

The explicit teaching of visualisation strategies to grade 5/6 student, will increase their comprehension skills when reading factual texts.

Abstract

There is an expanding volume of research to suggest that children have difficulty comprehending written texts due to their inability to use effective visualization strategies. It has been widely argued, throughout the literature, that having difficulty formulating mental pictures into spoken language at the conceptual level may limit reading comprehension. The present study examines the explicit teaching of one visualisation strategy to a class of 5/6 student in the whole class setting. The majority of students improved their reading comprehension as measured by the VELs progression points. A percentage of the class moved to a higher spelling level and a further percentage gained a higher score on their Torch reading comprehension test.

The current study compared the findings of two groups of students, a control group who received no intervention and an experimental group who were taught to use mental pictures to help develop their comprehension skills. The lessons were conducted over a two week period with the lessons of thirty five minutes duration. All lessons were scripted lessons developed by John Munro and taken from the 2008 'Intervention Literacy' course notes. The control group was another grade 5/6 class with a similar population. The results indicate support for the hypothesis as the comprehension levels of the intervention group improved in all measurable areas.

Implication for teaching suggests that even at a whole class level explicit teaching of visualisation strategies leads to an overall increase in comprehension skills.

Introduction

Research in recent years has demonstrated a wider, deeper understanding of the reading process. Understanding the content is the main aim in reading and one major component to this understanding is visualisation. Current research suggests that reading difficulties arises across a wide range of language and cognitive activities (Williams, 2000). And that observing what a good reader does will provide further, refined areas of analysis such as: in reading, the visualisation process is an empowering tool for 'comprehension and learning' (Farris and Downey cited in Haughton 2008 p65). Visualisation in this sense refers to the metacognitive process of making mental pictures of the text, to aide comprehension.

In 2005 Schauer's research into mental imagery, concluded that reading comprehension would increase if teachers explicitly taught the strategy of visualisation. In an earlier study Cook (1995) examined the effects that teaching visualisation strategies had on reading comprehension and also concluded that visualisation strategies have a positive affect on reading outcomes. Exploring the reading event itself recognises and affirms the dynamic involvement of the reader in the creation of the world of the text (Parson 2006).

Manning believes that students must slow down when reading (Manning 2002) so that they can activate the movie camera in their heads (Schauer 2005) and that they must learn through explicit teaching how to manipulate and focus this imaginary camera. She sees the punctuation marks as an ideal opportunity for the reader to stop and process the picture created in their heads. Munro (2008) also uses the punctuation as the parenthesis for thought, recommending the sentence as a starting point in the visualisation strategy.

"What is the problem and how can I visualize it" (Naught 2008 p65)?
Becomes as Munro (2008) puts it, a three step approach, read (decode the

text), visualize (make a picture in your head) and articulate (draw, write speak). It is this approach the current study attempts to put into practise.

Hypotheses

The explicit teaching of visualisation strategies to grade 5/6 student, will increase their comprehension skills when reading factual texts.

Method

The case study uses the OXO methods in which visualisation techniques are used to attempt to make gains in reading comprehension levels. The Pre-Assessments were done, (O), the intervention then took place (X), and the Post Assessments (O) then completed the study.

The participants

The research was conducted with a year 5/6 (whole) class at an outer Western primary school.

Research Group Gender Distribution

Grade	Male	Female
5	7	9
6	9	4

Table 1

Off the 29 students 16 are in grade five (55%) and 13 are in grade six (45%). The gender distribution may be seen by figure 1, above, of the whole class 16 students are male and 13 are female. Academic achievement ranged across six years of primary school. With the Jan Roberts spelling assessment ranging from level 1 to level 8 at the higher end of the grade. As well as a student demonstrated need to increase reading comprehension levels all students were in the Author's grade.

Two students had received explicit teaching in the Learning to Read, Reading to Learn program (L.R.R.L.). In fact most children in the grade would have been exposed to the strategy as it was part of the senior literacy tool box. Four students have a dominant ESL background with their native language being exclusively spoken at home. Student RG4 (research group 4) has an intellectual assessment pending and student RG20 has a gifted assessment pending. It is the Author's aim to point out the diversity of the class and to emphasise that the whole class is being addressed in the explicit teaching. The table below outlines the research group's personal details. The control group's details may be found in appendix 1.

Name	0 or 1 Teaching/Control Group	Age in Years	Gender 0=Female 1=Male	Grade	ESL No=0 Yes=1	Funded No=0 Intel=1 Lang=2	Earlier Intervention No=0 RR=1 LRR=2	EMA No=0 Yes=1
1	0	11.3	1	5	1		0	0
2	0	10.5	0	5	0		0	0
3	0	10.6	1	5	0		0	0
4	0	11.8	0	6	1		0	0
5	0	10.5	1	5	0		0	0
6	0	11.8	0	6	0		0	0
7	0	12.6	1	6	0	2	2	0
8	0	10.4	0	5	0		0	0
9	0	11.3	1	5	0		0	0
10	0	10.7	0	5	0		0	0
11	0	10.9	0	5	0		0	0
12	0	10.6	1	5	0		0	0
13	0	11.3	1	6	0		2	0
14	0	11	1	5	0		0	0
15	0	11.7	1	6	0		0	0
16	0	10.3	1	5	0		0	0
17	0	11.2	1	6	1		0	0
18	0	11.8	1	6	0		0	0
19	0	10.4	0	5	0	1	1	0
20	0	12	1	6	0		0	0
21	0	11.3	0	6	0		0	0
22	0	10.9	0	5	0		0	0
23	0	10.3	0	5	0		0	0
24	0	9.9	0	5	0		0	0
25	0	11.8	1	6	0		0	0
26	0	10.3	0	5	0		0	0
27	0	11.8	0	6	1		0	0
28	0	11.6	1	6	0		0	0
29	0	11.4	1	6	0		0	0

Table 2

The materials

The formal assessment measures used for data collection were:

- Torch comprehension test (not included)
- Jan Roberts spelling test (not included)
- reading materials (may be found in appendix 2)
- Step by step lesson scripts (appendix 3)
- highlighters, pencils, paper
- teacher journal to note progress.

Procedure

As part of their normal testing procedure the students are given a Torch test at the start of the academic year. This is accompanied by a Running record and a Jan Roberts spelling test. This procedure is repeated in June and November. This data is used to monitor the student's progress. The Author was aware of the involvement of another grade and was at pains to make the data collection as normal as possible. With this in mind the research group were given a Torch test, and a Jan Roberts spelling test, as well as a VELS reading progression point based on a text response. The text response was a 'text to self' that was moderated with the other two senior grades. The method of moderation was to identify the low, middle and high achievements and then use the VELS documents to allocate an appropriate progression point.

The classroom teacher took the research group for 10 X 35 minutes lessons over a two week period – The students were engaged in explicit teaching on a daily bases as part of their normal reading hour. The visualisation lessons became the first whole as part of the whole, part, whole literacy delivery which is common classroom practise.

The teaching procedure for each lesson was based on John Munro's Comprehension – Visualizing Strategy (In Literacy Intervention Strategies lecture notes, 2008). The strategy notes were modified to target level 4 (see

appendix 3) and to take advantage of John Munro's script, enabling any emergency or substitute teacher to continue the lesson sequence with out interruption, as it was important to maintain the two weeks of intense teaching. All visualisation lessons were conducted within the first hour of the two hour literacy block and therefore a routine was established with in the first few days. The routine was important for the children operating at the lower end of the grade.

The initial session set up the pattern for the following lessons with the mantra being: read (decode the text), visualize (make a picture in our head), and articulate it (draw, write, or speak). The sign systems of written language, spoken language, and symbolic representation offer a unique way of creating meaning (parson's 2006 p493). At the end of each session the children used a cognitive refection wheel to articulate their responses to the lesson.

The structure of each session was

- Introduce/reintroduce strategy
- Teacher modelling
- Complete Activity
- Reflection

At the conclusion of ten lessons the whole class was reassessed using the Torch, Jan Roberts and VELS reading levels. The Control group was also reassessed at the end of the two week period.

Results

The results support the hypothesis: that the explicit teaching of visualisation strategies to grade 5/6 student, will increase their comprehension skills when reading factual texts.

As stated earlier the testing regime was constant with the school's normal testing procedures hence the measurement of student growth taken from the Torch, Jan Roberts and VELS progression points.

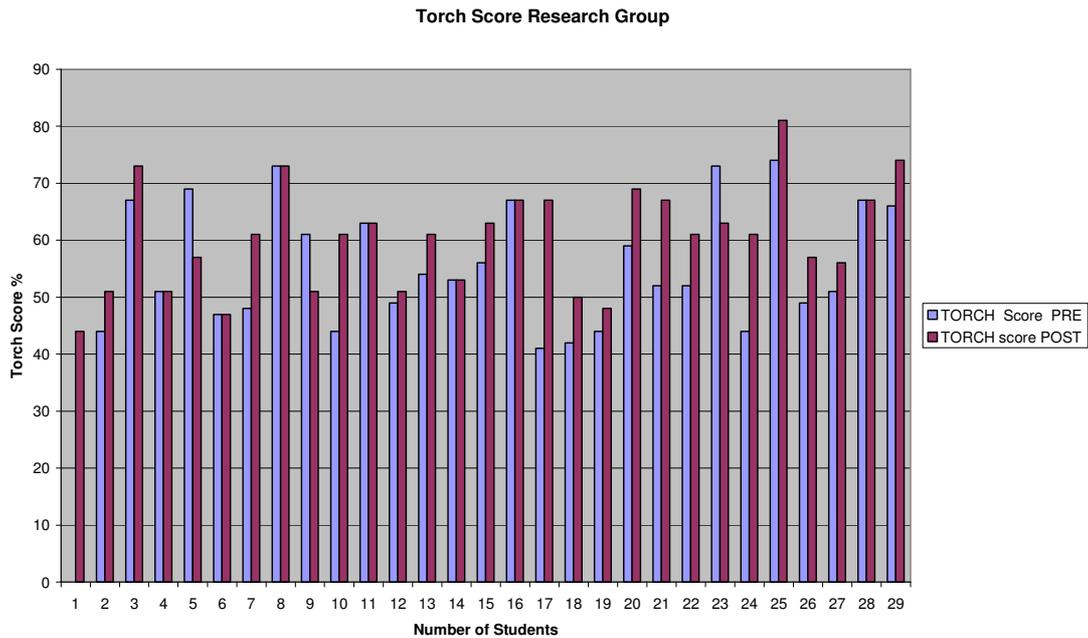


Table 3

The research group displayed a higher overall improvement over all three measuring tasks. Torch reading levels showed a 79% increase across the whole grade. With major improvement demonstrated by research students RG1 and RG19, student RG1 was unmeasurable at the beginning of the study. He was an addition to the grade half way through term 1, has an ESL background and was experiencing difficulty with phonics and forming letter patterns. As part of a class focus group he was given extra work in these areas but remained in the main stream for the visualisation lessons. Research student SG19 is intellectually challenged and is funded under that banner. She too remained part of the main stream with no additional assistance from her Integration Aid. It was the author's intention to measure the affect of the teaching strategy on the whole class with all its diversity and contradictions.

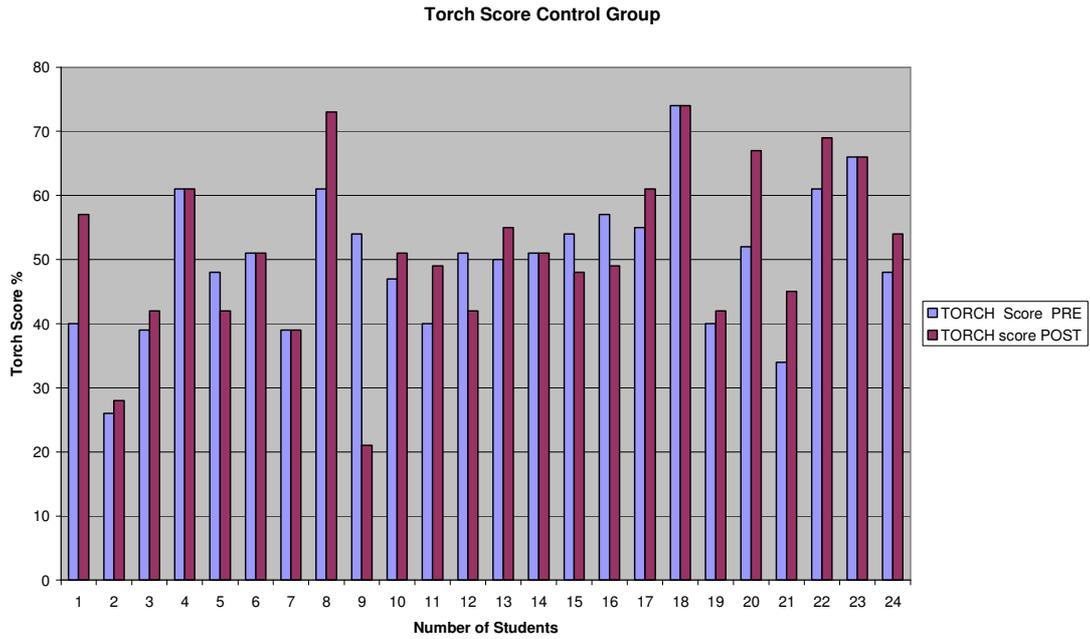


Table 4

The control group displayed a 62.5% improvement across the whole grade. With five students demonstrating a decrease in Torch scores between 6% and 8%, student nine of the control group displayed a significant decrease in Torch score which is explained by the fact he is language funded and completed the post test unaided.

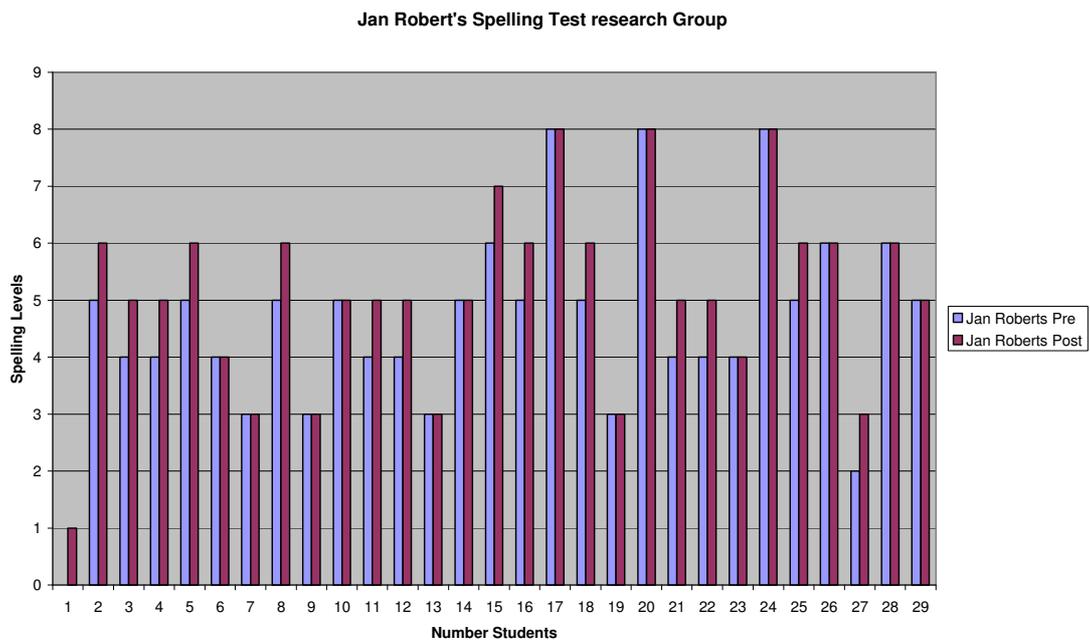


Table 5

Jan Roberts Spelling Test Control Group

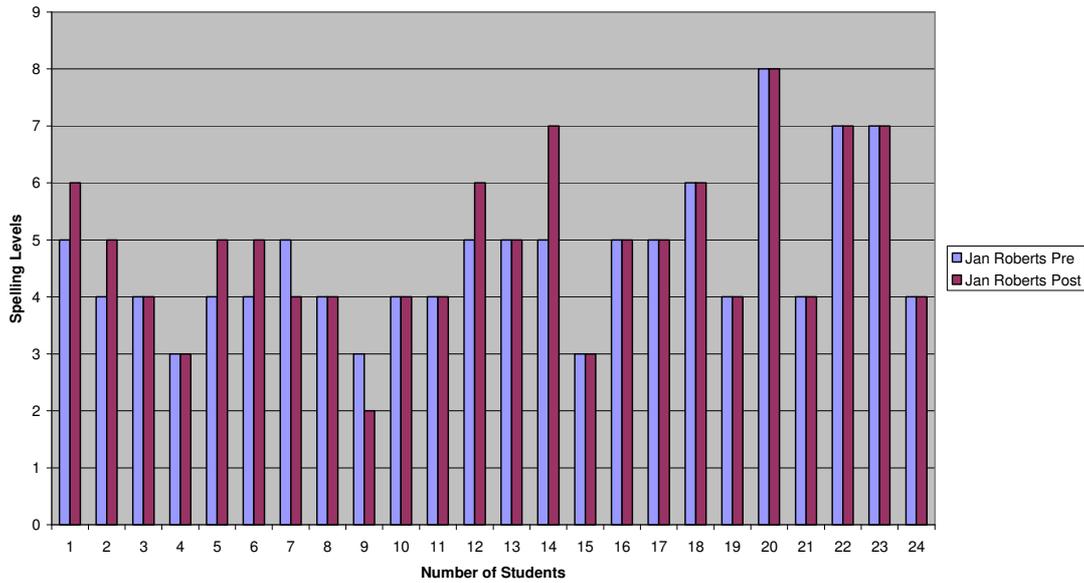


Table 6

The 68% increase in Jan Roberts spelling levels across the grade compared with 25% increase by the control group, was a surprise. Apart from the normal spelling programme that both grades participated in, there was no explicit teaching of spelling within the visualization strategy, as the strategy was taught exclusively to the script.

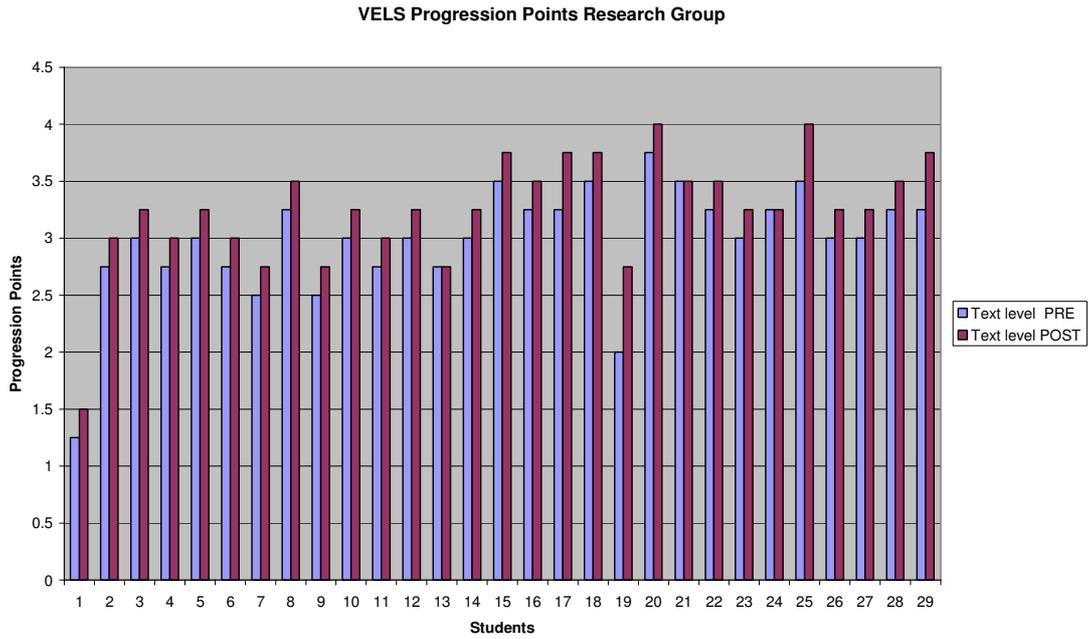


Table 7

The research group displayed a 93% increase in VELS progression points.

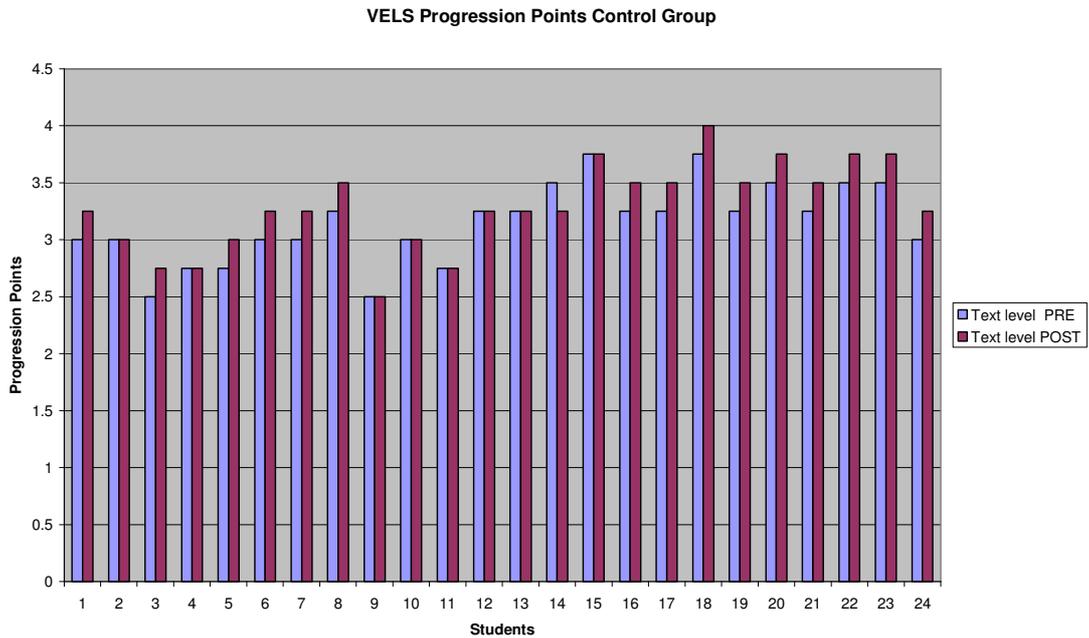


Table 8

The Control group displayed a 70% increase across the grade with 29% maintaining their VELS level.

Discussion

The anecdotal notes (also common classroom practise) recorded a number of interesting observations. It was evident that creating visuals is a powerful tool to aid comprehension in reading and helps display what the reader sees in the text (Naughton 2008 p68). Even the lowest academic achiever in the class was able to articulate a response to a given text. When the response from students is “can we do this again to morrow?” as a teacher you know you are on a good thing.

The teacher learning aspect was not to be underestimated, for example recognising that the process starts with the sentence level, moves to paragraphs and eventually the whole text. This sets up a sequence to help readers identify the way typical texts are structured. It was also observed that when responding to the text with a drawing it was not to create a work of art but to create a mental image from the text. Illustrating the detail of the text (sentence by sentence initially) helps create an understanding of the big ideas (Walmsley sited in Naughton 2008 p67): students were able to see how the individual parts relate to the whole by building a pictorial representation of the text sentence by sentence. The move to paragraphs within the grade was fairly rapid and a number of students moved to whole text within the time frame of the research, these students were at the top spelling levels as seen in table 5.

The other unintended consequence of the visualisation process was the increase in spelling levels compared to the control group Table 5 and 6. The visual aspect of spelling, seeing the shape and letter combination in your head and the extensive oral language component of the method, with its in-depth discussions about the vocabulary associated with each text, seems to have been reflected in the spelling results. The data displays a sharp increase in the spelling levels of the research group but this could also be the product of other programs and classroom practices and requires further investigation.

As stated earlier the reading analysis was conducted with the cooperation of the other 5/6 level teachers. The Author and his two colleagues grade the text responses low, middle and high and then assigned a progression point to each text pre/post of the control and research groups, which is the data that is recorded in tables 7 and 8. In the Author’s view

because of the subjective nature of the grading and the pressures outside of the study the scores may have been unduly affected. Mainly that the results from the reading data were also to be used for reporting and therefore needed to reflect growth over 12 months (mid year 2008 – to mid year 2009) and not exclusively over the two weeks of the research.

In conclusion the addition of visualisation to the classroom's 'strategies tool box' has seen a marked improvement in student literacy confidence and outcomes. Students that were struggling to comprehend a given text have been able to form an understanding by following a simple, well-defined procedure. So wide spread has the use of visualisation become that students have willingly taken the next step and applied the technique to other areas of the curriculum, especially in the area of Mathematics.

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APPENDICES

Appendix 1

Table 2 Student data Control Group

Name	0 or 1 Teaching/Control Group	Age in Years	Gender 0=Female 1=Male	Grade	ESL No=0 Yes=1	Funded No=0 Intel=1 Lang=2	Earlier Intervention No=0 RR=1 LRR=2	EMA No=0 Yes=1
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2	1	10.6	1	5	1	0	0	0
3	1	10.1	1	5	0	0	0	0
4	1	10.6	0	5	0	0	2	0
5	1	10.3	0	5	0	0	0	0
6	1	10.8	0	5	0	0	0	0
7	1	10.6	1	5	0	0	0	0
8	1	10.4	1	5	0	0	0	0
9	1	10.8	1	5	0	0	1	0
10	1	10.3	0	5	1	0	0	0
11	1	10.6	0	5	0	0	0	0
12	1	10.5	0	5	0	0	0	0
13	1	10.6	0	5	0	0	0	0
14	1	11.8	1	6	0	0	0	0
15	1	12.6	1	6	0	2	2	0
16	1	11.9	1	6	0	0	0	0
17	1	11.6	1	6	0	0	0	0
18	1	11	0	6	0	0	0	0
19	1	11.8	1	6	0	0	0	0
20	1	11.8	1	6	0	0	0	0
21	1	11.5	1	6	0	0	0	0
22	1	11.2	0	6	0	0	0	0
23	1	11.7	0	6	0	0	0	0
24	1	12	1	6	0	0	2	0

Appendix 2

Teaching a visualizing strategy

The Jaguar: A great Cat

This text is about some of the big cats, like lions and tigers that live around the world. When you hear the word 'cat' you probably think of the pets you have at home. In your mind you may see the warm, cuddly kittens that play with balls and enjoy being patted.

These are cats, but the family of cats includes more than these playful, lovable creatures. On TV or in the zoo or in books you may have seen panthers, leopards, lions or tigers. These are the great cats, the cats that would not be good to have as pets.

The jaguar is one of these great cats. It lives in South America and is the world's third largest cat. A big male jaguar can grow to 1.8 metres long. Only lions and tigers are bigger than the jaguar.

Jaguars look like leopards. Both have spots, but that is where most similarities end. The jaguar's head is larger and more rounded. It has a stocky body and its legs are shorter and thicker than those of the leopard. On its back it has large spots with dots in the middle.

The jaguar is the strongest of all the cats. Its only natural enemy is man. It can crush the bony skulls of most any animal in its jaws. Like other cats, it is a carnivore, which means it eats meat. It hunts for its prey at night. It has great skill as a hunter. It can run very fast and can climb trees with great speed. Very few victims can escape from it.

Unlike our pet cats, jaguars like water. They are strong swimmers and are good at catching animals that live in lakes and rivers, such as fish and turtles. Wild jaguars are usually seen in or near water.

Jaguars can live in all types of country that is wild and that has a supply of food. The country they prefer best is dense rainforest forest that has plenty of water. They also live in open woodland grassland and even desert, swamps.

We don't have jaguars in Australia. Their homeland used to be North and South America. However, as land has been cleared and settled, the places where they can live had shrunk. They now live in a few parts of Mexico and in scattered areas throughout South America down to northern Argentina.

Teaching a visualizing strategy

It's not a rat, it's not a cat, and it's a ...

It looked like a rat but was the size of a cat. It had a short tail and short, rounded ears. It lived in a hole in the ground and came out at night to eat plants. When the Dutch explorer Willem de Vlamingh landed on the Western Australia shore in the seventeenth century he hadn't seen an animal like it.

We now call these animals 'quokkas'. Rottnest Island is a small island very close to Perth. Quokkas are some of native dwellers on the island. Willem thought they belonged to the rat family. They don't; they are, in fact, tiny wallabies. This means they are marsupials. Female quokkas have tiny pouches, like their much bigger kangaroo cousins.

Quokkas live in sandy areas, where grass and shrubs grow well. This is their food. They dig down into the soft soil to make a network of burrows. They shelter from the hot sun during the day and come out at night to feed on the native plants. They also need to drink a lot of water for such a small animal.

You now find quokkas only on Rottnest Island. Before white men settled in Western Australia, they lived in many areas. The new settlers brought rabbits and foxes. The rabbits ate the quokka's food. The foxes killed them for food. Even some of the new settlers hunted and shot the small quokkas for fun. Even though the quokkas could move very fast over the ground, they could not escape these larger visitors, who were their enemy. The quokkas that live on Rottnest Island are safer. There are fewer animals that can hunt them. Laws have been put in place to protect them. As well, humans are not so stupid now to want to hunt them for fun.

The number of Rottnest Island quokkas is gradually growing. Each female quokka can have one baby each year. They start breeding in their second year. The baby quokkas are tiny, blind and hairless, just like baby joeys. They climb into the mother's pouch and stay there for about six months, being fed and cared for.

Teaching a visualizing strategy

Our forests have gone to keep us warm

How is your house kept warm in winter? Some of us use electric heaters, some people use gas and other people use central heating. All of these things help us feel warm. They do this by producing heat energy.

Think of the different places around our homes where we use heat energy. In the kitchen we use heat energy to cook and to boil water. In the bathroom we use heat energy to warm the water in our baths or showers. In the laundry we use heat energy to wash and dry our clothes. We also use hot irons to press them. In the bedroom we use heat energy from electric blankets to heat our beds. Before we had electric blankets, people used hot water bottles to do this.

We use heat energy for many things, from washing and cooking to keeping ourselves warm. In earlier times people almost everywhere around the world burnt wood to produce heat. This is because it could be easily obtained, stored and used. As well, it was easy to transport. Wood was the main way of providing heat in homes.

There were, however, some disadvantages of using wood. First, when wood burns, it produces smoke which sometimes becomes smog. Also, wood does not produce a lot of heat; it is not very energy efficient. As well, as the population of towns grew larger, wood became more difficult to obtain and so people looked for other ways of producing energy.

Producing heat for people's homes wasn't the only way in which wood was used. In various parts of the world people discovered that when they heat some metal ores, the metals became soft and could be made into various shapes. This led to the earliest factories. Wood was used to make the heat in these metalwork factories.

In Europe a lot of buildings were put up. These were made of brick and heat was also used to make bricks for them. Brickmakers also used huge amounts of wood in their kilns.

Steam engines began to develop at this time and factories used them to provide power for their other machines. As well, steam engines were used to pull trains and for transport in other areas. The earliest steam engines also needed wood.

As you can see, people were using wood in their houses and in their work. In some parts of Europe during the 17th century, all of the wood near towns had been used. There was hardly a tree left standing in areas near ironworks or large cities.

Teaching a visualizing strategy

The animals that live in the Earth's coldest areas

The coldest parts of our world are at the top and the bottom of the Earth. These are called the 'polar' regions, where the North Pole and the South Pole are. Only the most hardy animals can live there. These animals have had to adapt to the freezing winds, the extremely cold air and the lack of food.

The animals and plants that live near the Poles have adapted to the conditions in different ways. Let us first visit the Arctic Circle at the top of the world. Some of the animals that live on the ice here are the polar bear and the arctic fox. They live further north than any other land mammals.

Polar bears are the world's largest carnivores. They spend some of their life in the sea. They have a very good sense of smell and can detect a dead animal like a whale or seal that is twenty miles away. They mainly eat seals. They catch live seals by sitting by a seal air hole in the ice. When the seal puts its head through the hole to breathe, the bear grabs it. They don't need to drink water; they get it from the food they eat. The arctic foxes follow the polar bears and eat their leftovers.

Both of these animals grow furry coats that keep out the cold. In winter their fur coats thicken and change colour to white. This allows the animals to be more difficult to see in the snow. This is important protection for the animals because they 'hibernate' during the cold season. This means they go into a very deep sleep. Their bodies and heartbeat slow down. They are then less able to escape from attackers. Some animals hibernate in holes or burrows. Inside their skin they have layers of fat that keep in their heat. These animals are often hunted for their skins. Their fur is used to make warm coats and hats for people to wear.

Some animals live in both the freezing water and also on the ice. Seals, walrus and sea elephants abound. They don't have fur but they do have several layers of fat just inside their skins. These layers of fat stop their body heat from escaping.

Several types of birds also live in the Arctic Circle. These

This is a picture of the Arctic Tern
include sea gull, puffins and terns. Some of the birds
leave the Arctic during its winter when there is less food.
The tern is a small bird that flies from the Arctic to the
Antarctic and back again each year.

Teaching a visualizing strategy

Puffins make their homes on the rocky cliffs and islands in the Arctic Circle. There are no leaves or twigs to make nests and they dig holes in the ground.

In the Antarctic, there are penguins. There are many types of penguins. They have developed a thick coat of feathers that keeps them warm. There are also many sea birds and seals.

The penguins, seals and whales that live here have a thick layer of fat that traps their body heat. It keeps the heat in their body so that they stay warm. This layer of fat is called 'blubber'. These animals live at the edge of the Antarctic continent where the land meets the sea. There aren't any living animals nearer to the South Pole. It is too cold and there is no food for them. Some fish, such as the Antarctic cod can live in these cold waters because they have a special substance in their blood that stops the water in their bodies from freezing. It is called glycopeptide.

The Blue whale, the biggest animal that has lived on Earth is found in the icy sea around Antarctica. Some whales such as the Humpback whale, leave Antarctica during its coldest months. They swim to warmer waters to reproduce after they have eaten huge amounts of tiny sea animals called krill that live in the seas around Antarctic.

The largest penguin is the Emperor Penguin. These penguins live in colonies on pack ice in Antarctica. They can't fly, but swim very well and spend most of their lives in the sea. Their shiny, waterproof feathers help keep their skin dry. They have more feathers than most other birds.

Emperor Penguins can grow to about 1 metre tall. This about half the height of an adult human. They have a big head, a short, thick neck, a streamlined shape, a short, wedge-shaped tail, and tiny, flipper-like wings. They have webbed feet for swimming. They eat fish and squid.

Appendix 3

Teaching a Visualizing Strategy

Level 4

Visualizing

Session 1

Recommended teacher dialogue is shown in italics.

Give each student a copy of The Jaguar

Introduce the strategy: *I am going to teach you something that you can do that will help you to remember what you read. It is called visualizing. This is what you do. After you have read each sentence, you make a picture of it in your mind and say what the picture is.*

We will begin doing this with sentences and then with paragraphs.

The first text we will read is about lions and the way they live. Let us read the first paragraph aloud. I will read it aloud first and then I will ask individual students to take turns to read it.

When the first paragraph has been read twice, read each sentence in the first paragraph again. After you have read a sentence, you (the teacher) make a picture of it in your mind and say what the picture is. Then ask individual students to visualize by making a picture of it in their minds and say what the picture is. Then ask individual students to visualize by making a picture of it in their minds and saying what the picture is. If possible record their attempts on a white board.

I will read it and I want you to read it to yourself with me. Then I will try to visualize it. Then I will ask you to try. I will write down what I say and what you say.

Sentence read Teacher visualizes Students visualizes

This text is about some of the big cats, like lions and tigers that live around the world.

In my mind I see big cats, lions and tigers, walking around the world. When you hear the word cat you probably think of the pets you have at home. In my mind I see my cat at home. The warm, cuddly kittens, that play with balls and enjoy being patted.

Teacher reviews the action: Let us look at what we did here. We 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? (If Yes , a teacher gives the answers).

Repeat this for the rest of the paragraphs, sentence by sentence. The teacher models the visualizing first and children then take turns. Remind them regularly of what they are doing.

What do you tell yourself to do when visualize?

Once the text has been visualized as a group interactive activity, students in small groups can have a go at writing their own mental pictures of each sentence.

Correct the students responses. After students have visualized several of the paragraphs: Now let s discuss what steps you used to visualize.

Several students say the processes they used to arrive at their mental picture.

Review

Tell me what you know about visualizing and what steps you should follow to visualize a text.

Have students write down 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.

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Teaching a Visualizing Strategy

Session 2

During this session, the students again apply the visualizing strategy sentence by sentence. The students review the steps involved in producing visualizing and the teacher gives additional practice in visualizing single sentences first interactively and then in small groups. The teacher actively monitors the students work, giving appropriate feedback both individually and through class 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 the Session 1.

What do you do when you visualize a sentence?

How does visualizing help you?

Have students again visualize some of the sentences in *The Jaguar: A great cat*.

Introduce them to the text *It s not a rat, it s not a cat, it s a* Discuss its topic and repeat the set of teaching procedures used for Session 1. Regularly remind students of the nature of the task and have them review the action.

Session 3

On the last two sessions we were practicing visualizing sentence by sentence. Now we are going to read two sentences at a time and then visualize them.

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

Introduce them to the text **Our forests have gone to keep us warm**

Discuss its topic.

Repeat the set of teaching procedures used for Session 1. Regularly remind students of the nature of the task and have them review the action.

When you have finished it as an interactive activity, have students in small groups work on writing their own mental pictures of it.

Have them discuss how visualizing helps them to comprehend what they read.

Teaching a visualizing strategy

Session 4

Teacher reviews what students remember about visualizing from Session 1.
What do you do when you visualize two sentences at a time?
How does visualizing help you?
Have students again visualize some of the pairs of sentences in Our forests have gone to keep us warm.

Introduce them to the text **The animals that live in the Earth's coldest areas**, discuss its topic and repeat the set of teaching procedures used for session 3. Regularly remind students of the nature of the task and have them review the action.

Session number	Student activity
5	Read aloud each paragraph. Visualize sentence by sentence in whole group activity. In small groups visualize each sentence and describe their image.
6	Read aloud each paragraph. Visualize sentence by sentence in whole group activity. Each student individually visualizes each sentence and describes their image.
7	Read silently each paragraph. Visualize each paragraph and describe their images in whole group activity. In small groups they visualize each sentence and describe their image.
8	Read silently each paragraph. Visualize each paragraph and describe their images in whole group activity. Each student visualizes each sentence and describes their image.
9	Read silently each paragraph. Each student visualizes each paragraph. Each writes their visualize and then shares it with the group.

Teaching a visualizing strategy

Session 5

Recommended teacher dialogue is shown in italics.

Give each student a copy of **The energy we use**: Fossil fuels or renewable energy. Work on the first section (page 1) in this session (down to Energy from fossil fuels).

Remind students of the strategy: *You have been learning to do something that will help you 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.*

So far we have been doing this with sentences. Now we will do it with paragraphs.

This text is about the energy we use in our lives every day.

Let us read the first paragraph aloud. I will read it aloud first and then I will ask individual students to take turns to read it.

Have students take turns to read aloud the first paragraph twice. Visualize sentences as a whole group activity.

Then, in small groups, have students read each sentence, visualize it and describe their image. Then ask groups to read out their image of each sentence.

Teacher reviews the 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? (If Yes , a teacher gives the answers). Repeat this for the rest of the paragraphs, one at a time.

Correct the students responses.

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

Text word Students suggest synonym or meaningful phrase energy fuel fossil fuel power, strength, zing something to give you energy, such as a fuel made from animal or plant remains that died long ago

Session 6

Use the section Energy from fossil fuels (pages 2 and 3).

Review the key words and synonym list assembled in Session 5. 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.

During this session, the students read aloud a paragraph, visualize sentence by sentence in the whole group activity and then each student individually writes a description of their image for each sentence. Work through each paragraph in turn.

After reading this section, ask students to suggest new unfamiliar words and teach synonyms for these. List these on the white board, teach these and the synonyms and add them to the earlier list, for example
Text word

Students suggest synonym or meaningful phrase pollutants dirty fuel protects

Teacher reviews what students remember about visualizing:

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

Session 7

Use the section Other types of energy and Energy from the sun (pages 4 to 6).

Review the key words and synonym list assembled in Sessions 5 and 6. 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.

During this session, the students read silently the first paragraph. When they have done this at least once, students in the whole group activity makes an image of it and then describe their image.

When they have finished doing the text as a whole group activity, they work in small groups to visualize each paragraph in turn, discuss their small-group image and then describe their image in writing. They work through each paragraph in turn.

After reading this section, ask students to suggest new unfamiliar words and teach synonyms for these. List these on the white board, teach these and the synonyms and add them 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 visualize a paragraph?
How does visualizing a paragraph help you?

Session 8

Read silently each paragraph. Students visualize sentence by sentence in whole group activity and each student writes their visualization of each sentence.

Use the section Wind power (pages 7 and 8).

Review the key words and synonym list assembled in Sessions 5 -7. 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 in the whole group activity and 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.

When they have finished applying the visualization strategy and describe the strategy in the group situation, each student applies it individually to each paragraph in turn. The student individually reads each paragraph, makes an image and writes it.

After reading this section, ask students to suggest new unfamiliar words and teach synonyms for these. List these on the white board, 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 visualize a paragraph?
How does visualizing a paragraph help you?

Session 9

Use the section Biomass energy (pages 9 and 10).

Review the key words and synonym list assembled in Sessions 5 -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 individually make an image of the paragraph and then describe the image to themselves and writes 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 this section, ask students to suggest new unfamiliar words and teach synonyms for these. List these on the white board, 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 visualize a paragraph?
How does visualizing a paragraph help you?

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