Explicit teaching of a visualisation strategy to eight year three and four students over ten lessons will impact on their comprehension of both fiction and non-fiction texts.

ABSTRACT

It is not un-known that, even for students who are good decoders, comprehension can still be a major problem. Students may not realize that reading needs to at more than word level. Engagement with text must be at sentence, concept, topic and dispositional levels in order for students to truly understand what they are reading. This is especially so for students from a language background other than English.

This project investigates the explicit teaching of the Visualisation strategy to eight year three and four students over ten lessons, and the impact of this instruction on their comprehension of both fiction and non-fiction texts.

The students chosen were all good decoders, with a reading age of between eight and a half years old and eleven and a half years old and were a mixed ability group. Pre-testing administered was TORCH, listening comprehension (Task 18 from ERIK), John Munro’s Visualisation test for Individuals and a finally, measurement of their self-efficacy using a Self Efficacy Task.

In this project, the visualization strategy was taught explicitly to the students, with an emphasis on them describing their visualizing to the group. The strategy also necessarily, included re-reading to check the accuracy of the descriptions. Explicit teaching of vocabulary was also a necessary part of the teaching sessions, too, especially when using non-fiction texts which were at or a little below their text level.

The post test results indicated that both the teaching group and the control group showed improved comprehension scores. The teaching group scores on average were almost double those of the control group, showing that visualizing is an effective strategy to teach young readers in order to improve their comprehension. To maintain these gains students will need to be reminded of the strategy and how and when to use it when reading and comprehending text.
INTRODUCTION

The gap between text level and comprehension becomes more apparent as students enter years three and four. Students are, by and large, competent with reading at word level but do not understand that reading is more than that and fail to engage with text. Ketch (2005) found that interaction between text and reader facilitates comprehension. The implication being, that this is an important aspect of reading comprehension and therefore should be explicitly taught to students as a reading strategy. Students passively read words but do not actively participate in the reading process, unaware of and unable to use the skills and strategies needed to comprehend text. Such ‘…students are unaware of the appropriate strategies to facilitate task performance and cannot efficiently initiate, regulate, and monitor the use of such strategies.’ (Chan, Cole and Morris, 1990, p.2).

Research has shown that no single strategy is sufficient for all readers, at all times, with all text types. (Snow et al, 1998 cited in Barton and Sawyer, 2003). Pressley (2001) says that teachers need to know these strategies, model how to use them and provide opportunities and support to practice using these strategies.

Reading research has supported the use of visualization as one such strategy to improve student’s comprehension of text. Chan, Cole and Morris found that ‘Explicit instruction facilitated the comprehension performance of students with reading difficulties.’ Further research is this area shows that ‘verbal feedback’ following the use of the visualization strategy, not only keeps students on task, but makes visualizing more successful (Kelly, 2000). Duke and Pressley’s (1999) research also found that students who read, make images (visualize) and reflect on (discuss) their images show improved comprehension. Students need to be proactive when reading, with discussion before reading, during reading and after reading.

This project explores the use of the visualization strategy to improve the comprehension of students in Years three and four. All participants are of Lebanese background, where English is their second language. Texts chosen were able to be easily decoded by all students in the group, so that they could focus on comprehension only, rather than focusing on comprehension and
decoding. A mixed ability group of students was selected, with four boys and three girls in the group.

My prediction is that the students will become more proactive in the reading process by using the visualization strategy and, as a result, comprehension will improve.

METHOD

Design
This study uses a case study OXO design, in which gains in reading comprehension are monitored in Year three and four students following the teaching of the visualization strategy.

Participants
The study compares two groups of students ranging in age from 8.4 years to 9.8 years, with the ratio of female to male students being 7:8. Their classroom teachers selected the students based on their ability as good decoders (minimum text level 25, most at level 28), but whose TORCH scores did not match this ability. The classroom teachers taught reading as they would normally do so in the classroom, to both the teaching and the control group during this study, whilst the teaching group received normal classroom instruction plus ten teaching sessions with me, focusing on the teaching of the visualization strategy.

All students sat the same five assessments pre and post teaching of the visualization strategy.

1. Alphassess Reading Benchmark Kit
2. TORCH (Tests of Reading Comprehension, 1st Edition)
3. Listening Comprehension Task item 18 from ERIK (Enhancing Reading Intervention Knowledge)
4. Visualising Task (John Munro)
5. Self Efficacy task

See Tables 1 and 2 below for assessment tasks and results in the pre test.

Table 1 Student Pre Test Data Teaching Intervention Group
<table>
<thead>
<tr>
<th>STUDENT NO.</th>
<th>TEXT LEVEL (&gt; 90% accuracy)</th>
<th>TORCH (Raw Score out of 21)</th>
<th>LISTENING COMPREHENSION (ERIK TASK 18) (Score out of 26)</th>
<th>VISUALISATION (John Munro) (Score out of 33)</th>
<th>SELF EFFICACY</th>
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Table 2 Student Pre Test Data Control Group

<table>
<thead>
<tr>
<th>STUDENT NO.</th>
<th>TEXT LEVEL (&gt; 90% accuracy)</th>
<th>TORCH (Raw Score out of 21)</th>
<th>LISTENING COMPREHENSION (ERIK TASK 18) (Score out of 26)</th>
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The following graph shows a comparison of pre test scores for both teaching and control group. Results are average scores across the groups.

**SELF EFFICACY TASK RESULTS PRE TESTING**

Materials
The following materials were used in the teaching sessions;
Selected passages from;

- Catholic Education Office Speech Pathology Language Program: Comprehension Strategies
- Andrew Perry and Ron Thomas, Literacy in the Classroom Book 1, Oxford University Press, 2000
- Scholastic Literacy Skills, Comprehension Ages 6-8, Scholastic
- Caves, MacMillan Education Australia, 2000
Procedure
Each student completed the following assessment tasks in this order;

1. Alphassess Benchmarking to ascertain text level
2. TORCH (Grasshoppers for Year 3 and The Bear who liked hugging people for Year 4).
3. Listening Comprehension (item 18 from ERIK)
4. Visualisation task
5. Self efficacy task

Each student had a running record taken to determine what level of difficulty the reading passages should be, in order to ensure that the text could be easily decoded by all students in the group.

The Torch test is the main formal measurement for comprehension in our school for students in Years 3 to 6. It is for that reason I decided to use it in this study. It is also a reliable measure that can be easily analysed to provide future teaching foci.

Since I was going to be teaching the visualization strategy I used John Munro’s Visualisation Task. This was administered on an individual basis in order to eliminate any stresses that students may feel related to writing and recording their responses. I did the writing for them and students were therefore able to concentrate on relating their ‘pictures in the mind’.

The self-efficacy task was important to see if increased comprehension of text resulted in a more positive view of themselves as readers. It was interesting to note that in the pre test, the control groups self efficacy scores were lower than the teaching group, but yet their scores on the formal assessment tasks were equal or higher than the teaching group.

The ten reading intervention sessions, held over two and a half weeks, were conducted mostly in the morning as part of the student’s regular literacy block. Each session lasted approximately thirty to thirty five minutes. Of the ten sessions, three were held in the school Library, five in the Reading Recovery room and two were held in the corridor outside the Literacy room. The students themselves were from four different grades so that is why I worked with them outside of
their normal classroom environment, plus the desire to reduce distraction and noise whilst
teaching them. Needless to say, the noise and distraction issue was uncontrollable on the days I
had to teach in the Library and in the corridor.

Each session followed a very similar format;

1. Introduction to or revision of the strategy. Students verbalized the three steps needed to
   visualize; 1. Read a sentence, 2. Make a picture in your mind, 3. Describe the picture.
2. The teacher models the strategy for the students with any discussion as necessary to
   clarify vocabulary or concepts.
3. Students’ trial the strategy by listening to or reading a text, making a picture in their mind
   and then describing their picture(s) to the group.
4. Discussion about the strategy. Students say what they know about visualizing and repeat
   the steps they need to do when they visualize. They also say how the strategy helps them
   when they are reading.

The first session did not use text, rather I used concrete objects; geometric shapes and soft toys
for students to look at and touch and then apply the strategy. After visualizing the concrete
objects, I asked students to put a picture of their classroom, and then their bedroom, in their mind
and describe them. They were invited to make quick drawings of their rooms to help them with
the task and some of the students did so.

In session two, we began using very small amounts of text to practice visualizing. We began
with simple sentences with one, two or three ideas building up in degrees of difficulty, which I
read out loud to the students. I invited the students to draw images if they wanted to, making
sure that they knew that the drawings were to help them understand the text and were not meant
to be ‘works of art’. I found that, even though I modeled drawing as an aid to comprehension, all
students preferred to make the picture in their mind and then verbalise it. Some of the
verbalisations were very brief, at least initially. For example, for the text ‘The cat ate the fish’,
when student 4 was asked what he see in his mind when he hears that text, he replied ‘A cat’.
When prompted to tell me more about the cat he merely shrugged his shoulders. I then
demonstrated what I saw in my mind when I read that sentence, adding much descriptive language to the explanation.

As we progressed through the sessions, most students were able to describe their verbalizations in increasingly more detailed ways, with the exception of two students in the group. Student 1 who has a severe language disorder and who, I therefore expected would make only minimal progress and student 4, who is very quiet by nature and may have been overwhelmed by some of the more noisy and outspoken members of the group. Both of these students needed to be asked explicitly to participate and most of the time did not volunteer to share their visualizations with the group unless asked to do so.

During the second half of the teaching sessions, i.e. sessions 6 to 10, where I had intended to let students visualize paragraph by paragraph, it quickly became apparent that it was too difficult for them to manage and so I resorted back to reading sentence-by-sentence, or two or three sentences, depending on their length and/or complexity. I also discovered when reading “Caves” (text level 25), that the explicit teaching of unknown vocabulary needed to be done before students could successfully visualize the text. The impact of this meant that only a small quantity of text was actually being read during each session and most of the time spent was in discussion, trying to visualize the text and hence, comprehend it. I do not regret using this text, however, since it is highly typical of the type and difficulty of text regularly chosen for students of this age and text level. So, it was important to see how the students handled it and how well they understood it. It also gave me a very clear indication of how visualizing can help students to better understand such non-fiction texts.

At the end of the ten teaching sessions the same set of assessments as in the pre test were administered.

RESULTS

Observations of the groups

As a whole, both groups showed an overall improvement in all test scores.
Taking into account all scores for the teaching group, scores improved by 10.57 when changes to the scores were added together. For the control group, its improvement was 5.51 when all changes to the scores were added together. By ‘changes to the scores’ I mean any change, positive or negative when added together to get a number for overall change.

As I expected, there was no change in text levels over the two and a half weeks of the study. All other scores did show an improvement. With TORCH, in the teaching group, an average improvement of 3.47 was noted as compared with an improvement of 2.5 in the control group. The visualization task showed the biggest improvement in the teaching group; 6 as compared with the control group whose score was an improvement of 1.85. Obviously the ten sessions of training and practice specifically learning to use this strategy paid off in a huge improvement for the teaching group. However, there was minimal improvement in the scores for the Listening Comprehension task, with the teaching group making a small improvement of only 1 and the control group improving by 1.16. Three students in the teaching group ‘caused’ the overall score to drop by doing much worse in their post test than in their pre test. The self-efficacy task showed a big improvement in how the teaching group saw themselves as readers as compared with a more moderate improvement for the control group.

The following graphs show a comparison of post test scores for the two groups. Results are average scores across the groups. As can be clearly seen, the scores are very similar between the two groups, but we must remember that the teaching group started further back than the control group that is, with lower starting scores. Therefore, the teaching group has made the greater improvement.
Observations for individual students
At the end of the ten teaching sessions, six out of seven students in the teaching group improved in their comprehension skills as evidenced by their TORCH scores. But only four out of seven students improved their visualizing score. I wondered why this was, so, I asked them privately what they thought could have been the reason for the drop in scores. Students 3 and 4 could not
give me any explanation, but student 6 explained that he was annoyed that I’d asked him to
remain behind to complete further assessment tasks (after completing TORCH), when his friends
were permitted to return to the classroom. (Even though, all students were called out of class to
do the same tasks, at one time or another). Student 6 said he wanted to get back to his class
quickly so he did the assessment tasks quickly without too much effort. This same student
scored lower in both the TORCH and the Listening comprehension tasks in the post test than in
the pre test, although he did make a big improvement in his post test visualization task (+8).
Student 6 was also one of two students who attended only four out of the ten sessions. This
would also have a negative impact upon his learning of the visualization strategy.

It was interesting to note that the most improved student was student 1, who has been diagnosed
as having a severe language disorder. All of her scores, with the exception of the text level,
showed a very distinct improvement, with both her TORCH and Visualisation scores more than
doubling between pre and post testing. This was not what I was expecting, since under normal
circumstances, students with a language disorder usually only make small, slow progress over a
lengthy period of time. To see such dramatic progress in only two weeks was very encouraging.
Student 4 also showed a huge improvement in their Visualising post test score, their responses
showing a much better understanding of the story at sentence and topic level.

Students 2 and 5 both made improvements in all post test assessment tasks, although I
was expecting student 5 to make greater improvements than he did. Student five only
attended four out of the ten sessions, meaning that he missed the continuity, the modeling and
practice, and the gradual release of the teacher handing over control of the strategy to the
students.

Student 7 was the only student who attended all teaching sessions. His TORCH score and
Listening Comprehension both improved, while his visualization task score remained the same,
although his descriptions of his ‘pictures in my mind’ were more detailed and elaborate and he
used slightly more sophisticated vocabulary than in his pre test. For example;

**Pre test;** ‘They hit the rock and they flew on the grass.’
Post test; ‘The wheel cripples and the bike flipped and the two boys fell on the grass on the side of the path.’

Pre test; ‘The road went down (motions with his hands) and the bike went really fast.’
Post test; ‘The road started to get steeper and the bikes went faster and faster.’

Six out of seven students in the control group completed both pre and post testing assessment tasks. Five out of the six students improved their TORCH score. The average improvement for the control group students was 2.5 compared with 3.47 for the intervention group. Students 11 and 13 showed the most significant gains, with improvements of +4 and +4 respectively. One of these students had been receiving extra attention from their classroom teacher with regard to improving their comprehension skills and the other most improved student is a new arrival. Student 13 has only been in Australia for about six months, but is highly motivated and has the intellectual abilities needed to succeed. Her TORCH score more than tripled in the three weeks between pre and post testing. It is worth noting, however, that I did not set a time limit to complete the TORCH test and that student 13 was the slowest to complete the test, completing it more than thirty minutes after the second last student completed their assessment.

The Listening Comprehension test showed that four out of six students in the control group improved their scores although, none were really significant improvements. The highest gain was +5 compared with +9 for the teaching group. Two students in the control group scored lower in the post test than in the pre test, with drops of -3 and -4 which was the same as in the teaching group.

Improvements were noted in the Visualisation task for four out of the 6 students who completed the assessment. Student 12 made the most significant gains of +9 from their pre test score. All other gains were fairly minimal gains of +1 or +2, with one student decreasing their score by -1. These minor changes in scores could be explained as normal variations in any quantitative data.
Post test results in the Self Efficacy task showed that students in the intervention group had a more improved view of themselves as readers than did the control group, whose scores indicated that although some changes had occurred in the group as a whole, they did not have quite the same high view of themselves as readers as did the teaching group.

Students in the Teaching group who said ‘I know I can’t’ in the pre test all changed their mind to ‘I think I can’ or to ‘I’m half half sure’ in the post test. Whereas only four students stated those positive changes in the control group and student 10 showed that their view of themselves as a reader had actually gone down, in the three weeks between pre and post testing, even though his assessment scores had all shown minor improvements.

SELF EFFICACY TASK RESULTS POST TESTING

![Graph showing comparison between Teaching and Control groups for post testing.]

SELF EFFICACY TASK RESULTS PRE AND POST TESTING

![Graph showing comparison between Teaching and Control groups for pre and post testing.]

* T = Teaching Group   * C = Control Group
The post test results support my prediction that teaching the visualization strategy will improve comprehension in Year 3 and 4 students. Both groups showed a general improvement across all assessment tasks (with the exception of text levels), but the intervention group made more significant gains. The students in the teaching group were not only receiving quality classroom teaching but, in addition to this, they received explicit teaching of the visualization strategy with an emphasis on describing their visualizing to the group through talk.

The overall gain in number form was 10.57 for the teaching group and 5.51 for the control group. This number was arrived to by adding together all gains made across all four assessment tasks, (text level gains, TORCH, Listening Comprehension and the Visualising task) then dividing it by the number of students who sat the pre and post tests and finally, adding all numbers together.

DISCUSSION
The prediction that Year 3 and 4 students will become more pro-active in their reading comprehension through the use of the visualizing strategy has been supported by the research. This can be seen in the assessment results and in observations made during the teaching sessions. At the beginning of the study students were by and large, unable to give more than a brief description of their visualizations compared with responses made in the post test. Pressley (2002) has noted that readers who comprehend well use prior knowledge strategically, that is, they make a picture in their mind of what they author has not written about in the text, bringing their own knowledge, understanding and life experiences to the text they are reading.

Simple three and four word responses were fairly typical of most students initially. They were able to make a picture in their mind but it was a picture with very little detail in it. The more cognitively capable students were able to make links at more than the word level, but others were not. This was especially evident for students 1 and 4, but as the teaching sessions progressed they became more confident and more accurate in their visualizing. For example, in the final teaching session, Student 4 was even confident enough to ask for clarification at points of confusion, for example, where the vocabulary was unknown to him. This also showed that Student 4 understood that to make a picture in his mind, he first needed to understand all the words in the sentence.
All of the students in the intervention group were good decoders, but not necessarily good comprehenders, as was evidenced in their pre test scores. This is not uncommon in young readers, and is even less uncommon in young readers from a language background other than English, who often lack the range of vocabulary knowledge needed for successful comprehension. A limited vocabulary suppresses the development of reading comprehension and makes visualising a difficult strategy to learn and to use, simple because students do not understand the words. Snow, Griffins and Burns (2005) found that low vocabulary knowledge is highly correlated with weak reading comprehension. In my small study, I found that during the teaching sessions, especially in the last four when we were using the text ‘Caves’, that we actually did very little reading in terms of quantity of text. This was because there was a lot of new vocabulary we needed to discuss, then substitute alternate meanings or phrases, then paraphrase the text, visualize then discuss again. So I found that for these LBOTE students visualizing necessarily included discussion, the explicit teaching of vocabulary, paraphrasing and discussion in order for them to be able to have an understanding of the text.

This explicit teaching about visualizing sentences, with a focus on describing the visualizations, clarifying vocabulary and paraphrasing does make a significant difference to students abilities to comprehend text. Post test results confirm this. The ability to transfer this knowledge independently seemed to be used to some degree by the students in the teaching group, even though they were not prompted to do so. This finding is supported by Chan, Cole and Morris (1990, p3.) who found that ‘visualising…of what is being read aims at promoting active processing…to enhance comprehension.’ So, part of my prediction that visualizing would help students to become more proactive when reading is supported by the findings in this project.

There are some implications for future teaching practice suggested by this study. First, limited vocabulary knowledge hindered all the ability of all students to visualize the more difficult non-fiction test used in the last four teaching sessions. Even though the text was easily and readily decoded by all students and was a text typical of those used by students in Years 3 and 4, there was very specific vocabulary used to describe and discuss the topic (Caves). Much of the vocabulary was new to the students in the group but, by listing this vocabulary with its meanings
and then revising it at every subsequent session, the students were strongly supported in their attempts to visualise and hence, comprehend the text.

Second, the ten teaching sessions were the very minimum needed for students to learn the strategy. By the end of the ten sessions, all but two students were able to state the three steps in the visualizing strategy and say how it helps with their reading.

Third, it was very important to use only small amounts of text, even single sentences. In this way it gave students lots of practice with small pieces of different types of text, rather than a few practice sessions with longer pieces and less text types. It also gave students a greater measure of success, since they had more control over the text, simply because of its brevity.

Fourth, it is important to use both fiction and non fiction texts, since much of what students read is non-fiction, especially as they move through and up the year levels.

Finally, students in the teaching group will need to be reminded from time to time, to continue to use the visualization strategy. I would like to have some follow-up sessions with the students towards the end of the term in order to remind them of the strategy and how to use it. But first, in the next week or so, I want to draw the group back together again and congratulate them upon making such excellent gains in their reading comprehension skills, as evidenced in their post test results.

This study has shown that visualization as a comprehension strategy, encompassing discussion, vocabulary development and paraphrasing does make significant gains in students’ ability to read and comprehend text. Visualisation as a stand-alone strategy does not work well with students from a language background other than English who often have poor vocabulary knowledge, but when combined with rich discussion, the explicit teaching of vocabulary and paraphrasing, the gains in comprehension can be substantial.
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APPENDIX

Appendix 1

Teaching sessions – Teaching a visualizing strategy to a small group of Year 3 and 4 students to improve comprehension skills.

VISUALISING

Session 1

Recommended teacher dialogue is shown in italics.

Introduce the strategy: *I am going to show you some familiar objects. I want you to look at them carefully and after a minute or two I will remove the object. Then, I want you to close you eyes and see the object in your mind. This is called visualizing. Next I want you to describe the picture you saw in your mind.*

Activity #1 – Color and Geometric shapes.
1. Present geometric shapes of different colors, one at a time to students.
2. Ask them to look at it carefully.
3. Remove the shape and ask students to see the shape in their minds by closing their eyes, staring at a blank wall or by rolling their eyes up toward the ceiling. (Let students experiment to see which works best for them).
4. Teacher models for students how to do this.
Example: *in my mind I can see a red shape. It is bigger than my hand and it has six sides. It's thin and it's made of hard plastic.*
5. If a student says he can’t see the shape, let him/her draw what they remember. (To draw the shape they must use visual memory).
6. Students describe to the group what they *see* in their minds eye.
7. Repeat activity another 1 or 2 times as necessary.
8. Explain to the students that *good readers see* (visualize) pictures as they read. *This ability to see pictures or movies in your mind as you read, leads to good understanding of what you read. It also helps you to remember what you have read.* Let us all say together;

**GOOD READERS SEE PICTURES IN THEIR MIND AS THEY READ.**

(Have students repeat after you).
Activity #2 - Concrete objects.

Recommended teacher dialogue is shown in italics.

1. Present students with an interesting object, eg. a soft toy.
2. Ask students to use their senses to look at it and touch it. (If appropriate other senses can be used as well, eg. smell, hearing, taste).
3. After a minute or two, remove the object and ask students to close their eyes and make a picture of the object in their mind. If they want to they can draw the object. Teacher models for students how to do this. Example: the toy is a small, furry brown kangaroo. It has a red ribbon around its neck. The kangaroo is a mother because she has a joey in her pouch. The toy is very soft and it has black, shiny button eyes.
4. If necessary, they can be prompted by asking “What can you see now?”
5. Ask students to describe their visualizations with the group.
6. Repeat activity another 1 or 2 times as necessary.
7. Again, explain to the students that good readers see (visualise) pictures as they read. This ability to see pictures or movies in your mind as you read, leads to good understanding of what you read. It also helps you to remember what you have read. Let us all say together:

   **GOOD READERS SEE PICTURES IN THEIR MIND AS THEY READ.**
   (Have students repeat after you).

Activity #3 - Distant Concrete objects

Recommended teacher dialogue is shown in italics.

1. This time, ask students to recall something they have in their classroom and close their eyes and make a picture of it in their mind. If they wish to draw it, allow them to do so.
2. Teacher models for students how to do this.
Example: in my classroom I can see a big red table in the middle of the room. There are 6 red chairs around the table and 3 or 4 piles of books on top of the table; I can also see my diary on one corner of the table.

3. Ask the students to share what they see with the group.

4. Repeat activity as necessary by recalling and making pictures in their mind of things from their home. Eg. objects in the kitchen, their bedroom, a special toy, the family car.

5. At the end of each visualisation, have students share what they see with the group.

6. Again, explain to the students that good readers see (visualise) pictures as they read. This ability to see pictures or movies in your mind as you read, leads to good understanding of what you read. It also helps you to remember what you have read. Let us all say together:

   **GOOD READERS SEE PICTURES IN THEIR MIND AS THEY READ.**
   (Have students repeat after you).

**Session 2**

**LISTENING TO A NARRATIVE TEXT**

Recommended teacher dialogue is shown in italics.

Begin this session by reminding students what we learned in the previous session. That good readers see (visualise) pictures as they read. This ability to see pictures or movies in your mind as you read, leads to good understanding of what you read. It also helps you to remember what you have read. Let us all say together:

   **GOOD READERS SEE PICTURES IN THEIR MIND AS THEY READ.**
   (Have students repeat after you).

Today we are going to visualize things we read. This is what you do. After I have read each sentence, you make a picture of it in your mind and say what the picture is.
Listen to these sentences. Put a picture in your head then tell us about the picture. (Students can elect to draw pictures if they wish).

I will read the sentence then I will try to visualise it. Then I want you to try.

<table>
<thead>
<tr>
<th>(Simple) sentences read out loud</th>
<th>Teacher visualisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The cat ate the fish.</td>
<td>In my mind I see a black cat holding a goldy colored fish in his paws. He holds the fish tight as he bends his head down to eat the fish.</td>
</tr>
<tr>
<td>A cricket ball smashed the glass door.</td>
<td>In my mind I can see a group of boys in the playground playing cricket. One of the boys is bowling the ball, the boy who is batting whacks the ball with the bat and it smashes into the classroom window.</td>
</tr>
<tr>
<td>Our school principal read a story to the preps.</td>
<td></td>
</tr>
<tr>
<td>The doctor gave the sick boy an injection.</td>
<td></td>
</tr>
<tr>
<td>The cleaner mopped the floor,</td>
<td></td>
</tr>
<tr>
<td>The rich man sold his big house for lots of money.</td>
<td></td>
</tr>
<tr>
<td>Jane and Mary shared 12 lollies equally between themselves.</td>
<td></td>
</tr>
<tr>
<td>The hungry dog ate a big juicy bone.</td>
<td></td>
</tr>
</tbody>
</table>

**Teacher reviews the action:** Let us look at what we did. I read each sentence and then made a picture of it. See how it helped you to understand what the text said. Do you have any questions?

Repeat this for the rest of the text, sentence by sentence. The teacher models the visualizing first then lets students take turns. Remind them regularly of what they are doing. **What do you tell yourself to do when you visualize?**

Continue to work through the texts as many as required. Allow students to make comments about each others visualising, correcting if necessary.
<table>
<thead>
<tr>
<th>More complex sentences read out loud</th>
<th>Teacher visualization</th>
</tr>
</thead>
<tbody>
<tr>
<td>The bottle of coke fell on the carpet and stained it.</td>
<td>In my mind I can see a little boy getting a big bottle of coke out of the fridge. It's too heavy for him and as he tries to pour himself a glass, the bottle slips out of his hands and it falls to the floor and spills on the carpet and a big black stain appears on the carpet.</td>
</tr>
<tr>
<td>A fast car, traveling on the highway, easily passed the school bus.</td>
<td>I n my mind I can see a red sports car being driven at high speed along a crowded freeway. There's a school bus full of children traveling in the outside lane. The driver of the car accelerates and easily passes the overcrowded bus.</td>
</tr>
<tr>
<td>The vet asked his nurse to hold the puppy while he gave him an injection.</td>
<td></td>
</tr>
<tr>
<td>The sleeping horses suddenly woke up when they heard a loud bang coming from the other end of the stable.</td>
<td></td>
</tr>
<tr>
<td>The thief robbed the bank and as he escaped he shot the bank manager.</td>
<td></td>
</tr>
<tr>
<td>My aunt and uncle want to build a big house in the country but they don't have enough money to start the building yet.</td>
<td></td>
</tr>
<tr>
<td>Sam has a big bit of paper, a brush and three pots filled with red, blue and yellow. She smiles as she picks up the brush to start painting.</td>
<td></td>
</tr>
<tr>
<td>I am sitting on a seat. My feet are on the pedals. I am puffing but it's great as I go across the line. It's my first championship.</td>
<td></td>
</tr>
</tbody>
</table>

After the students have visualized the texts (as many as felt necessary), let's discuss what steps you used to visualize. Several students say the process they used to arrive at a mental picture.
Tell me what you know about visualizing and what steps you should follow to visualize a text.

Have students say what they do when they visualize as follows:

1. The first step in visualizing is to read a sentence.
2. The second step is to make a picture of what it says.
3. The third step is to say the picture you have made.

Session 3

READING OUT LOUD NARRATIVE TEXT

Recommended teacher dialogue is shown in italics.

During this session students again apply the visualizing strategy sentence by sentence. The students review the steps involved in producing visualising and the teacher gives additional practice in visualizing single sentences first interactively as a group and then with a partner. The teacher actively monitors the students’ visualizing, giving appropriate feedback both individually and through group discussion. Pupils transfer the strategy to new texts by being shown a text and saying what they will do.

Teacher reviews what students remember about visualizing from sessions 1 and 2.

- What do you do when you visualize a sentence?
- How does visualizing help you?

Let’s say together the three steps about what to do when we visualise:

1. The first step in visualizing is to read a sentence.
2. The second step is to make a picture of what it says.
3. The third step is to say the picture you have made.
Repeat set of teaching procedures as in Sessions 1 and 2. Regularly remind students of the nature of the task and have them review the action. Students can elect to draw pictures if they want.

Passages to read and visualize

| Dan sits by the fire with Midnight on his lap. He strokes the silky fur softly as his head nods to his chest. |
| Mum goes into the shop and is quickly served. She buys a loaf of bread, five fresh rolls and a bun then hurries to her car. |
| On the table I have a card. There is an envelope in my right hand I am holding a pen too. I start to write on the envelope. |
| We are looking at the beautiful Monarch butterflies. One sits on my hand. 'Be careful to shake it off gently before you go out,' says the teacher. 'Goodbye your Highness,' says George. |
| The bus slowly roared up the hill. 'You would think there were fifty people on board,' said Don. 'It's the engine,' said John. 'Too old.' |
| A girl in a wheelchair is sitting at her computer. A book is open and her hands are on the keyboard. She looks up and asks the teacher a question. |
| The rabbit came out of its hole into night as bright as day. Immediately the rabbit bent down to eat but it kept looking around between mouthfuls of grass. |
| Our cat has three kittens. Jack loves the all-black one best because it is naughty. Tara likes to cuddle the white one with the black spot on its head. But I adore the white one that's so tiny. |

**Session 4**

**READING OUT LOUD NARRATIVE TEXT**

Recommended teacher dialogue is shown in italics.

*In the last 3 sessions we were practicing visualising sentence by sentence. Now we are going to read two sentences at a time and then visualise them.*

*Let’s revise what actions we do when we visualize. Students say what they do.*

Passages to read and visualize, printed onto card for students to read out loud.
'Come back!' called Michelle. But it didn't.
It just jumped over the wooden fence, gave a bark and ran on. She couldn't catch it until they had nearly reached the road.
'Bad boy!' she said angrily. 'You could have been killed!'
The man comes out of the shop to meet his wife. She has been waiting for him on the footpath. He holds a very small bag in his hand. He opens the bag to show his wife. She looks into the bag and lets out a small cry of delight. Then she puts her hand into the bag and pulls out her favourite chocolate.
Kay gets three cups. She puts a teabag in each one. She hears the kettle begin to whistle so she picks up the kettle and fills the cups. She adds milk to two cups and sugar to one. Then she puts the cups onto a tray and walks into the lounge.
'This one is breathing!' called someone. The others waded over and began to push desperately. Unexpectedly, a bigger wave rose above the sand bar and the poor creature was free. They all cheered. Its big eyes looked back at them as though he was saying thanks.
The grey mouse poked his nose out of his hole in the wall. He looked around nervously. Then suddenly, he scurried across the kitchen floor towards a pile of bread crumbs. Quickly he ate as many as he could, before scampering at great speed back into the safety of his mouse-hole.
A young boy climbed onto his brother's bike. His feet nearly reached the pedals. He sat on the seat and tried to pedal as best as he could. The bike wobbled and started to move forward slowly. The suddenly...wobble, wobble, crash!
Joan could hardly believe her eyes! All these gifts were for her! She had never seen so many packages. Which one should she unwrap first? The biggest? The smallest? Such hard decisions to make! Perhaps she could ask her sister to help her.
Mum looked sad when she met Jack from school. 'I have lost my ring,' she said. 'I have looked everywhere, but I can't find it,' 'Is that the ring Dad gave you?' Jack asked. 'Yes,' said Mum. 'He'll be worried about it.' 'I will help you look for it after tea,' said Jack. After tea, as Jack was eating his third cake, his teeth bit on something hard. He took it out of his mouth. Guess what it was! It was Mum's ring. What a surprise they both had!
'There is wind here,' said Mark happily. 'It blows the snow and brings tumbleweeds and makes the sheep run. Wind and wind and wind!' Mark stood up and ran like the wind, and the sheep ran after him. Sarah and I watched him jump up over rock and gullies, the sheep behind him, stiff legged and fast. He circled the field, the sun making the top of his hair golden. He collapsed next to Sarah, and the lambs pushed their wet noses into us.
Session 5

READING OUT LOUD NARRATIVE AND NON-FICTION TEXT

Recommended teacher dialogue is shown in italics.

Teacher review what students remember about visualizing from Sessions 1, 2, 3, 4.

- *What do you do when you visualize two sentences at a time?*
- *How does visualising help you?*

Have students visualize some of the passages used in Sessions 3 and 4. Remind them to read one or two sentences at a time.

Students can read 2 or 3 passages of text as a group, repeating the set of teaching procedures in Session 1. Regularly remind students of the nature of the task and have them review the action.

<table>
<thead>
<tr>
<th>Passage 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jake and Pete</td>
</tr>
<tr>
<td>Andrew Perry and Ron Thomas, Literacy in the Classroom-Book 1, Oxford University Press-2000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Passage 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coconuts</td>
</tr>
<tr>
<td>Scholastic Literacy Skills, Comprehension Ages 6-8 Scholastic</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Passage 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>What happened to the dinosaurs?</td>
</tr>
<tr>
<td>Scholastic Literacy Skills, Comprehension Ages 6-8 Scholastic</td>
</tr>
</tbody>
</table>

Remind students of the visualization strategy and then let them work in pairs the read and visualize Passage 5, Mobile Phones, Scholastic Literacy Skills, Comprehension Ages 6-8 Scholastic.

Come together as a group to discuss passage 5. Monitor students' comments and correct if necessary.

Review the visualisation strategy by having students repeat it to the group.
Session 6

READING OUT LOUD NARRATIVE AND NON-FICTION TEXT

Recommended teacher dialogue is shown in italics.

Remind students of the strategy: You have been learning to do something that will help you to understand and to remember what you read. We called it visualizing. What you do is this. After you have read a sentence or a couple of sentences, you make a picture of it in your mind and say what the picture is.

(Passage #1 ‘Emily and the egg’)
This text is about Emily who finds a large, unusual egg in a park. She looks after it until it hatches, but it’s not a chicken that hatches out of the egg......

Have students take turns to read aloud the first one or two sentences twice. Visualise sentences as a whole group activity. Then, in pairs, have students read each sentence, visualize it and describe their image. Then ask groups to say their image of each sentence.

Teacher reviews action: Let us look at what we did here. We read each sentence and then made a picture of it in our minds. Then we said what our image was. See how it helped you to understand what the text said. Do you have any questions?

Repeat this for the rest of the paragraphs, one at a time.

Correct students’ responses.

After the students have visualized the paragraphs, have students identify unfamiliar words and suggest synonyms or meaningful phrases for them. Record these on a whiteboard and have students say each word and its meaningful substitutes. These may include the following:

Passage#1(Emily finds an egg)

<table>
<thead>
<tr>
<th>TEXT WORD/PHRASE</th>
<th>STUDENTS SUGGEST SYNONYM OR MEANINGFUL PHRASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curl of smoke</td>
<td>The smoke is going upwards like a curl (question mark)</td>
</tr>
<tr>
<td>Scaly</td>
<td>Body is covered in scales like a snake/fish</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>spiky</td>
<td>Lots of small spikes or points</td>
</tr>
<tr>
<td>popped</td>
<td>Put, placed</td>
</tr>
</tbody>
</table>

**Passage #2 (Are you what you eat?)**

<table>
<thead>
<tr>
<th>TEXT WORD/PHRASE</th>
<th>STUDENTS SUGGEST SYNONYM OR MEANINGFUL PHRASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced diet</td>
<td>When you eat a little bit from each food group</td>
</tr>
<tr>
<td>Sort</td>
<td>kind</td>
</tr>
<tr>
<td>Grains</td>
<td>Wheat, corn, oats, barely are grains</td>
</tr>
<tr>
<td>Grinding</td>
<td>crushing</td>
</tr>
</tbody>
</table>

**Passage #3 (Getting to school)**

<table>
<thead>
<tr>
<th>TEXT WORD/PHRASE</th>
<th>STUDENTS SUGGEST SYNONYM OR MEANINGFUL PHRASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>The world</td>
</tr>
<tr>
<td>Pollute</td>
<td>To make the world dirty, unclean</td>
</tr>
<tr>
<td>Country areas</td>
<td>Places in the country, outside of the city</td>
</tr>
<tr>
<td>Narrow</td>
<td>Thin</td>
</tr>
<tr>
<td>Villages</td>
<td>Small towns</td>
</tr>
<tr>
<td>journey</td>
<td>trip</td>
</tr>
</tbody>
</table>

**Session 7**

**READING OUT LOUD NON-FICTION TEXT**

Recommended teacher dialogue is shown in italics.

Use text ‘Caves’ from MacMillan Education

In this session, students read aloud a sentence or two, visualize as a whole group and then each student writes a description of their image for each sentence. Work through each paragraph, sentence by sentence in turn.
Remind students of the strategy: You have been learning to do something that will help you to understand and to remember what you read. We called it visualizing. What you do is this. After you have read a sentence or a group of sentences, you make a picture of it in your mind and say what the picture is.

First we did this with sentences, now we can do it with several sentences, depending on how long and difficult they are.

After reading each page, students suggest new unfamiliar words/phrases and the teacher and/or student peers teach synonyms for these. List these on the white board, teach these and the synonyms.

Teacher reviews what students remember about visualizing:

- What do you do when you visualise a sentence?
- How does visualizing help you?

VISUALISING

Session 8

SILENTLY READING NON-FICTION TEXT

Recommended teacher dialogue is shown in italics.

Use text Caves, MacMillan Education.

Review the key words and synonym list assembled in Session #7. Write each of the key words on the whiteboard and ask students to suggest synonyms or matching meaningful phrases. Have students say again the links between each pair.

In this session, students read silently the first paragraph, one or two sentences at a time. When they have done this at least once, students in the whole group activity make an image of it and describe their image.
After reading this sentences, ask students to suggest new unfamiliar words and teach synonyms for these. Paraphrase the text as necessary, visualize and describe to the group.
List new unfamiliar words on the whiteboard, teach these and the synonyms and add to the earlier list.

Students say what they do when they visualize a paragraph.

Teacher reviews what students remember about visualizing.

* What do you do when you visualise a sentence?
* How does visualising help you?
*

Session 9

SILENTLY READING NON-FICTION TEXT

Recommended teacher dialogue is shown in italics.

Use text Caves, MacMillan Education.

Read silently each paragraph one or two sentences at a time. Students visualize sentence by sentence in the whole group and each student writes their visualization of each sentence.

Review key words and synonym list assemble in Sessions 7, 8. Write each of the key words on the white board and ask students to suggest synonyms or matching meaningful phrases. Have students say again the links between each pair.

Ask students: What do you do to visualize a paragraph?

During this session, the students read silently the first paragraph. Once they have done this at least once, students visualize the paragraph one or two sentences at a time, then individually, make an image of what it says. They describe their images and how they made them. They then continue to apply this to each of the other paragraphs.
After reading the section, ask students to suggest new unfamiliar words and teach synonyms for these. List these on the whiteboard, teach these and the synonyms and add them to the earlier list.

Teacher reviews what students remember about visualizing.

- What do you do when you visualise a sentence?
- How does visualising help you?

**Session 10**

**SILENTLY READING NON-FICTION TEXT**

Recommended teacher dialogue is shown in italics.

Use text Caves, MacMillan Education.

Review key words and synonym list assemble in Sessions #7, 8, 9. Write each of the key words on the white board and ask students to suggest synonyms or matching meaningful phrases. Have students say again the links between each pair.

**Ask students:** What do you do to visualize a paragraph?

During this session, the students read silently the first paragraph. Once they have done this at least once, students individually make an image of the paragraph, one or two sentences at a time, then describe the image to themselves and write it down. When they have finished doing this individually for the text, the students share their images for each paragraph with the group.

After reading the section, ask students to suggest new unfamiliar words and teach synonyms for these. List these on the whiteboard, teach these and the synonyms and add them to the earlier list.

Teacher reviews what students remember about visualizing.

- What do you do when you visualise a sentence?
- How does visualising help you?
Appendix 2:
Sample student responses during the teaching sessions.

<table>
<thead>
<tr>
<th>Session 2</th>
<th>Session 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘The dog had a bone.’</td>
<td>‘Mum got a bread in the shop.</td>
</tr>
<tr>
<td>‘The coke fell over.’</td>
<td>The rabbit came out its hole.</td>
</tr>
<tr>
<td>‘A cat.’</td>
<td>It had grass in its mouth.</td>
</tr>
<tr>
<td>‘The vet gived the puppy a needle.’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Session 4</th>
<th>Session 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michelle shouted but the dog kept on running. It was barking. He was bad.</td>
<td></td>
</tr>
</tbody>
</table>

Sample student responses during pre and post assessment tasks.

<table>
<thead>
<tr>
<th>Text to visualise</th>
<th>Student response Pre Test</th>
<th>Student Response Post Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>The two friends chatted they were not paying attention to anything.</td>
<td>Student 1 They were talking and not paying attention and they’re going to get in trouble with the teacher</td>
<td>Student 1 The two girls was talking a lot and they never stopped.</td>
</tr>
<tr>
<td>The track became narrow and twisted.</td>
<td>Student 1 The train goes down a track. Student 4 No response</td>
<td>Student 1 The track, it turned around. Student 4 The track where they ride their bikes, it became narrow and twisted.</td>
</tr>
<tr>
<td>Now they were gripping the bike as tightly as they could, showing fear on their faces.</td>
<td>Student 1: They hold the bike so tight and their face got red.</td>
<td>Student 1: They were holding the bike so tightly and they got red on the face.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Student 4: No response</td>
<td>Student 4: Now the two friends were showing fear on their faces.</td>
<td><em>Student 4 asked for the meaning of ‘fear’ before responding.</em></td>
</tr>
</tbody>
</table>
Appendix 3:
Table 1 Student Profile Data Teaching Intervention Group

<table>
<thead>
<tr>
<th>STUDENT NO.</th>
<th>SEX</th>
<th>YEAR 3/4</th>
<th>DOB</th>
<th>AGE (MONTHS)</th>
<th>PREVIOUS READING INTERVENTION</th>
<th>SPECIAL EDUCATION</th>
<th>LBOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F</td>
<td>3</td>
<td>12.09.99</td>
<td>102</td>
<td>Reading Recovery</td>
<td>Severe Language Disorder</td>
<td>YES</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>3</td>
<td>5.06.99</td>
<td>105</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>3</td>
<td>9.03.99</td>
<td>109</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>4</td>
<td>M</td>
<td>3</td>
<td>20.11.99</td>
<td>100</td>
<td>Reading Recovery</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>5</td>
<td>M</td>
<td>4</td>
<td>26.11.99</td>
<td>100</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>6</td>
<td>M</td>
<td>4</td>
<td>29.07.98</td>
<td>117</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>4</td>
<td>25.04.99</td>
<td>107</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
</tbody>
</table>

Table 3 Student Profile Data Control Group

<table>
<thead>
<tr>
<th>STUDENT NO.</th>
<th>SEX</th>
<th>YEAR 3/4</th>
<th>DOB</th>
<th>AGE (MONTHS)</th>
<th>PREVIOUS READING INTERVENTION</th>
<th>SPECIAL EDUCATION</th>
<th>LBOTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>M</td>
<td>4</td>
<td>9.04.98</td>
<td>120</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>9</td>
<td>F</td>
<td>4</td>
<td>27.10.98</td>
<td>114</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>10</td>
<td>M</td>
<td>3</td>
<td>29.09.99</td>
<td>101</td>
<td>Reading Recovery</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>11</td>
<td>M</td>
<td>3</td>
<td>21.10.99</td>
<td>100</td>
<td>Reading Recovery</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>12</td>
<td>F</td>
<td>3</td>
<td>24.09.00</td>
<td>101</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>13</td>
<td>F</td>
<td>4</td>
<td>25.07.98</td>
<td>116</td>
<td>NO</td>
<td>NO</td>
<td>*YES</td>
</tr>
<tr>
<td>14</td>
<td>F</td>
<td>4</td>
<td>12.10.98</td>
<td>114</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
</tbody>
</table>

*New Arrival. Has been in Australia for less than 12 months.
Appendix 4:

Student attendance record at the teaching sessions

<table>
<thead>
<tr>
<th>Student</th>
<th>Session 1</th>
<th>Session 2</th>
<th>Session 3</th>
<th>Session 4</th>
<th>Session 5</th>
<th>Session 6</th>
<th>Session 7</th>
<th>Session 8</th>
<th>Session 9</th>
<th>Session 10</th>
<th>No. of absences</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>A</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
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</table>

P = Present  
A = Absent
Appendix 5:

GRAPHS OF STUDENT RESULTS PRE AND POST TESTING

TEACHING GROUP

STUDENT 1

STUDENT 2

STUDENT 3
STUDENT 7

CONTROL GROUP

STUDENT 8 (absent for post test)

STUDENT 9