Teaching 5th and 6th grade, at risk students, visualizing strategies when reading, will improve their comprehension levels in information texts

Abstract

The purpose of the study was to investigate the effects of instruction in mental imagery strategies on 5th and 6th grader's image construction, reading comprehension and self-efficacy levels towards reading.

Many students are able to 'bark at print' (that is have a high level of reading accuracy) and yet are unable to comprehend the text. The problem under investigation relates to the poor levels of comprehension in a group of grade 5 and 6 students compared with their reading accuracy levels.

Research is showing that if students are given direct instruction in visualizing, their comprehension levels improve and their attitude to reading is enhanced. However even though this research indicated that building mental imagery increases a student's comprehension levels, it is not commonly being explicitly taught in our schools.

The main question that prompted the study was whether 5th and 6th graders, who receive explicit instruction in visualizing perform better in their reading comprehension and develop higher self-efficacy levels towards reading.

I worked with a group of five 5th and 6th grade students (3 girls and 2 boys). They were aged 10, 11 and 12. I pre-tested the research and control group and taught 9 lessons to the research group of 5 students. The intervention involved the use of the RIDER Technique which is discussed further in the Introduction section of this paper. I then post-tested the

2 groups. During the course of the lessons I added in the strategy of highlighting key words in the text for 2 students who had difficulty with some of the word meanings. I also allowed the research group to draw the images as they read in a number of sessions as they were having difficulty making and retaining these images. In the last few sessions the students did not draw the images but just kept the mental images in their heads.

The results show that developing this visualizing technique improved the accuracy and comprehension levels in the research students to a higher degree than the control group of students. I found that all of the research group's reading accuracy and comprehension improved and all of the group's Self-Efficacy towards reading improved. It must be noted that all of the research group's reading rate declined too at post-testing and this was due to the fact that all of this group claimed that they read slower so they could improve their comprehension by 'making pictures in their heads' as they read the post-test text.

The control group of student's post-tests results show an improvement in their reading accuracy and reading comprehension and a decrease in their reading rate too but the increases were not as significant as the research group's results. The control group's results in their Self-Efficacy results did not change significantly at all.

Introduction

"THE TASK OF THE TEACHER IS NOT TO PUT KNOWLEDGE WHERE IT DOES NOT EXIST, BUT RATHER TO LEAD THE MIND'S EYE SO THAT IT MIGHT SEE FOR ITSELF" PLATO

What relevance does this quote by Plato have in this study I am involved in? We as teachers of today's learners need to lead our students to use strategies that will help them

learn better, quicker and more thoroughly. We need them to sift through huge amounts of information that bombards them daily and help them to 'pull apart' the text and gain the most amount of knowledge when and where it is needed. We have many students in our schools who can 'bark at print' but cannot comprehend to the same level as their reading accuracy scores. How do we change this? By teaching them explicitly how to comprehend text easily and quickly.

Many students are able to 'bark at print' and yet are unable to comprehend the text. This study attempts to discuss why this is so and how we, as teachers, can alleviate this problem with our readers. Rose, Parks Androes & McMahon (2000) state:

"Reading comprehension, the ability to understand and retain the details, sequence, and meaning from written material, is a basic skill that is one of the critical elements of any primary-level education." (Rose, Parks Androes & McMahon, 2000, p. 1)

It is only with explicit teaching we can assist our students to become better at understanding the text and remembering what they have read. This will lead students to being more confident when they get to a piece of text that 'looks difficult to understand' because they will feel they have some strategies that will help them 'unpack' the text.

Gambrell and Jawitz (1993) investigated the effects of instructions to induce mental imagery and attend to text illustrations on fourth graders' reading comprehension and their subsequent recall of narrative text. They found that making images and illustrations enhanced reading performance and that, in combination, these two strategies resulted in impressive increases in children's comprehension and recall of stories.

Sinatra & Howie (1980) stated that:

"The importance of a visual presentation for writing is that it can instantly portray the theme to be learned and act as a catalyst to elicit words and sentences to help explain that content theme." (Sinatra & Howie,1980, p. 12)

Schauer, *(2005),* developed a two-year research plan to guide some students to use mental imagery, that is, to 'make a movie' in their heads of what they read. She found that they used the opposite side of their brain to 'make a movie' to the side of their brain they used to 'decode' the words of the text . They were all reading at a grade appropriate level but were comprehending at a much lower grade level. So they needed explicit teaching in how to visualise and make mental images. Once they had been taught how to do this they were all retested and all gained many levels in their comprehension assessments. Being taught how to visualise increased their comprehension levels.

Cook, *(*1995), looked at how mental imagery instruction and the effect metacognitive awareness of mental imagery plays on reading comprehension. He looked at a group of middle school students and found that mental imagery had a positive effect upon the reading comprehension of them. The mental imagery instruction was most beneficial for students who were reading at age equivalence and for the students who acquired the metacognitive awareness of mental imagery as a reading comprehension strategy. Mental imagery instruction increased comprehension by increasing visualization of what was being read by the use of pictures formed while reading. He also found that there was an increased interest in reading by a large majority of the participants receiving mental imagery instruction. Why? Because the students felt they were no longer 'scared' of a piece of text anymore as they had a number of strategies to use to 'unpack' the text.

We as teachers therefore need to not only know about mental imagery but we must teach our students explicitly and show them what effects are gained through the use of mental imagery.

In another research study conducted by Knuttgen, (1991), she found that the majority of students who were taught visualisation techniques remembered what they read mainly through stored images rather than through words and they comprehended the text better. This group outscored the control group who were not taught any specific mental imagery techniques prior to post-testing. She goes on to say that large amounts of memory are stored in images, therefore the ability to do problem solving and creative thinking may be highly dependent upon stored images which can be spatially rather than sequentially manipulated in thought.

Metacognition plays a role here in how we learn. Metacognition is important in the learning process as it calls for the appropriate use of mental behavioural tools when learning takes place. Metacognitive knowledge and metacognitive control functions are both important factors in the learning process. Many students use metacognitive knowledge, which can be the direct outcome of certain instructions.

Metacognition is the ability to choose and use appropriate mental tools for learning and behavior. By choosing the appropriate tool it demonstrates that we understand the task, are able to act upon it, make decisions about any changes and plan accordingly. By understanding the processes of how students think and learn, we can encourage ACTIVE and independent learning, which in turn promotes life long learning skills.

Personal insights into cognitive tasks help the learner take a more active role in the learning process. This motivates the student to ask questions, to seek clarification, to

discuss difficulties with peers and teachers when seeking information or understanding. If we have a sound understanding of how students learn or how students think, then we can help them a lot when setting work or when trying to understand why certain students are having particular difficulties with certain aspects of a project.

When teachers provide valuable learning experiences for students, metacognitive knowledge will assist the student to enhance his/her strengths by encouraging the student to explore and experiment.

Metacognitive control functions are vital for learning. Students who perform poorly generally have poorly developed control functions. These are the students who rely heavily on teacher direction/assistance when planning and completing tasks.
Grabe (1998) states:

"By working with these students, the teacher enters a *cognitive apprenticeship* with them. According to the text, this will help these students to comprehend and should lead to the development of their metacognitive control functions." (Grabe, 1998, p. 67)

Grabe (1998) believes that metacogition is the basis for all learning and we must give our students instructions in how to gain information more easily.

Atkin (1998) states that we must constantly be aware of the following questions if we want to stimulate metacognition:

♦ What do you know and what do you want to know?

♦ What's the "big idea"?

♦ What are some of the little ideas?

♦ What can you do now that you could not do before?

- How did you learn that?

- Compare how you learned it with how others learned it?

- What do you understand now that you did not understand before?

- What do you want to know now?

- What will it look like, feel like and sound like when you have finished?

- What questions do you still have?

What a great start to reading comprehension instruction! These are the questions we ask students when reading an unseen piece of text and these are the questions that use student's metacognition to learn new information.

Douville-Ricker, *(1996),* states that the reading instruction we give students should reflect the dynamic, interactive nature of the reading process. We should use viable reading strategies that serve to actively engage the reader with the text when we instruct them. By getting them to think of the previous questions that Atkins (1998) lists we are allowing them to use their thinking skills to decipher and consequently gain comprehension of the text. However, he also says that even though recent research suggests that imaging can be used as an effective reading comprehension strategy, mental imagery does not appear to be a strategy that is explicitly taught in many classrooms. I believe that we are changing that perception in Australian classrooms and we are instructing our students in mental imagery by the use of the RIDER technique.

This use of visualising is a difficult task for many readers. They need help in forming these images and assistance in using these images to increase their comprehension of the text. Manning (2002) commented on this. She says:

"Building mental pictures of settings and characters when reading is something I took for granted when I began teaching reading, however, I find many students must be assisted with this ability." (Manning, 2002, p. 89)

She goes on to discuss the numerous factors that may hinder the development of visualisation. She says that a lack of background knowledge, inattention to punctuation and phrasing and little personal involvement with the text are three reasons why student s find it difficult to visualise. She believes students must slow down while reading so they can activate the pictures in their heads and they must learn, through explicit teaching, that each end punctuation mark should be seen as a time for the reader to stop and develop a picture of what is happening in the text. She continues by stating:

"Passive readers who have little personal involvement need help in becoming involved in the text. Discussions before, during and after reading help these students make a personal connection to the text." (Manning, 2002, p. 90)

So how can we, as teachers, help our students to develop these strategies needed for better understanding and comprehension of the text? We need to help our students build up mental images in their minds about the text they have just read. That is, we need to show them how to visualise the text. We also need them to discuss their mental images so they can clarify any difficulties and also 'build on' their own images by listening to another student's mental images too. The teacher needs to then 'evaluate' all of the students' visualizations and add any information not already discussed. This way the students will be able to 'unpack' the text into smaller chunks and then rebuild those chunks into a true fuller meaning of the whole text.

Using the RIDER Technique was a good option at this time. The RIDER Technique is an acronym, meaning:

R = Read the Text

I = Imagine the Text

D = Discuss the Text

E = Evaluate the Text (Teacher led task)

R = Read Again

Using this method to 'unpack' the text helps the reader gain as much information as possible. It allows them to not only read the text but then make pictures of the text in their minds. Then they are asked to discuss the pictures they have formed in their mind (or have drawn on paper if need be) with a partner. It is advised that the teacher would partner the students in a way that would allow the 'weaker' student, for instance, be asked to tell 3-4 things they remembered about the text and the second student is asked to 'add' 3-4 more things about the text. This way the second student is able to 'scaffold' the conversation adding extra information gained from the text. Then the teacher leads a short discussion so the ideas of each of the sets of partners is collated and evaluated. This input from the teacher draws all the ideas together and again this will add meaning to the text for all the groups. Questioning the group about the text, as Atkins (1998) says will lead to better understanding and matacognition in each of the students. Word meanings and any main ideas are reiterated to the class at this time. Then the groups are asked to reread the text. This time, hopefully, all students will gain a better insight and understanding into the text and therefore gain a better comprehension level from the text.

The hypothesis

This investigation aims to confirm such research and show that by teaching the RIDER technique to students their comprehension will improve and their self -efficacy will also be enhanced.

The hypothesis is:

"Teaching 5th and 6th grade students at risk, visualizing strategies when reading, will improve their comprehension levels in information texts.

Method

Design

The case study uses the OXO method in which the RIDER technique is used to make gains in comprehension levels. The Pre-Assessments were done first, (X), the intervention then took place (O), and the Post Assessments (O) then completed the study. Monitoring during the 10 sessions will be done and changes made if need be to the plans.

The participants

The participants used for this research was a group of 5th and 6th graders. I pre-tested 11 students and then selected 5 students for the study and kept 6 students for the control group. The purpose of the control group was to gauge by comparison whether the explicit teaching led to changes in learning behavior and consequently improved levels of comprehension of the research group. I taught 10 lessons to the study group but did not teach the control group. At the conclusion of the 10 lessons I post-tested the 11 students.

The students selected for the research were eleven 5th and 6th grade students who had performed poorly in their comprehension assessment at the beginning of the school year. It may be noted that all of the research study students' reading accuracy was below their chronological age by at least 12 months. Their comprehension scores signified a gap of at least 24 months behind their chronological age. The reading rate however of each student was above their chronological age. All 5 of the research students did not look back at the text when they were being asked to answer questions about the text. They all read quite quickly and many did not re-read the text if they made an accuracy mistake. The assessments indicated that there were difficulties at the word, sentence, topic and conceptual levels of the text. At the word and sentence level of the text they had difficulty understanding meanings in different types of sentences, difficulty responding to a series of questions about the text and difficulty explaining cause and effect. The students also had difficulty retaining information within the text because their working memories did not allow for more than a small amount of information to be retained. At the conceptual level the students were unable to summarize the text, infer, predict consolidate and review the text well. At the topic level they were unable to pick up on the key ideas of the text and at eh dispositional level they had difficulty responding emotionally to the text.

Participants	Description of Reading Difficulties
Student 1	Read very quickly, skipped over some punctuation and did not self-correct. Did not re-read misread words. Read the initial sounds of words and then guessed final sounds. Answered comprehension questions using misread words. Did not offer answers to most of the questions if unsure of the answer. Did not look back at text to find the answers to questions. Reading accuracy 4 years below chronological age. Comprehension results 5 years below chronological age and reading rate score 2 years above chronological age. Not confident when presented with new text.

Student 2	Accuracy and comprehension excellent in easy reading passages. Read quickly and did not re-read misread words. Used pseudo words for text and did not reread or self-correct 'nonsense' words. Answered comprehension questions with misread words. Did not look back at text to find the answers to questions. Reading accuracy 2 years below chronological age. Comprehension results 2.5 years below chronological age and reading rate score 1 year above chronological age.
Student 3	Accuracy and comprehension excellent in easy reading passages. Read very quickly, skipped over some punctuation and did not self-correct. Did not re-read misread words. Read the initial sounds of words and then guessed final sounds. Looked at text when answering comprehension questions but only in the easier passages Answered comprehension questions with misread words. Reading accuracy 2.8 years below chronological age. Comprehension results 2.9 years below chronological age and reading rate score 2 years above chronological age.
Student 4	Read at approximately chronological age. Did not reread misread words. Used pseudo words for text and did not reread or self-correct 'nonsense' words. Answered comprehension questions with misread words. Looked at text when answering comprehension questions but only in the easier passages Reading accuracy 2.3 years below chronological age. Comprehension results 1.3 years below chronological age and reading rate score .8 years below chronological age.
Student 5	Read at an appropriate rate but reread many passages of text but did not change any of the text even if it was incorrectly read. Did not use 'real' words when reading the text and did not self-correct any of these 'nonsense' words but jut kept reading on. Did not attempt to answer most of the incorrect comprehension questions. Looked at text when answering comprehension questions but only in the easier passages. Reading accuracy 2.7 years below chronological age. Comprehension results 1.5 years below chronological age and reading rate score at chronological age.

The materials

The formal assessment measures used for data collection were:

➢ the Neale Analysis of Reading Ability (Neale, 1998). This assessed the students' reading accuracy, reading comprehension and reading rate to determine their reading age compared to their chronological age.

➢ the Reading Self Efficacy Test (Munro 2002). This assessed the students' attitude toward reading

➢ nine commercial and non-commercial information text passages

➢ highlighters, pencils, whiteboard, paper

➢ information charts describing the RIDER technique. (One for each student to take with them and use during the lessons)

➢ a teacher journal to note progress over the ten sessions

Procedure

All 11 participants were individually administered the two above mentioned tests. Results are shown in the "Results" section of this paper. For the ten lessons the 5 research study group were withdrawn from the classroom and taught in a quiet room as a group. The control group was not taught at all. The teaching sessions were based on the RIDER Technique steps combined with Munro's Comprehension – Visualizing Strategy (2003) and the Session Outlines – Comprehension Visualizing lesson plans from the Enhanced Reading Intervention for At Risk Students (University of Melbourne and Catholic Education Office Melbourne 2005).

A piece of text was chosen for each lesson and the RIDER technique was used to assist the students with their reading and comprehension tasks. A theme of MEDIA was used in

most of the pieces of text as this was the topic being explored in the student's Integrated Studies unit at the time of the research. Text about television, newspapers, advertising material, movies etc was used.

The students were directed to follow the RIDER Technique at each lesson. (This technique was explained in the Introduction section of this paper.) After two lessons a decision was made to model the idea of drawing each image as it formed in the student's mind. This made a difference to the student's understanding and helped them set out the images more clearly. It also helped with their recall as they had something 'concrete' to refer to when having to recall the text. We continued to draw images for each section of the text and use these images to discuss the meaning and the recall of the text. They used these images to recall each paragraph read. After 4 sessions of drawing the images we reverted to just making the images in our minds. The students commented that now they really understood the idea of 'making pictures' in their minds.

The Independent and Dependent Variables

The independent variables for this study is the use of the RIDER Technique and the use of highlighting key words. This hopefully will produce change in the levels of comprehension. The dependent variable in this study is the comprehension of the texts used in the 9 sessions.

Teaching Sequence (see Appendices 1, 2 3 and 4)

Each 30 – 45 minute session was conducted following the RIDER Technique (as outlined in Introduction above), Munro's Comprehension – Visualizing Strategy(2003) and the

Session Outlines – Comprehension Visualizing lesson plans from the Enhanced Reading Intervention for At Risk Students (University of Melbourne and Catholic Education Office Melbourne 2005). Changes were instigated to the procedure as mentioned above in the Teaching Sequence section.

Teaching Sessions - Observations

Each of the research group that were taught worked well during each session. It was noted that Student 1 and Student 5 found some of the word meanings difficult and so they were shown how to highlight key words. They did this for the next 3 sessions but stopped for the last sessions as they began to feel comfortable just reading the text like everyone else. The whole teaching group, after 2 sessions, were shown how to draw the pictures that they had made in their heads and this really improved their oral re-telling technique as they had something to look at when describing to their partners what they had just read. As the sessions progressed the students began drawing quicker and more succinctly to show the meaning of the text. They drew key words, diagrams, stick figures and they used abbreviations and symbols to represent the meaning of the text. They shared their drawings and showed one another quick and easy ways of representing the text in the simplest way possible. Student 4 completed their images quicker than the other students and was able to scaffold information back to their partner with added information very well. I therefore put Student 4 with Student 1 for the oral retells as Student 1 was still finding the task a little difficult as their reading was not always as accurate when reading the text. Student 5 asked the most questions during the sessions requesting clarification of word meanings and ideas 'behind the text'.

Data Collected

I pre-tested each of the 11 students using the Neale Analysis of Reading Ability (Neale, 1998). The data collected at the pre-test shows the results of both the Research group and the Control Group. I also pre-tested them using the Reading Self Efficacy Test (Munro 2002). The results of this test is also shown in the Results section below. As the sessions progressed the author kept a journal listing any queries of the group and any changes/ adaptations that were made to the sessions.
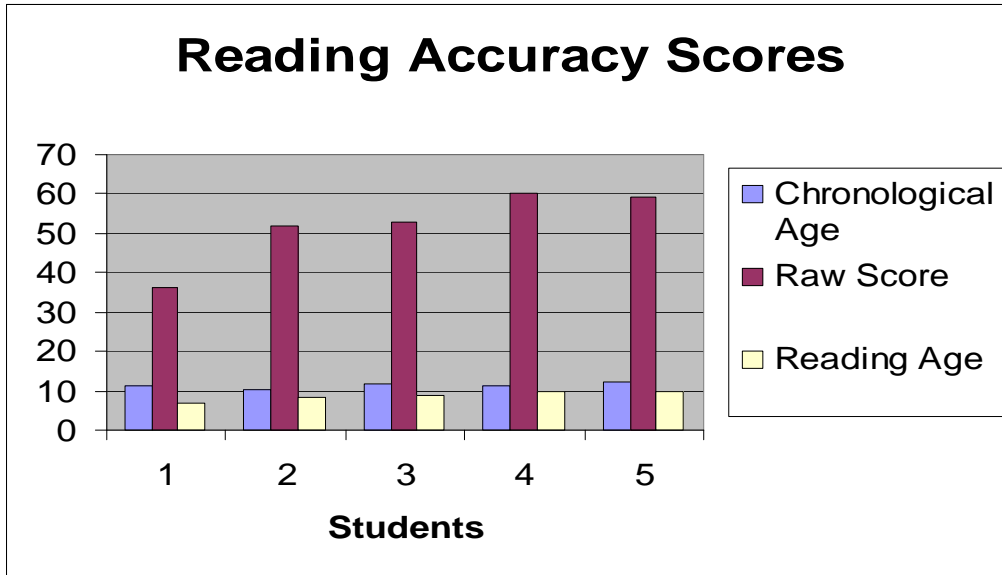
Results

The results of the pre-tests are shown below for the research group and the control group. Firstly there is the pre-test results of the Neale Analysis of Reading Ability (Neale, 1998) for both the Research group and the Control group. Then a chart shows the complete pre-test results compared with the post-test results in the Neale Analysis of Reading Ability (Neale, 1998) for both the Research group and the Control group. Then the results of the Reading Self Efficacy Test (Munro 2002), pre-test and post-test comparisons are shown.
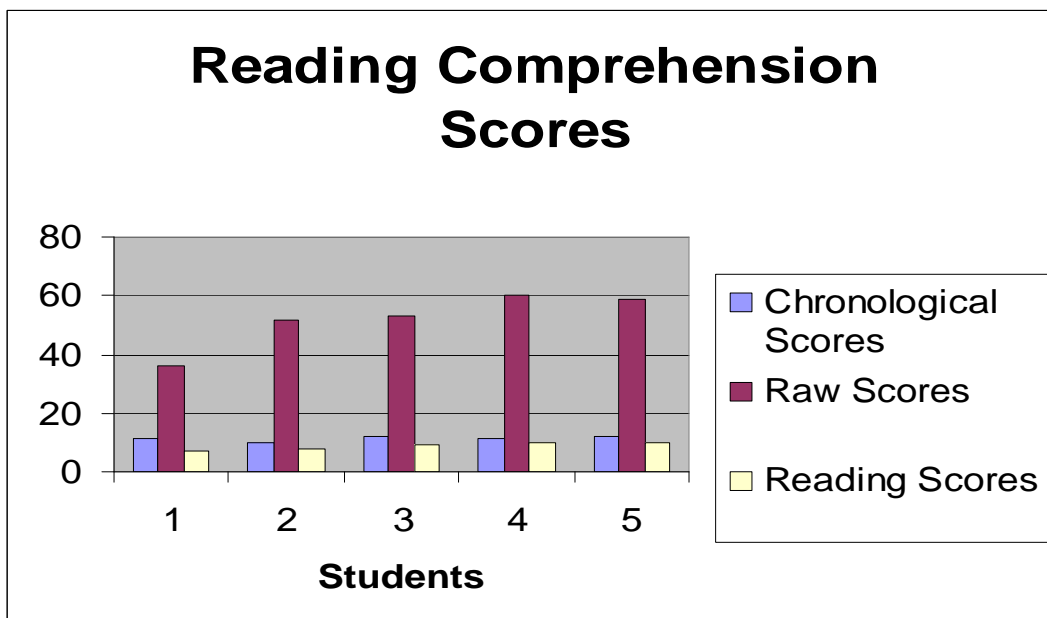
Pre –Test Results for Research Group

		Neale Analysis Test Results for Research Group			
Accuracy					
Student	Chronological Age	Raw Score	Percentile	Performance Descriptor	Reading Age
1	11.4	36	2	Very Low	7
2	10.11	52	19	Below Average	8.11
3	11.8	53	18	Below Average	9
4	11.11	60	21	Below Average	9.8
5	12.1	59	21	Below Average	9.6

Reading Accuracy Scores

		Neale Analysis Test Results for Research Group			
Comprehension					
Student	Chronological Age	Raw Score	Percentile	Performance Descriptor	Reading Age
1	11.4	36	2	Very Low	7
2	10.11	52	19	Below Average	8.11
3	11.8	53	18	Below Average	9
4	11.11	60	21	Below Average	9.8
5	12.1	59	21	Below Average	9.6

Reading Comprehension Scores

		Neale Analysis Test Results for Research Group			
Rate					
Student	Chronological Age	Raw Score	Percentile	Performance Descriptor	Reading Age
1	11.4	108	83	Above Average	13
2	10.11	85	55	Average	11.3
3	11.8	109	65	Average	13
4	11.11	85	35	Average	11.3
5	12.1	92	43	Average	12.1

Reading Rate Scores
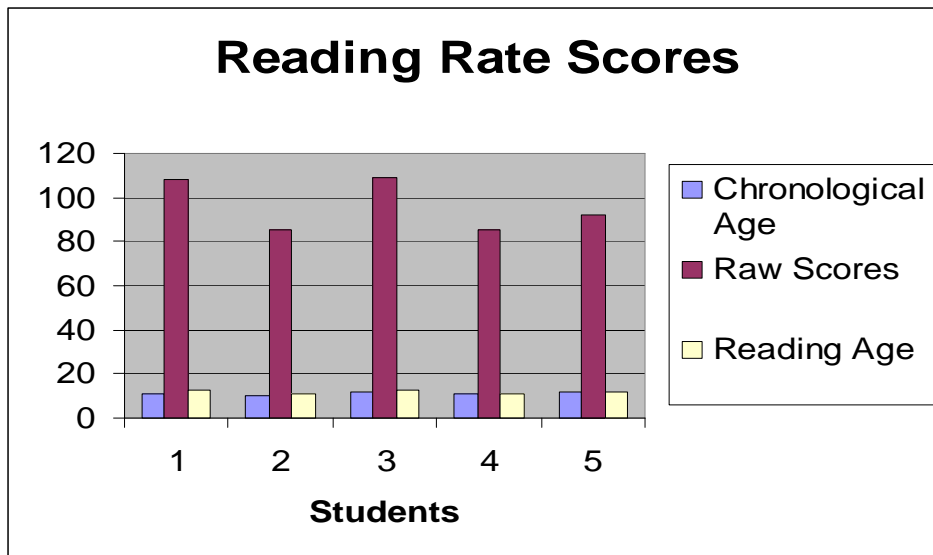
Pre –Test Results for Control Group

		Neale Analysis Test Results for Control Group			
Accuracy					
Student	Chronological Age	Raw Score	Percentile	Performance Descriptor	Reading Age
6	11.7	76	34	Average	12.4
7	10.4	59	29	Average	9.6
8	10.1	69	38	Average	11.1
9	10.7	84	65	Average	13
10	10.7	95	90	Very High	13
11	10.7	44	13	Below Average	8.4

Reading Accuracy Scores
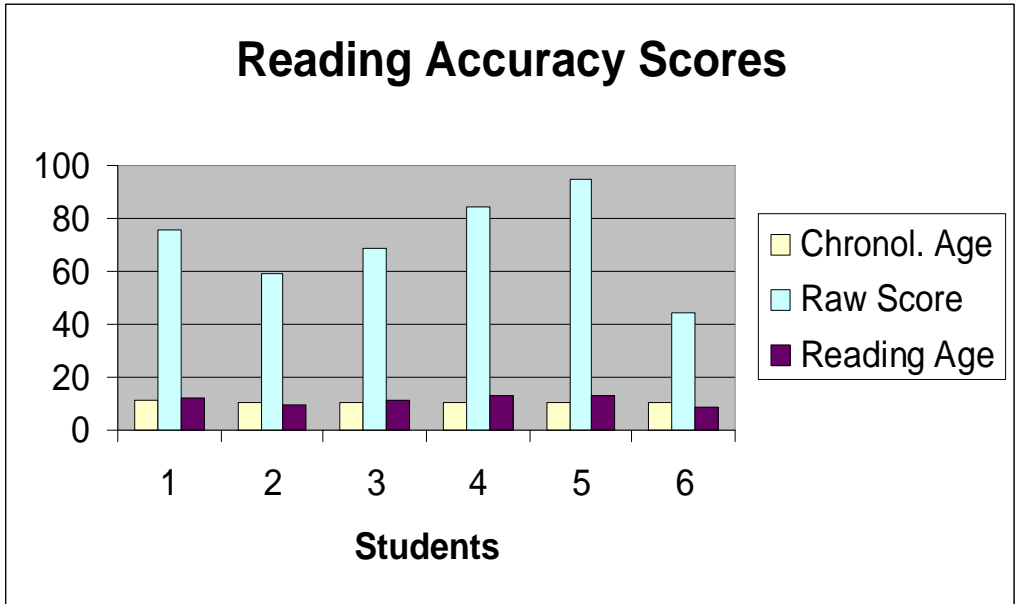
		Neale Analysis Test Results for Control Group			
Comprehension					
Student	Chronological Age	Raw Score	Percentile	Performance Descriptor	Reading Age
6	11.7	20	16	Below Average	9.2
7	10.4	20	23	Average	9.2
8	10.1	26	38	Average	11
9	10.7	25	35	Average	10.8
10	10.7	31	65	Average	13
11	10.7	20	23	Average	9.2

Reading Comprehension Scores
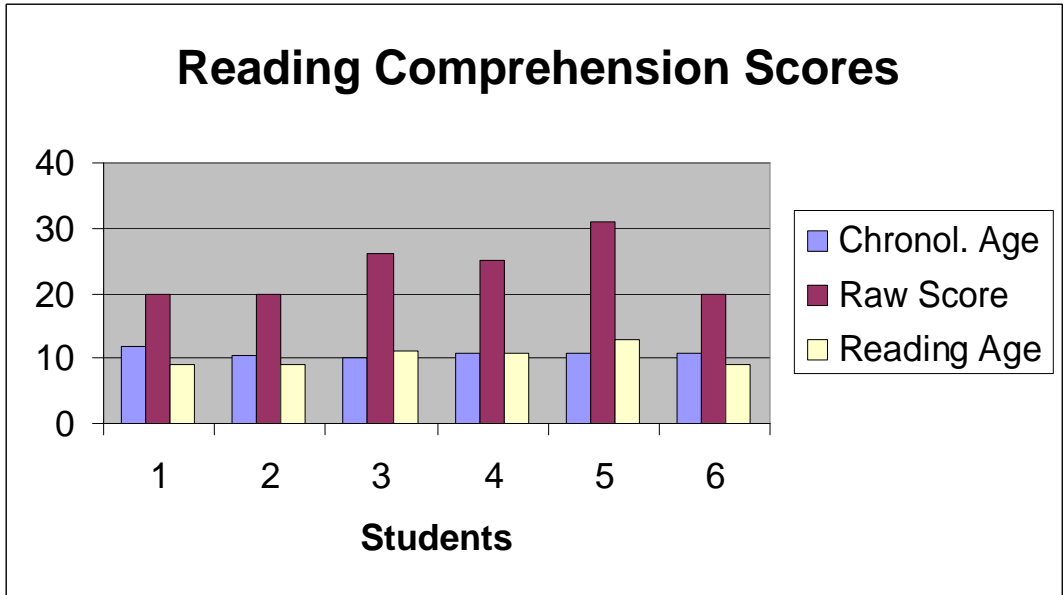
		Neale Analysis Test Results for Control Group				
Rate						
Student	Chronological Age	Raw Score		Percentile	Performance Descriptor	Reading Age
6	11.7	110		66	Average	13
7	10.4	92		62	Average	12.1
8	10.1	98		70	Average	12.9
9	10.7	99		71	Average	12.10
10	10.7	98		70	Average	12.9
11	10.7	49		8	Very Low	7.11

Reading Rate Scores
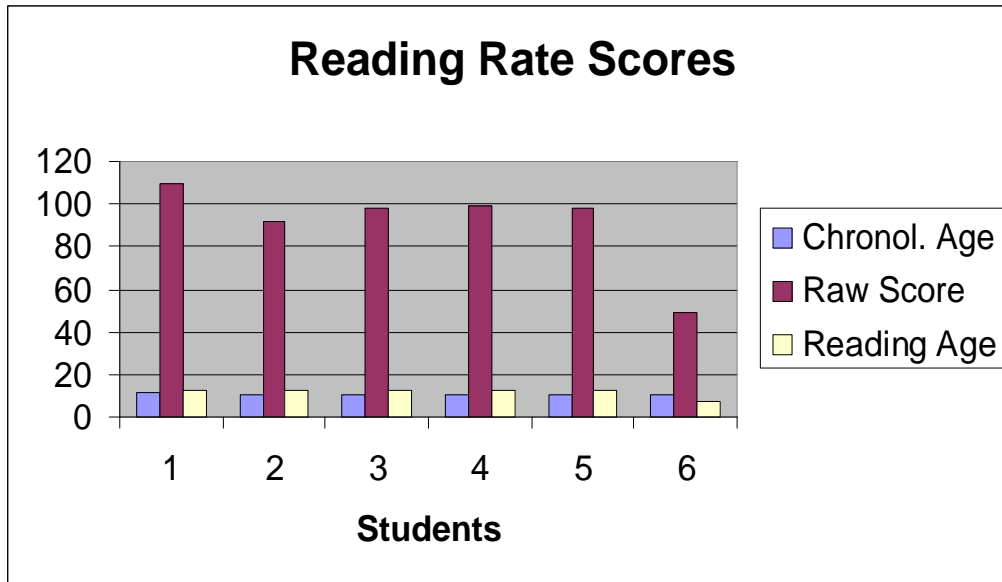
Neale Analysis Combined Pre and Post Test Results for Research Group and Control Group

Neale Analysis Combined Pre and Post Test Results for Research Group and Control Group										
Participants Research Group	Student 1		Student 2		Student 3		Student 4		Student 5	
	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test
Age	11.4	11.5	10.11	11.0	11.8	11.9	12.00	12.1	12.1	12.2
Accuracy	7.0	11.3	8.11	10.4	9.0	11.3	9.8	13.0+	9.6	12.2
Comprehension	6.0	13.0+	8.5	13.0+	8.11	13.0	10.8	13.0+	10.8	13.0+
Rate	13.0	10.10	11.3	8.9	13.0+	9.5	11.3	9.7	12.1	7.7

Participants Control Group	Student 6		Student 7		Student 8		Student 9		Student 10		Student 11	
	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test
Age	11.7	11.8	10.4	10.5	10.1	10.2	10.7	10.8	10.7	10.8	10.7	10.8
Accuracy	12.4	12.10	9.6	10.4	11.1	13.0	13.0+	11.9	13.0+	13.0+	8.4	8.11
Comprehension	9.2	9.5	9.2	11.7	11.0	13.0	10.8	12.0	13.0	13.0+	9.2	10.7
Rate	13.0	10.0	12.1	12.0	12.9	10.9	12.10	10.9	12.9	10.8	7.10	7.6

Post –Test Results of Research Group

The results indicate that the research group showed a growth and a decrease in the following areas:

- ➢ Reading accuracy scores improved in all participants by between 1.5 years and 4.3 years

- ➢ Comprehension scores improved in all participants by between 2.4 years and 7.0 years

- ➢ Reading rate scores decreased in all participants by between 1.8 years and 4.6 years

Post –Test Results of Control Group

The results indicate that the control group showed a growth and a decrease in the following areas:

- ➢ Reading accuracy scores improved in all participants except one student by between 5 months and 1 11 years.

- ➢ Comprehension scores improved in all participants except one student by between 3 months and 2.5 years.

- ➢ Reading rate scores decreased in all participants by between 1 month and 2.2 years.

Whilst it must be noted that it was only the comprehension scores of the research and control groups that were important in this research there have been some interesting statistics gathered that are worth noting here. For instance the reading rate for the research group and the control group lowered at the post-test, although there were more

significant decreases in the research group's results. I believe this was because the research participants were purposely reading slower so they could visualize much better and be more accurate with their reading. By reading at a slower rate the research participants allowed themselves more time to comprehend the text much better. This became evident during the sessions but was formally confirmed by the post-test results showing a slower reading rate and an increased comprehension score. Reading at a slower rate also seemed to have an effect on the reading accuracy scores too as all research group student's reading accuracy improved significantly too. By reading slower the students were able to make less mistakes with their reading and therefore improved accuracy scores were obtained.

It must be noted too that all research participants acknowledged their decrease in their reading rate after the post-test results were given to them. When asked why they thought this was so they all made comments similar to this one:
"I was making pictures in my head as I read and I was trying to read each word more accurately so I wouldn't miss the meaning of the text. I also re-read some of the text if I wasn't sure about what I had just read. This slowed me down."

The control group's reading rate decreased for all students but when they were asked why, they responded with the following:
"I read a little slower because I did not want to make mistakes and this slowed me down."

It was also confirmed with the change in the Self Efficacy Post -Test results when the research participants in all questions increased their responses from ' Half and Half Sure" and "I Think I Can" to "I Think I Can" or "I Know I Can'. The results of the Self

Efficacy Test for both the Research group and the Control group can be seen in the chart below.

Self Efficacy Test Results Research Group

Question: How sure are you that you can ….	I Know I Can't		I Think I Can't		I'm Half and Half Sure		I Think I Can		I Know I Can	
	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test
1. Work out new words?							4		1	5
2. Understand each sentence?					2		2	1	1	4
3. Correct any mistakes you make?					1		2	2	2	3
4. Put together the ideas in the story?							4		1	5
5. Say each word?							2	1	3	4
6. Remember what happens in the story as you read it?					2		1		2	5
7. Read smoothly?							3	1	2	4
8. Remember words you have read lots of times already?							2	1	3	4
9. Make a picture in your mind as you read?							2		3	5
10. Tell me what the story is about when you have finished it?							4	1	1	4
11. Answer questions about the story?					2		2		1	5
12. Read fast enough to keep the ideas in your mind?			1		2		2	1		4

The research students all responded to the Self Efficacy Post-Test in a much more positive way in all questions on the test. They decided that they felt more confident in answering all of the 12 questions with a higher rating than they did in the Pre-Test. It was interesting to see that most of the research students already had a confident attitude towards their reading at the Pre-Test time although many of them scored quite low in the comprehension section of the Neale Analysis Reading Ability Test (1998) which was an indication that they were not very good at making pictures in their minds (question 9) or good at answering questions about the content of the text (question 6, 10 and 11). At the

Post-Test they scored themselves higher in all questions and seem to be really confident that they could now 'unpack the text' very well.

The Control group's Post Test results in the Self Efficacy Test were a little different as can be seen in the table below:

Self Efficacy Test Results Control Group										
Question: How sure are you that you can ….	I Know I Can't		I Think I Can't		I'm Half and Half Sure		I Think I Can		I Know I Can	
	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test
1. Work out new words?							3	3	3	3
2. Understand each sentence?							3	3	3	3
3. Correct any mistakes you make?			1	1	1	1	1	1	3	3
4. Put together the ideas in the story?					4	4	1	1	1	1
5. Say each word?					2	1	1	2	2	2
6. Remember what happens in the story as you read it?					2	2	2	2	2	2
7. Read smoothly?							3	3	3	3
8. Remember words you have read lots of times already?					1	1	2	2	3	3
9. Make a picture in your mind as you read?					2	2	2	2	2	2
10. Tell me what the story is about when you have finished it?					1	1	2	2	3	3
11. Answer questions about the story?							3	3	3	3
12. Read fast enough to keep the ideas in your mind?					1	1	2	2	3	3

Many of the Control group did not have such a confident attitude towards their own reading as the research group did and yet many of them scored higher in their pre-test than the research group. Their Post-Test results do not show any increase in their attitude towards reading or in their perception of how sure they are at putting together the ideas in the text (question 4), remembering what happens in the story (question 6), making a

picture in their minds as they read (question 9),telling about the story when it is finished (question 10) etc.

Discussion

The relationships that have been seen to exist between developing mental imagery and reading comprehension to date provide a strong rationale for additional investigations into the complex role that mental imagery assumes in the reading process.

We must directly and explicitly teach our students to 'unpack' the text by giving them the RIDER strategies to use. We must continue to question our students and allow them discussion time when reading unseen text. We must allow them the opportunity to use a variety of methods to 'unpack the text'. Drawing of the text, highlighting key words, discussion about the text, evaluating the text and re-reading are all valid and appropriate ways to comprehend the text. Paraphrasing is also another option to assist students to comprehend better but this option was not explicitly taught during these sessions but occasionally this was done during the course of the sessions as students asked their peers for clarification in discussion time.

This research suggests that we need to explicitly teach students to visualize when reading because this helps them comprehend better. If we do this it will have positive impacts on their ability to understand the text better. We need to model the RIDER Technique and allow our students to practice it many times before it becomes a constant action while they are reading. We must allow them to physically draw their mental images if they are struggling to gain the information from the text and gradually they will begin to process the mental images without needing to draw each one as they read.

Implications

By explicitly teaching students some comprehension strategies we give them a better opportunity to increase their comprehension levels. We must give them opportunities to develop these strategies and practice them continually so they use these strategies whenever they are being asked to read unfamiliar text. As students continue to be exposed to more and more difficult text we must develop in them the confidence to 'have a go' at unpacking the text in ways that will allow them to understand the text much better. By teaching the RIDER Technique to students we are helping them comprehend better.

The results that have been achieved in this research indicate that with explicit teaching we really can give our students strategies to help them not only understand what they are reading but we give them strategies that will help them in all areas of their learning. We are increasing their confidence to tackle a new piece of text without worrying about how they will comprehend the meaning, how they will decode the text and how they will be able to share the knowledge they are gaining.

The results that were achieved in such a short time span over 9 sessions should encourage our teachers to 'give the RIDER Technique a go". I believe we need to make sure our students continue to use this technique until it is embedded into their learning and becomes a natural, automatic way of 'unpacking the text'. This will only happen if our students are given constant repeated modeling of this technique.

Limitations

Excellent results were achieved by all of the research students during the 9 sessions but it must be noted that there were some problems associated with the results of increased reading accuracy and increased reading comprehension. The student's reading rate decreased dramatically and this needs attention in the future. I am sure that the student's reading rate will gradually improve as they practice the RIDER Technique and get quicker at developing mental imagery as they read. It must be stated that these short intervention sessions have produced excellent results but the learning must continue for these students as they grapple with unfamiliar text every day and they must be encouraged to continue to find ways to enhance their comprehension. Paraphrasing would be the next technique these students would need to learn to scaffold their understanding of text but this will need to be done at another time.

Conclusion

During earlier schooling days we were not explicitly taught these visualizing methods of assisting comprehension, but with knowledge now and proof that these methods 'work' we must give our students these visualizing options. As was quoted earlier in this paper, Douville-Ricker, *(1996),* states that the reading instruction we give students should reflect the dynamic, interactive nature of the reading process. Teachers should use viable reading strategies that serve to actively engage the reader with the text when we instruct them. He also says that even though recent research suggests that imaging can be used as an effective reading comprehension strategy, mental imagery does not appear to be a strategy that is explicitly taught in many classrooms. Perhaps we need to heed Julia Atkins (1998) words when she states that we need to teach our students in different ways

than how we were taught because they are growing up and learning in very different

times to us. In conclusion let me finish with a quote:

"DO NOT CONFINE YOUR CHILDREN TO YOUR OWN LEARNINGS, FOR THEY

WERE BORN IN A DIFFERENT TIME" Atkins (1998)

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Appendices

Appendix 1

ENHANCING READING INTERVENTION FOR AT RISK STUDENTS

University of Melbourne and Catholic Education Office Melbourne

COMPREHENSION INTERVENTION - VISUALISING

TARGET STRATEGY   **R**ead
                                        Image
                                        Describe
                                        Evaluate
                                        Read on

Activity	Task Description
Text Reading (Shared Reading Strategy)	In the first session The teacher demonstrates the use of the RIDER strategy during reading. In future sessions Student and teacher re-read passage from previous session. The teacher cues the use of the RIDER strategy during reading.
Image and describe	Student cued to describe the picture imaged in own mind, (at end of each sentence, or after a few sentences/paragraph, depending on the reader & text).
Evaluate	Students listen to other children describe what they imagined, and then evaluate their own description in light of other descriptions. (If working one to one evaluate the reader's description with them.)
Reading on (Shared Reading Strategy)	Student reads on and continues to use the RIDER strategy. Teacher cues student use of the RIDER strategy during the reading.
Reflective	Student comments on what has been learnt in the session

Appendix 2

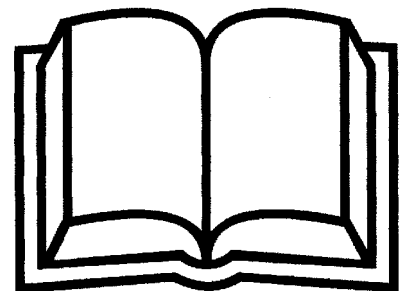| Activity	Task Description	Time
Text Retelling (Passage from Previous Session)	Students re-tell passage from the previous session. They describe the pictures they have in their minds (or what they had drawn) about the text. They use these pictures to say what the story was about.	3 – 5 mins
Reading Target Words (New Passage)	Students highlighted key words in the story. Discuss the words to ensure meaning. (This step was only used occasionally if readers struggled with word meanings.)	3 - 6 mins
Shared Text Reading (New Passage)	Students read one paragraph or section of the text. Teacher cues use of the RIDER Strategy before each section of the text, ie. The use of 'mental imagery ' as the students read.	1 - 2 mins
Picture Drawing (Draw pictures/diagrams/key words from text)	Students are cued to draw a picture imaged in their mind about each of the paragraphs of the text. (This step was used for 3 sessions only and then skipped for the rest of the sessions.)	1 min
Discussion of Text	One student discusses with partner what they had drawn and read for that part of the text. The second partner 'adds' more information about the text to 'scaffold' the text further.	1 min
Evaluation of Text	Teacher leads discussion about the text just read drawing all the groups ideas together to help scaffold the student's understanding. Sharing of the images drawn or mental images formed in the student's minds is expanded upon by the teacher.	1 – 2 mins
Shared Text Reading (New Passage)	Students read next paragraph or section of the text.	1 - 2 mins
Picture Drawing (Draw story from text)	Students are cued to draw a picture imaged in their mind about each of the paragraphs of the text. (This step was used for 3 sessions only and then skipped for the rest of the sessions.)	1 min
Discussion of Text	One student discusses with partner what they had drawn and read for that part of the text. The second partner 'adds' more information about the text to 'scaffold' the text further.	1 min
Repetition of last 3 steps (Shared Reading, Picture Drawing, Discussion and Evaluation)	These last 4 steps are repeated until all of text is read, pictures drawn, paired discussion and teacher evaluation is complete.	3 – 8 mins
Reflective	Students comment on what has been learnt in the session and overall summary of text is discussed.	3 mins

Appendix 3

CUE/PROMPT CARDS FOR RIDER STRATEGY

<ins>RIDER</ins>

(1) **R**ead
(2) **I**mage – picture
(3) **D**escribe
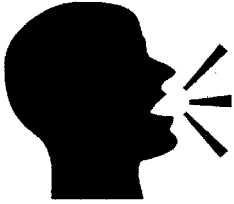(4) **E**valuate – check
(5) **R**epeat – steps 1 2 34

1. **R**ead
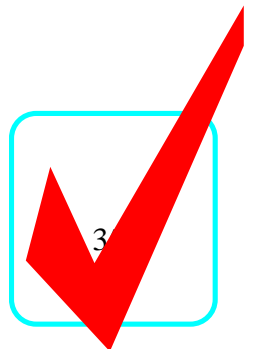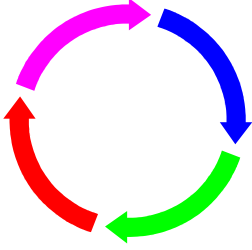
2. **I**mage - put a picture in your mind

3. Describe

4. Evaluate check

3

5. **R**epeat
steps 1,2,3,4

Appendix 4

Dear Parents,

My name is _____ and I am _____ for all the Catholic Schools of Melbourne. I currently work with all these Catholic Schools with individual students and with staff also. I am able to advise the schools and help them develop Individual Learning Plans for any student who needs or requires them. I also conduct PD for the schools at Staff Meetings or PLT's when required.

I am currently doing some units of work connected with the Catholic Education Office and the University of Melbourne. This work is a joint project between these two institutions and involves a large number of Catholic students in both the Primary and Secondary sector of Catholic Education.

This project is conducting research into the development of Literacy skills, especially in the development of Comprehension skills. It is a Masters Research Project being undertaken by a group of teachers within the Catholic Education System.

I have planned to conduct a number of assessments of your child/children and then work with these students to further develop their comprehension skills when reading text. As you are aware it is these skills that help a student 'decipher' and 'understand' the text they are reading.

Attached is a permission form for you to return to the school as soon as possible. All names of students will be confidential and the generic results will be forwarded to the school on completion of the project. I wish to commence working with the group from your school next week.

Your child has been selected to join the project and I will be conducting approximately 8-10 sessions with the group. Each session will be about 30 - 45 minutes. At the end of these sessions I will re-assess your child/children to see if there has been an improvement in their comprehension skills.

I am looking forward to working with your child and believe that the work we will be completing will benefit your child greatly by improving their ability to gain more meaning and understanding from text they are required to read.

Please do not hesitate to call me if you have any queries, or your child's classroom teacher.

Yours Sincerely,

Appendix 5

PARENT CONSENT FORM

I / We give my / our consent for _____
Full name of child

to be involved in the activities related to the literacy project being conducted at

the school.

The nature of the activities have been explained to me/ us by the relevant

school staff member.

I understand that my child may be withdrawn from the classroom for these

activities.

I understand that I can withdraw my consent at anytime by notifying the

School Principal.

Signature of parent(s)/Guardian(s):   _____

                                          _____

Principal's endorsement: _____

Date: _____