data related to Figure 4 \& 5)


Figure 6 shows all students' results in the Munro Listening Comprehension as an adapted Spontaneous retell immediately after reading and five minutes later. This was used to indicate the number of ideas and events that students were able to retell in sequence and to articulate these demonstrating the level of understanding they had. Students A, B, C \& E results show that they were able to retell more in detail immediately after reading the text. Students D \& F were more detailed in the delayed retelling and interestingly all students with the exception of Student B have either improved or declined by $10 \%$ in the retelling after five minutes. (See Appendix 4 for data for Figure $6 \& 7$ )

FIGURE 7


Figure 7 shows similar trends that students B, C, \& D made 10\% gains in retelling after five minutes. Student F retold 10\% less than immediately after and Student A made gains of $5 \%$ in the delayed retelling.

See Appendix for a detailed account of what events students were able to recall and the raw scores for each of them.

Student B made the most significant gains overall in the Spontaneous Retell adapted from the Munro Listening Comprehension as seen in Figure 6 \& 7. In the pre test results (Figure 6) Student B could only recall $25 \%$ of the events in total and in the delayed retelling recalled even less. In the post test (Figure 7) the initial recall had improved by $45 \%$ from the pre test and another $60 \%$ in the delayed retelling. Student $F$ showed similar trends in reverse. The gains made by Student $F$ in the initial retelling doubled from Pre testing to Post testing but the delayed retelling decreased by 15\%. Interestingly the number of events Students A-C collectively recalled from pre to post in the initial retell matched the gains of Students D - F yet Students A - C collectively were able to recall $80 \%$ more of the events in the delayed retell of five minutes whereas Students $D-F$ collectively increased by $30 \%$ only.

FIGURE 8


Figure 8 shows Student A's individual performance across the ten intensive teaching lessons. She displayed significant difficulties in inferential comprehension and in most sessions there was no real indication that she had developed an understanding of the text at the deeper level in order to make inferences. Her literal comprehension results no pattern of improvement and this could be due to the lack of experiences that she has and her ESL background. From the beginning as the sessions became more intense, the text increased in length and was not supported by pictures, Student A found the task of retelling more difficult. She would often employ the RIDER strategy when reading silently and yet when it came to recalling ideas in detail she would often identify the beginning events, some of the end and then make the rest up. She stated several times ..."this happened next and this is what I made up." During these times she had to be refocused
and the steps of the RIDER strategy were reinforced. Overall her mean score across the nine lessons for retelling of literal comprehension was $32 \%$. Her ability to use the text to make predictions and infer what would happen next was significantly less at $6 \%$. Collectively she made $25 \%$ gains in literal comprehension however was in deficit in inferential comprehension. (See Appendix 5 for data related to Figure 8, 9 \& 10 and samples of detailed retelling)

FIGURE 9


Figure 9 supports that Student B made significant improvement in both literal and inferential comprehension. At the beginning he was unenthusiastic and lacked the ability to focus yet by the end his detailed retelling and ability to recall a high number of events and make inferences from the reading had a major impact on his results. His mean score across the nine lessons was $46 \%$ for the literal comprehension and $30 \%$ for his inferential comprehension. Interestingly however across the nine lessons he made gains of only $25 \%$ from the first to last lesson in literal comprehension. The teaching of the RIDER strategy to support visualization for this student had an influence on his understanding of the text and his ability to develop these understandings in order to comprehend at both the literal and inferential levels. His self efficacy increased and he stated that "the RIDER strategy helped him to make mental pictures in his mind about the story and what he was reading rather that thinking about his friends and other things" that led to distraction and disjoint construction of the text. His memory recall increased and the number of ideas he retained had a direct impact on his improvement in comprehension. His mother remarked that she too had noted an improvement and new-found enthusiasm for reading since working in this intensive group.


Student C like Student B made significant improvement in inferential comprehension and refined her literal comprehension skills. Her low self efficacy, feeling of failure and anxiety when asked to read or attempt unfamiliar reading tasks was transformed during the ten intensive teaching lessons. Results above support this. Student C achieved a mean score of $54 \%$ across the nine teaching lessons for literal comprehension and $32 \%$ for inferential. Although greater gains were made with inferential comprehension she was able to really recall events and ideas and use the text at the literal level to support her inferential ideas. She made comments that supported her development in this area. Her self efficacy improved significantly and her success on the TORCH test was undoubtedly due to her new found confidence in her ability to process text. She remarked that she, "feels good about reading now because before I guessed but it wouldn’t be right. Now I guess and because of RIDER I have a picture in my head and it helps me to know what the story is about." Through the explicit teaching of the RIDER strategy she was able to make mental pictures in her mind and more confidently make sense of what she was reading.

## DISCUSSION:

The aims of the study were to discover whether explicitly teaching visualization using the RIDER strategy to Year Three students who demonstrate poor comprehension skills and exhibit difficulties in learning to read would improve in both literal and inferential comprehension.

The overall trend of the research proved that whilst all students demonstrated improvement in their ability to comprehend text more meaningfully and make connections $66 \%$ of students who were participants in the intervention group made significant gains in both literal and inferential comprehension. Their ability to recall and retell events in greater detail was supported by the gains they made throughout the intensive teaching lessons during the time of the research. Their self efficacy developed and they approached reading with an enhanced enthusiasm. Therefore the performance of Students $B$ \& $C$ who received the intervention strongly supported the hypothesis. Student A also made progress but the gains were not as significant.

Whilst the study proved to be successful, there were some confounding variables that have some impact on the study.

One confounding variable as to why all students did not achieve the same level of success could be attributed to the intensive nature of the lessons, two lessons of 45 minutes per day for a period of one week. This may have been information overload and not enough opportunity to practise the strategy.

Another confounding variable is the argument of ESL versus non ESL. That is, even though Student A was assessed at the same level as all other students in the study during the pretest, her prior knowledge in making links to text and her ability to use this knowledge to construct meaning using images was notably limited in comparison to others in the group. She often found the content difficult even though the texts were of an instructional level for Year Two students and considered to be accurate for this research. Hibbing and Rankin-Erickson (2003) support the idea that students who have inadequate experiences or who have limited vocabulary networks, thus lacking understanding of text, may be unable to develop mental images.

A third confounding variable could be the use of the text without pictures. After lesson two, the books were presented simply as text. The students were required to read through each page unsupported with pictures. Once again this may have impacted on the ability to visualize as the lack of prior knowledge would have been assisted with a picture to establish meaning through illustrations. Danko (1992) noted that when pictures were not included it proved difficult for the students who were of ESL background as they had limited vocabulary and found understanding of key words a problem.

Overall the researcher believes that the study observed that students who were given extra tuition to develop skills of visualization demonstrated their ability to transfer this knowledge and it was apparent they made greater progress than those who were not given this intensive teaching. Students were able to make images in their minds using the RIDER strategy to improve both literal and inferential comprehension. Interestingly when the RIDER model was adapted in Lesson Six, (where Draw in Detail was added to Describe step), the results supported a gain in literal comprehension and retelling of ideas in considerably more detail. (See Figures 8, 9, 10).

The TORCH test results as seen in Appendix 4 highlight the increase in percentile rank of all students. The intervention group showed much higher progression in percentile rank from pre testing to sight unseen post testing. The researcher believes this is largely due to the effective teaching of the use of visualization to improve comprehension and the success of small focus teaching groups. Johnson-Glenberg (2000) questioned whether teaching any strategy to small groups would assist them in becoming more proficient in the skills taught rather than a whole class. The findings were undoubtedly confirmed. The research developed by Johnson-Glenberg (2000) confirmed that small teaching groups demonstrated far superior improvement than that of the control group in the study.

Within this study, whilst the verbal rehearsal of the strategy was not apparent in the hypothesis, during the intervention lessons, it was important that all students rehearsed the steps of RIDER using actions and the visual cues to commit the process to memory. Bell's (1986) program of visualizing and verbalizing suggests that these two strategies go hand in hand and with careful consideration of both of these strategies working concurrently; it is possible to develop more complex skills. Making mental images and rehearsing these in as much detail as possible will lead to significant improvement in literal and inferential comprehension.

The findings therefore support the prediction that teaching students to make images in their head to develop visualization skills using the RIDER strategy will lead to improvement in both literal and inferential comprehension. It confirms that students with learning difficulties can be taught a strategy to enhance their performance which in turn enables them to use this automatically. Whilst this is not the only strategy that these students required to assist them in becoming proficient in comprehension, it developed their ability to learn a thought process that is entrenched in their minds and they have achieved success.

Implications for this study for further teaching would be to include the explicit instruction of the strategy of visualization using RIDER to small groups within the classroom setting. The same level of intervention should be delivered to the control group to map whether the level of success seen in this study where students developed their literal and inferential comprehension skills with the use of the RIDER strategy, is an accurate assumption that all students would benefit from this type of intervention. Students within the Year level should then be exposed to the strategy using small focused teaching groups within their classroom setting. This in turn may confirm that students who are given the opportunity to practice a new skill will improve. It highlights that small group teaching would benefit those students who perform at below the expected level.

Further study would be to investigate whether presenting the same teaching sequence to students who have severe learning difficulties or are from non English speaking background by modifying the amount of text they read, has an impact on their performance. That is, instead of reading to the end of a page, only read a sentence and then Imagine and Describe. Another investigation would be to present other strategies such as paraphrasing and questioning and what implications this has on further developing the comprehension skills.

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## APPENDICES

## Appendix 1

Teaching Lessons

## Lesson 1 Outline - Lesson 1

| Before <br> Reading | Ask Students what they think the story is about from the front cover and <br> why they think this |
| :--- | :--- |
| During <br> Reading | Read the story "The Best Runner" PM Benchmark Kit 2 Level 13 as a <br> group <br> Note reading behaviours of each student. |
| After <br> Reading | Ask Students to think about the story and draw a picture of what happened <br> in the story. (Literal Comprehension) <br> Ask them to also draw a picture of what will happen next in the story. <br> (Inferential) <br> When Students have finished their illustrations ask them to retell the story <br> and what they have drawn. <br> Ask students comprehension questions taken from the story. <br> Reflect on what they do as readers and how they remember the story? <br> (Individuals share their reflection) <br> Record answers for data analysis. <br> Briefly outline Lesson Two |

## Session outline - Lesson 2

| Before <br> Reading | Reflect on previous session - what story did we read? What happened in <br> the story? What happened next? <br> Give Students <br> a copy of the new story - ask them not to open the story Ask Students <br> what they think the story is about from the front cover and why they think <br> this. |
| :--- | :--- |
| During <br> Reading | Read a new story "Little Hen, Mouse and Rabbit" PM Benchmark Kit 2 <br> Level 14 as a group. Stop at the end of page 10. <br> Ask Students to draw what has happened in the story so far (Literal) |
| After <br> Reading | Ask Students to think about the story and draw a picture of what happened <br> in the story. (Literal Comprehension) <br> Ask them to also draw a picture of what will happen next in the story. <br> (Inferential Comprehension) <br> When Students have finished their illustrations ask them to retell the story <br> and what they have drawn. <br> Ask students comprehension questions taken from the story. <br> Record answers for data analysis. <br> Reflect on what they do as readers and how they remember the story? <br> (Individuals share their reflection) <br> Briefly outline Lesson Three |

## Session Outline - Lesson 3

| Before <br> Reading | Reflect on previous session. Recall details of the story read. <br> Give students new book. Ask Students what they think the story is about <br> from looking at the cover. <br> Read the story "Skip Goes to the Rescue" PM Benchmark Kit 2 Level 15 <br> individually stopping at the end page 10. |
| :--- | :--- |
| During <br> Reading | Ask Students to retell what is happening in detail. What do you think will <br> happen next? Individually retell to the group. <br> Introduce RIDER - THIS MUST BE MODELLED |
| Ask students to think about what they have been doing in the past two <br> lessons. Elicit discussion that enables them to verbalize that we have <br> been reading and retelling the story and thinking about what will happen <br> next as we are reading <br> Explain the steps of RIDER and go through the questions and process of <br> the strategy. |  |
| READ <br> IMAGINE - Close your eyes. <br> Make a picture in your head about the story so far. <br> Think about the story again...what detail have you added to your picture? <br> DESCRIBE - What is the picture in your mind - retell. <br> EVALUATE - Listen to others retelling and recheck the text to see if you <br> need to make adjustments to your picture. If so retell the detail added. <br> READ ON/REPEAT - if you are happy with the picture you now have - <br> read on. <br> When reading, Think about what is going to happen next. |  |
| After |  |
| Reading | Ask Students to retell what happened in the story from the picture in their <br> mind - when they Imagined. (Literal Comprehension) <br> Ask them what they think will happen next in the story. (Inferential) <br> Ask students comprehension questions taken from the story. <br> Record answers for data analysis. <br> Revisit what RIDER stands for and what the steps are. <br> Briefly outline Lesson Four |
| Ask children to repeat verbally the steps of RIDER. |  |

## Session Outline - Lesson 4 \& 5

| Before Reading | Reflect on previous session. Recall details of the story read previously. <br> Rehearse what the strategy RIDER is. Students discuss each step reflecting on what they have to do. <br> Give students a cue card to use as a prompt. Students draw pictures as a visual cue for each letter of the strategy. Keep this card beside them to prompt them to think through each step. <br> Give students new text - prepare book as text only without supporting pictures. <br> Ask the students to read the first paragraph and predict what the story is about. What would be a good title for the book from your reading? <br> Ask the students to verbalize what pictures are in their mind. <br> Begin reading the story. <br> "The Classroom Play" PM Benchmark Kit 2 Level 16 (Lesson 4) - (Stop at the end of page 11) <br> "The Greedy Dog and the Bone" PM Benchmark Kit 2 Level 17 (Lesson 5) (Stop at the end of page 9) |
| :---: | :---: |
| During Reading | Remind the students to use the RIDER strategy when they are reading. Use their prompt card for guidance. <br> Stop at the end of the set pages. <br> Ask Students to retell what is happening in detail. What do you think will happen next? Individually retell to the group. <br> Repeat the steps of RIDER <br> Ask them to focus further on their images. Recheck through the story so far and add more detail if necessary. <br> Continue reading to the end of the book. Prompt students to think about what is going to happen next as they are reading. |
| After Reading | Ask Students to retell what happened in the story from the picture in their mind - when they Imagined. (Literal Comprehension) <br> Ask them what they think will happen next in the story. (Inferential) Students write their responses. <br> Revisit what RIDER stands for and what the steps are. Use cue cards Briefly outline Lesson Six |

At the end of Lesson Five conduct a mid session review to establish the progress of each student. .

## Session Outline - Lesson 6

| Before |  |
| :--- | :--- |
| Reading | Reflect on previous session. Recall details of the story read previously. <br> Rehearse what the strategy RIDER is and introduce actions to go with the <br> words to reinforce this strategy. Students discuss each step reflecting on <br> what they have to do. Give students their cue card to keep with them to use. <br> Give students new text - prepare book as text only without supporting <br> pictures. <br> Ask the students to read the first paragraph and predict what the story is <br> about. What would be a good title for the book from your reading? <br> Ask the students to verbalize what pictures are in their mind. |
| Begin reading the story. <br> "Harvest Mice" PM Benchmark Kit 2 stop at the end of page 7 |  |
| During | Remind the students to use the RIDER strategy when they are reading. Use <br> their prompt card for guidance. |
| Stop at the end of the set pages. |  |
| Ask Students to retell what is happening in detail. What do you think will <br> happen next? Individually retell to the group. |  |
| Because this is a non fiction text, discuss any words that are difficult to <br> understand and as a group find the meaning for these words. |  |
| Repeat the steps of RIDER |  |
| Add another dimension to the Describe part of the strategy. Ask students to |  |
| add Describe or Draw in Detail to prompt them to remember to retain as much |  |
| detail as possible when reading and visualizing. |  |
| Reading | Ask Students to retell what happened in the story from the picture in their <br> mind - when they Imagined. (Literal Comprehension) <br> Ask them what they think will happen next in the story. (Inferential) <br> Students write their response. <br> Revisit what RIDER stands for and what the steps are. Use cue cards and <br> actions and add to the cue card Draw in Detail. Tell students that from the <br> next session there will be no prompts given. They are to use their cue cards <br> for support. <br> Briefly outline Lesson Seven further on their images. Recheck through the story so far <br> and add more detail if necessary. <br> is going to happen the end of the book. Prompt students to think about what |

## Session Outline - Lesson 7-10

| Before <br> Reading | Reflect on previous session. Recall details of the story read previously. <br> Give students their cue card to keep with them to use. <br> Give students new text - prepare book as text only without supporting <br> pictures. <br> Begin reading the story. <br> "The Old Hut in the Forest" - PM Benchmark Kit 2 Level 19 - Lesson 7 <br> "Leo the Lion Cub" - PM Benchmark Kit 2 Level 20-Lesson 8 <br> "Kwan the Artist "- PM Benchmark Kit 2 Level 21 - Lesson 9 <br> "Trees on our Planet" - PM Benchmark Kit 2 Level 22 - Lesson 10 |
| :--- | :--- |
| During <br> Reading | Read though to the end of the page. <br> Ask Students to retell what is happening in detail. What do you think will <br> happen next? Individually retell to the group. |
| Continue reading to the end of the book. Prompt students to think about what <br> is going to happen next as they are reading. |  |
| After <br> Reading | Ask Students to retell what happened in the story (Literal Comprehension) <br> Ask them what they think will happen next in the story. (Inferential) <br> Students write their responses. <br> Briefly outline the next lesson. |

## Appendix 2

TORCH - Test of Reading Comprehension Second Edition
Raw Score \& Percentile Rank of Students A - F for Performances on Pre \& Post
Tests and Review Session (Intervention Group Only)

| Student | Pre Test <br> Unseen <br> Grasshop <br> pers <br> Raw Score <br> out of 19 | Percentile <br> Rank <br> $\%$ | Review <br> Session <br> Lizards <br> Love Eggs <br> Raw Score <br> Out of 20 | Percentile <br> Rank <br> $\%$ | Post Test <br> Seen <br> Grasshop <br> pers <br> Raw Score <br> out of 19 | Percentile <br> Rank <br> $\%$ | Post Test <br> Unseen <br> At the Zoo <br> Raw Score <br> out of 20 | Percentile <br> Rank <br> $\%$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | 3 | 5 | 3 | 9 | 4 | 5 | 5 | 24 |
| B | 10 | 33 | 6 | 22 | 15 | 65 | 11 | 58 |
| C | 3 | 5 | 6 | 22 | 17 | 81 | 11 | 58 |
| D | 10 | 33 | - | - | 13 | 51 | 8 | 40 |
| E | 7 | 19 | - | - | 10 | 33 | 5 | 24 |
| F | 9 | 28 | - | - | 11 | 38 | 4 | 19 |

## Appendix 3

## PM Benchmark Kit 2 Spontaneous Oral Retell

Literal \& Inferential Retell Pre \& Post Test - Intervention (A-C) \& Control Group (D-F)

|  | The Best Runner -13 <br> PRE TEST |  | The Miller, His Son and their Donkey -23 <br> POST TEST |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Literal <br> Score out of 12 | Inferential <br> Score out of 3 | Literal <br> Score out of 14 | Inferential <br> Score out of 4 |
| A | 3 | 0 | 5 | 0 |
| B | 5 | 0 | 12 | 2 |
| C | 4 | 0 | 10 | 2 |
| D | 5 | 0 | 7 | 1 |
| E | 3 | 0 | 6 | 0 |
| F | 5 | 0 | 8 | 1 |

## Appendix 4

Spontaneous Oral Retell adapted from Munro Listening Comprehension

| Student | Pre Test - <br> Immediate Retell <br> Raw Score out of 20 | Pre Test - <br> Five Minutes Later <br> Raw Score out of 20 | Post Test - <br> Immediate Retell <br> Raw Score out of 20 | Post Test - <br> Five Minutes Later <br> Raw Score out of 20 |
| :---: | :---: | :---: | :---: | :---: |
| A | 11 | 9 | 9 | 10 |
| B | 2 | 5 | 12 | 14 |
| C | 11 | 9 | 10 | 12 |
| D | 6 | 8 | 9 | 11 |
| E | 10 | 9 | 8 | 9 |
| F | 7 | 9 | 14 | 12 |

## Appendix 4

| ADAPTED MUNRO LISTENING COMPREHENSION <br> PRE TEST | Intervention (A-C) \& Control (E-F) Groups of Year Three Students |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SPONTANEOUS RETELL IMMEDIATELY AFTER READING | A | B | C | D | E | F |
| Jane | $\checkmark$ |  | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| at school |  |  |  |  |  |  |
| went out | $\checkmark$ |  | $\checkmark$ |  | $\checkmark$ |  |
| sit | $\checkmark$ |  | $\checkmark$ |  |  |  |
| on seats | $\checkmark$ |  | $\checkmark$ |  |  |  |
| lunch |  |  |  | $\checkmark$ | $\checkmark$ |  |
| opened lunch-box |  |  |  |  | $\checkmark$ |  |
| fell over | $\checkmark$ |  | $\checkmark$ |  | $\checkmark$ | $\checkmark$ |
| lunch on ground | $\checkmark$ |  |  | $\checkmark$ |  |  |
| sandwiches |  |  | $\checkmark$ |  |  | $\checkmark$ |
| dirt | $\checkmark$ |  | $\checkmark$ |  | $\checkmark$ |  |
| told friend |  | $\checkmark$ |  | $\checkmark$ |  |  |
| Susan | $\checkmark$ |  | $\checkmark$ |  | $\checkmark$ | $\checkmark$ |
| Susan took sandwich from her lunch-box |  |  |  |  |  |  |
| shared it with Jane | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| after lunch |  |  |  |  |  |  |
| Jane and Susan |  |  |  |  |  |  |
| went into playground | $\checkmark$ |  | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| had a good time |  |  |  |  |  |  |
| playing chasey | $\checkmark$ |  | $\checkmark$ |  | $\checkmark$ | $\checkmark$ |
|  | 11 | 2 | 11 | 6 | 10 | 7 |


| ADAPTED MUNRO LISTENING COMPREHENSIONPRE TESTSPONTANEOUS RETELL FIVE MINUTES AFTER READING | Intervention (A-C) \& Control (E-F) Groups of Year Three Students |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | B | C | D | E | F |
| Jane | $\checkmark$ |  | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |
| at school |  |  |  |  |  | $\checkmark$ |
| went out | $\checkmark$ |  | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |
| sit |  |  |  |  |  | $\checkmark$ |
| on seats | $\checkmark$ |  | $\checkmark$ |  |  |  |
| lunch |  |  |  | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| opened lunch-box |  |  |  |  |  |  |
| fell over |  |  |  |  |  | $\checkmark$ |
| lunch on ground | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  | $\checkmark$ |
| sandwiches |  | $\checkmark$ |  |  |  |  |
| dirt | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| told friend | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |
| Susan | $\checkmark$ |  | $\checkmark$ |  | $\checkmark$ | $\checkmark$ |
| Susan took sandwich from her lunch-box |  |  |  | $\checkmark$ |  |  |
| shared it with Jane |  | $\checkmark$ |  | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| after lunch |  |  |  |  |  |  |
| Jane and Susan |  |  |  |  |  |  |
| went into playground | $\checkmark$ |  | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |
| had a good time |  |  |  |  |  |  |
| playing chasey | $\checkmark$ |  | $\checkmark$ |  | $\checkmark$ | $\checkmark$ |
|  | 9 | 5 | 9 | 8 | 9 | 9 |

## Appendix 4

| ADAPTED MUNRO LISTENING COMPREHENSIONPOST TESTSPONTANEOUS RETELL IMMEDIATELY AFTER READING | Intervention (A-C) \& Control (E-F) Groups of Year Three Students |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | B | C | D | E | F |
| Jane | $\checkmark$ | $\checkmark$ |  | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| at school |  |  |  |  |  |  |
| went out |  | $\checkmark$ | $\checkmark$ |  | $\checkmark$ |  |
| sit |  |  |  |  |  | $\checkmark$ |
| on seats |  | $\checkmark$ |  |  |  | $\checkmark$ |
| lunch |  |  |  | $\checkmark$ | $\checkmark$ |  |
| opened lunch-box |  | $\checkmark$ | $\checkmark$ | $\checkmark$ |  | $\checkmark$ |
| fell over |  | $\checkmark$ | $\checkmark$ |  | $\checkmark$ | $\checkmark$ |
| lunch on ground | $\checkmark$ |  |  | $\checkmark$ |  | $\checkmark$ |
| sandwiches |  | $\checkmark$ |  | $\checkmark$ |  | $\checkmark$ |
| dirt |  |  |  |  | $\checkmark$ | $\checkmark$ |
| told friend | $\checkmark$ |  | $\checkmark$ |  | $\checkmark$ |  |
| Susan | $\checkmark$ | $\checkmark$ |  | $\checkmark$ |  |  |
| Susan took sandwich from her lunch-box | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  | $\checkmark$ |
| shared it with Jane | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| after lunch |  |  | $\checkmark$ |  |  | $\checkmark$ |
| Jane and Susan |  |  |  |  |  | $\checkmark$ |
| went into playground | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  | $\checkmark$ |
| had a good time | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  |
| playing chasey | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
|  | 9 | 12 | 10 | 9 | 8 | 14 |


| ADAPTED MUNRO LISTENING COMPREHENSIONPOST TESTSPONTANEOUS RETELL FIVE MINUTES AFTER READING | Intervention (A-C) \& Control (E-F) Groups of Year Three Students |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | A | B | C | D | E | F |
| Jane | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| at school |  |  |  |  |  |  |
| went out |  | $\checkmark$ | $\checkmark$ |  | $\checkmark$ | $\checkmark$ |
| sit |  | $\checkmark$ |  |  |  |  |
| on seats |  | $\checkmark$ |  |  |  |  |
| lunch | $\checkmark$ |  |  | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| opened lunch-box |  | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  |
| fell over | $\checkmark$ | $\checkmark$ | $\checkmark$ |  | $\checkmark$ | $\checkmark$ |
| lunch on ground |  |  |  | $\checkmark$ |  | $\checkmark$ |
| sandwiches | $\checkmark$ | $\checkmark$ |  | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| dirt |  | $\checkmark$ | $\checkmark$ |  | $\checkmark$ | $\checkmark$ |
| told friend |  |  | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |
| Susan | $\checkmark$ | $\checkmark$ |  |  |  | $\checkmark$ |
| Susan took sandwich from her lunch-box | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  |
| shared it with Jane | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  | $\checkmark$ |
| after lunch |  |  | $\checkmark$ |  | $\checkmark$ |  |
| Jane and Susan |  |  |  |  |  | $\checkmark$ |
| went into playground | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  | $\checkmark$ |
| had a good time | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |  |  |
| playing chasey | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ | $\checkmark$ |
|  | 10 | 14 | 12 | 11 | 9 | 12 |

## Appendix 5

Literal \& Inferential Retell Intervention Group Students (A - C) - LESSONS 2-10

| PM Benchmark Kit 2 Texts | Student A |  | Student B |  | Student C |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Literal | Inferential | Literal | Inferential | Literal | Inferential |
| Little Hen, Mouse and Rabbit -14 | $8 / 17$ | $1 / 4$ | $6 / 17$ | $1 / 4$ | $10 / 17$ | $1 / 4$ |
| Skip Goes to the Rescue - 15 | $4 / 12$ | $0 / 4$ | $7 / 12$ | $1 / 4$ | $8 / 12$ | $2 / 4$ |
| The Classroom Play - 16 | $6 / 14$ | $0 / 4$ | $6 / 14$ | $0 / 4$ | $9 / 14$ | $1 / 4$ |
| The Greedy Dog - 17 | $4 / 15$ | $0 / 6$ | $6 / 15$ | $0 / 6$ | $6 / 16$ | $1 / 6$ |
| Harvest Mice - 18 | $2 / 12$ | $0 / 3$ | $3 / 12$ | $0 / 3$ | $3 / 12$ | $0 / 3$ |
| The Old Hut in the Forest -19 | $5 / 15$ | $0 / 3$ | $7 / 15$ | $1 / 3$ | $8 / 15$ | $1 / 3$ |
| Leo the Lion Cub -20 | $3 / 16$ | $0 / 6$ | $7 / 16$ | $4 / 6$ | $7 / 16$ | $1 / 6$ |
| Kwan the Artist -21 | $4 / 12$ | $0 / 3$ | $9 / 12$ | $2 / 3$ | $9 / 12$ | $2 / 3$ |
| Trees on our Planet - 22 | $5 / 15$ | $2 / 6$ | $8 / 15$ | $3 / 6$ | $9 / 15$ | $3 / 6$ |

## Appendix 5 (continued)

SPONTANEOUS ORAL RETELL - PRE TEST- THE BEST RUNNER

| Characteristic <br> of retelling | Level 13 -The Best Runner | No of <br> ideas | $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{C}$ |
| :---: | :--- | :---: | :---: | :---: | :---: |
| main <br> characters | Mrs Green, the Class, Rachel, Anna, James - James \& Anna | $\mathbf{5}$ | $\mathbf{3}$ | $\mathbf{2}$ | $\mathbf{2}$ |
| theme of <br> story | Who was the best runner in the class | $\mathbf{1}$ |  | $\mathbf{1}$ | $\mathbf{1}$ |
| plot of the <br> story | Mrs Green gives the class the challenge of running around the park | $\mathbf{1}$ |  | $\mathbf{1}$ |  |
| THEMES \& CHARACTERS Total Identified | $\mathbf{7}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{3}$ |  |
| events of the <br> story | Anna suggests where they should run to <br> Rachel wants to be first <br> Anna and Rachel are good runners and are winning <br> Anna calls out to Rachel that James is coming <br> James is a good runner and he comes first. <br> Rachel congratulates James but she's not happy because she wanted <br> to be first. <br> Rachel asks Mrs Green if they can go for a longer run <br> Mrs Green says they can go all around the park <br> One boy falls over so Rachel runs slowly so that she doesn't fall <br> over too at the start <br> Rachel runs fast and is ahead of James and Anna but cannot slow <br> down because they are close <br> Rachel wins <br> James tells Rachel that she is fast and she is the best runner. | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ |
| $\mathbf{y}$ | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ |

## COMPREHENSION QUESTIONS PROVIDED IN THE ASSESSMENT RECORD

| The Best Runner - Comprehension Questions | A | B | C |
| :--- | :---: | :---: | :---: |
| Where did Mrs Green take her class (L) | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Who was the best runner when the children ran to <br> the swings and back? (L) | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| What happened to a boy just as they started to run <br> around the park? |  |  |  |
| Why do you think Rachel wanted to run a much <br> longer race? (I) |  |  |  |
|  | $75 \%$ | $75 \%$ | $100 \%$ |

## Appendix 5 (continued)

SPONTANEOUS ORAL RETELL - LESSON 4 - THE CLASSROOM PLAY

| Characteristic <br> of retelling | Level 16 - The Classroom Play | No of <br> ideas | $\mathbf{A}$ | $\mathbf{B}$ |
| :--- | :--- | :---: | :---: | :---: |
| main <br> characters | Miss Hill, Emma, Matthew, Sam, The Class | $\mathbf{C}$ |  |  |
| theme of <br> story | Little Red Riding Hood Play, the selection of parts \& the performance | $\mathbf{5}$ | $\mathbf{4}$ | $\mathbf{5}$ |
| plot of the <br> story | Miss Hill picks Sam for the Big Bad Wolf but Matthew wanted it. <br> Matthew practices with his sister and ends up in the role the next day | $\mathbf{5}$ |  |  |
| THEMES \& CHARACTERS Total Identified | $\mathbf{1}$ | $\mathbf{1}$ |  |  |
| events of the <br> story | Miss Hill gives Emma the part of Little Red Riding Hood <br> Matthew wants to be the Big Bad Wolf |  |  |  |
| Miss Hill picks Sam to be the Big Bad Wolf <br> Matthew is not happy <br> Miss Hill asks the children to take their books home to practice the play for <br> the performance to Room 10 in the morning <br> When Emma and Matthew go home Emma wants Matthew to help her <br> practise | $\mathbf{1 0}$ | $\mathbf{5}$ | $\mathbf{1}$ | $\mathbf{1}$ |
| Matthew is not happy <br> Emma pleads with Matthew to help her <br> Matthew leaves the room <br> Matthew comes back dressed up as Grandma <br> The twins practise together <br> At school the next morning Sam is not there so Miss Hill says the play has <br> to be cancelled <br> Emma says Matthew can be the wolf because he practiced with her last <br> night <br> The play went well and Matthew was a good wolf | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ |

COMPREHENSION QUESTIONS PROVIDED IN THE ASSESSMENT RECORD

| The Classroom Play - Comprehension Questions | A | B | C |
| :--- | :---: | :---: | :---: |
| Who was Emma going to be in the play? (L) | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Who did Matthew want to be in the play? (L) | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Why did Miss Hill say that the children could take <br> their books home? (L) | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Why do you think the children cheered when <br> Matthew chased Emma around the classroom? (I) |  |  | $\checkmark$ |
|  | $75 \%$ | $75 \%$ | $100 \%$ |

Appendix 5 (continued)

SPONTANEOUS ORAL RETELL - LESSON 8 - LEO THE LION CUB

| Characteristic <br> of retelling | Level 20 - Leo the Lion Cub | No of <br> ideas | $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{C}$ |
| :--- | :--- | :---: | :---: | :---: | :---: |
| main <br> characters | Leo, Family -Pride of Lions, Mother, Aunts, Cousins, Hyenas, Lioness, | $\mathbf{7}$ | $\mathbf{2}$ | $\mathbf{4}$ | $\mathbf{6}$ |
| theme of <br> story | Leo has to be brave and learn how to fight and fend for himself | $\mathbf{1}$ | $\mathbf{0}$ | $\mathbf{0}$ | $\mathbf{0}$ |
| plot of the <br> story | Leo's Mother dies and he lives with his large family, his Pride but he is too <br> small to keep up with them and he gets lost. He has to try to find them. | $\mathbf{5}$ | $\mathbf{1}$ | $\mathbf{4}$ | $\mathbf{4}$ |
| THEMES \& CHARACTERS Total Identified | $\mathbf{1 3}$ | $\mathbf{3}$ | $\mathbf{8}$ | $\mathbf{1 0}$ |  |
| events of the <br> story | Leo's family, a pride look after him after his mother dies <br> Leo is the youngest and smallest cub | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ |
|  | Leo's cousins are bigger than him and they knock him around <br> The Pride move to find a new hunting ground <br> Leo is too small to keep up with them <br> Leo cannot keep up and is left behind <br> When night comes he is afraid of all the noises <br> He climbed up a tree to keep out of danger <br> Leo meets a lioness who is fierce <br> Leo rolls on the ground and the lioness walks away <br> Leo gets caught in a heavy storm <br> Leo is hungry because he is too small to hunt and may starve if he doesn't <br> find his family | $\mathbf{1}$ | $\mathbf{1}$ |  | $\mathbf{1}$ |
| Leo hears a familiar roar <br> Even though Leo is tired he runs towards the familiar roar <br> Leo finds his family again <br> Leo sleeps for a long time | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ |  |

COMPREHENSION QUESTIONS PROVIDED IN THE ASSESSMENT RECORD

| Leo the Lion Cub - Comprehension Questions | A | B | C |
| :--- | :---: | :---: | :---: |
| Who took care of Leo and fed him when his mother <br> died? (L) |  | $\checkmark$ |  |
| Leo belonged to a pride of lions. What does this <br> mean? (V) |  | $\checkmark$ | $\checkmark$ |
| Why couldn't Leo keep up with the other lions in his <br> family? | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| Why do you think the lions had to move on to a new <br> hunting ground? |  | $\checkmark$ |  |
|  | $25 \%$ | $100 \%$ | $50 \%$ |

## Appendix 5 (continued)

SPONTANEOUS ORAL RETELL - POST TEST - A Miller, His Son and their Donkey

| Characteristic <br> of retelling | Level 23 - A Miller, His Son and their Donkey | No of <br> ideas | $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{C}$ |
| :--- | :--- | :--- | :--- | :--- | :---: |
| main <br> characters | Miller, Son, Donkey, Woman, Two Men, Traveller, Town People | $\mathbf{8}$ | $\mathbf{2}$ | $\mathbf{7}$ | $\mathbf{3}$ |
| theme of <br> story | Make decisions for yourself | $\mathbf{1}$ | $\mathbf{0}$ | $\mathbf{0}$ | $\mathbf{0}$ |
| plot of the <br> story | A Miller and His Son take their donkey to the market and along the way <br> many people give him all sorts of advice | $\mathbf{2}$ | $\mathbf{0}$ | $\mathbf{2}$ | $\mathbf{2}$ |
| THEMES \& CHARACTERS Total Identified | $\mathbf{1 1}$ | $\mathbf{2}$ | $\mathbf{9}$ | $\mathbf{5}$ |  |
| events of the <br> story | A Miller and His Son take their donkey to sell at the fair <br> They pass a woman who says why walk when you could be riding <br> The Miller puts his Son on the donkey and continues on | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ |
|  | They pass two men who say the boy is lazy and they say the father should <br> be on the donkey <br> The father hops on to the donkey and the son leads <br> Another woman says what a selfish man when the miller is on the donkey <br> The Miller pulls the son up and they both ride <br> The donkey gets tired | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ |
| A traveler says that the donkey is tired and they should tie him up to a pole <br> and carry him <br> The traveler helps them to tie his feet to the pole <br> Lots of people laugh at them as they enter the town <br> The donkey gets frightened and breaks free from the rope <br> The donkey runs away <br> The Miller is upset because he listened to everyone else. | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ | $\mathbf{1}$ |

COMPREHENSION QUESTIONS PROVIDED IN THE ASSESSMENT RECORD

| A Miller, His Son and their Donkey - <br> Comprehension Questions | A | B | C |
| :--- | :---: | :---: | :---: |
| Why was the miller taking his donkey to town? |  | $\checkmark$ | $\checkmark$ |
| Why did one of the men say that the boy was <br> lazy? | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| When did the donkey become exhausted? |  | $\checkmark$ | $\checkmark$ |
| What do you think was the silliest thing that the <br> miller did? |  | $\checkmark$ | $\checkmark$ |
| The miller tried to please everyone he met. <br> Explain why this didn't work. | $25 \%$ | $100 \%$ | $100 \%$ |

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