

ABSTRACT

Many students who have learnt how to decode text in lower primary school can experience difficulties in comprehension in middle primary. Students with poor comprehension may only 'read the words' rather than actively visualizing the text, in order to understand it. Emphasis on reading to a required level in lower primary grades tends to focus on decoding strategies which shifts the focus away from explicit comprehension teaching.

The hypothesis for this study is that the **explicit teaching of the visualizing strategy R.I.D.E.R improves reading comprehension of Year 3 and Year 4 students with low comprehension**. Research suggests that teaching student's visualizing strategies to use when they are reading will increase their reading comprehension. As part of this study, the visualizing strategy R.I.D.E.R was taught to the students to help them remember what to do when they read:

Read

Image (put a picture in your mind)

Describe

Evaluate (check)

Repeat

Initial pre testing of two Year 3&4 classes indicated which students had poor comprehension skills and these students were chosen for the study. A control group and a target group were organised and both groups consisted of eight students – three Year 3 students and five Year 4

students. Both groups had three girls and five boys. The target group was taught how to visualise and then how to use R.I.D.E.R. as a visualizing strategy to aide reading comprehension. The results compared the control group and the target group. On average, the results indicated support for the hypothesis, as the target group showed significant improvement in visualizing and comprehension.

Teaching a visualizing strategy to students is a successful way to improve comprehension and therefore should be taught as a standard reading strategy in primary schools.

INTRODUCTION

Reading comprehension is one of the most important life skills that children need to develop to function effectively in society.

Comprehension tasks are among the most difficult for students who have reading difficulties and as a consequence, teachers use whatever strategies they can to assist students. (Boyle, 1996, cited in Staal, 2000).

Comprehension is also necessary for a student's success and joy in reading, an activity and life skill that our society values and can often take for granted. It is evident that not only students with reading difficulties, but students who may be able to decode text and read at an appropriate age level, may still experience difficulties with comprehension. Therefore, when students are asked to demonstrate their understanding of a text in a comprehension task, their comprehension may be limited or in some cases quite poor. These difficulties in

comprehending text, impact in all areas of the curriculum, as students at a Year 3/4 level are required to work independently and read a variety of texts and respond in a variety of ways, for example project work, book reports, author studies etc. Students may not be learning effectively or delivering information appropriately, if they do not understand what they are reading.

To enhance reading and comprehension experiences, Hibbing and Rankin-Erickson (2003) suggest the strategic use of visual material, as it can help reluctant or low ability readers to become more proficient creators of internal imagery, which will support their comprehension. Historically, research shows that comprehension can be enhanced with mental imagery. “When children are taught to generate mental images as they read, they experience greater recall and enhanced abilities to draw inferences and make predictions”. (Gambrell et al, 1981, cited in Hibbing and Rankin-Erickson, 2003, p.760). Hibbing and Rankin-Erickson also explain that the use of drawings/pictures and explicit teaching of visualizing strategies would support struggling readers. (Hibbing and Rankin-Erickson, 2003, cited in NSW D.E.T.C, 2006).

Staal (2000) also supports the teaching of strategies, reporting that the successful implementation of visualizing/learning strategies may result in overall gains in reading comprehension for the struggling reader - as they help the reader to remember.

Wood & Endres (2004) explain that the ability to visualize is a critical aspect of good comprehension. There are however, variations and conflicting results where visualizing techniques are taught, as some teaching neglects the multisensory nature of visual imagery and relies

only on the formation of mental pictures. (Gambrell & Bales; Giesen & Peck, 1984, cited in Wood & Endres, 2004). Findings from Douville (1999) show students using a Sensory Activation Model which incorporates use of the five senses rather than just relying on their visual modality. Results indicate that the multi sensory imagery group outperformed the visual imagery and comparison groups in text based and reader based images. Students also expressed positive attitudes when using multi sensory imagery. (Douville, 1999, cited in Wood & Endres, 2004). It is also noted that students of all ability levels can be taught how to create mental images in response to text. (Finch, 1982; Gambrell & Bales, 1986; Gambrell & Koskinen, 1982, cited in Wood & Endres).

In determining the issues that surround the “poor comprehender” Center et al. (1999), explains that working with students who have average ability at word level and poor comprehension, do not make inferences or integrate ideas from different sections of text. They suggest that these students have a less well developed story event structure than more proficient comprehenders. They state, that for an individual to be a proficient reader they need to be adept at decoding and at eliciting meaning from print. If they are expending too much effort at the word level because of phonological difficulties there will be less focus on extracting meaning from the text. They also encourage the use of visualizing techniques.

Hibbing and Erickson (2003) explain that if proficient readers have difficulty in creating an image while reading, they will see this as a warning of a breakdown in comprehension and that they will rectify it with a fix up strategy, for example, refocusing attention, or rereading. In support of ideas expressed by Center et al. (1999) they also state that low

ability or reluctant readers at difficulty will tend to focus on the decoding of words rather than creating meaningful images. This may indicate problems in the verbal or non verbal coding systems or the inability to integrate their function. Therefore, this results in connections between words and images not being made puts comprehension at risk.

Wood and Endres (2004) also refer to poor comprehenders, stating that not all students are proficient at creating mental images. They quote Paivio (1971) as saying that "...getting students to create visual images before, during, or after reading is a viable way of enhancing comprehension". They use the Imagine, Elaborate, Predict and Confirm (IEPC) strategy which is designed to motivate students reading interest, enhance comprehension abilities and further improves their descriptive writing.

Explicit teaching is suggested by Whitehead (2002) who promotes perspective thinking strategies. This involves the reader using images to enrich their content understanding. He describes three different types of strategies for readers to use

- Still-imagery thinking strategy – likened to pictures in a book
- Moving-imagery thinking strategy – imaging events in progress
- Melting-imagery thinking- imaging changes in physical state

These imagery strategies allow students to review meaning and are designed to enhance comprehension, as it gives students techniques to manipulate meaning.

Further to this, Hibbing and Rankin Erickson's study trialled the explicit teaching of R.I.D.E.R that was formulated by Clark, Deshler, Schumaker,

Alley and Warner. This strategy – Read, Image, Describe, Evaluate and Repeat was trialled to improve comprehension skills and offered students a model to follow, enabling students to recall ideas and information in a text. (Hibbing and Rankin-Erickson, 2003, cited in NSW D.E.T.C, 2006).

Munro (2006) also promotes the use of the R.I.D.E.R visualizing strategy. This strategy fits into his model of “Multiple Levels of Text Processing” in the sentence and conceptual level. This will assist students to develop an understanding of text as they read.

This investigation aims to extend earlier research by examining the effect of teaching a visualizing strategy to a class of Year 3&4 students to enhance reading comprehension. The explicit strategy of Read, Image, Describe, Evaluate, Repeat or “R.I.D.E.R” strategy will be used.

These students do not display a good understanding of texts read. They experience difficulties in completing comprehension tasks accurately. They do not demonstrate a strong ability in using visualizing strategies to assist in their comprehension. The prediction is that the explicit teaching of the visualizing strategy R.I.D.E.R improves reading comprehension of Year 3 and Year 4 students with low comprehension.

METHOD

Design:

This study uses a naturalistic investigation. It describes the “real world” relationship between a group of students’ visualizing ability and their reading comprehension. More specifically, the target group of Year 3 and 4 students who have a low reading comprehension will be exposed to a ten session intervention. This includes the explicit teaching of the visualizing strategy R.I.D.E.R (Read, Image, Describe, Evaluate, Repeat).

The study will compare two groups of students – a target group and a control group. The two groups of students will be pre tested with a comprehension task, a visualizing task, word reading, and a self efficacy scale. After the explicit teaching of the target group, all of these students are post tested with the same tests used in the pre testing (except the Torch test uses a different text and cloze activity) to prove or disprove the hypothesis.

Participants:

The participants are five Year 4 students and three Year 3 students attending a rural catholic primary school. Their ages range from 8-10 years of age. These students all have a history of reading difficulties. Eight students were chosen for the target group and this was based on their scores for the comprehension testing which took place with all Year 3 & 4 students. Students were required to complete a cloze exercise following the reading of “Lizards Lay Eggs” from the Torch test. Students with the lowest Torch scores were chosen for the study. Eight students from a different Year 3/4 class were chosen for the control group. The torch pre testing scores, ages and gender of each participant

were used to match students from the target group with those in the control group.

Of the eight students in the target group four participated in the Reading Recovery Program in Year 1 (Students B, C, D, E) and the remaining students were on the tentative selection list for Reading Recovery (Students A, F, G, H). All students in the study received the lowest torch scores in the class within their respective year levels. Burt word test results indicate Students D, E, G, H have a low reading age.

Student A has a very low torch score and has had hearing and speech difficulties since Year prep.

Student B has had hearing problems and speech therapy. The torch score was also very low.

Student C has low visualizing capabilities compared to other students in the study and does not cope well under pressure.

Student D has progressed through the school with a poor expressive vocabulary and a poor working memory.

Student E arrived at the school in Year 1 and is very competitive.

Student F is particularly shy and reluctant to contribute to class discussions.

Student G has a low to average visualizing capabilities compared to other students in the study.

Student H arrived at the school in Year 1 and is over confident.

The students' ages and entry levels are shown in Table 1.

Table 1

TARGET GROUP	Year	Age	Gender	Burt reading age	Torch score	Vis. test	Self Effic
Student A	3	8y1m	M	8.02-8.08	20	24	18
Student B	3	7y11m	M	8.03-8.09	24	23	17
Student C	3	8y8m	M	8.06-9.00	28	22	15
Student D	4	8y9m	F	7.05-7.11	34	24	17
Student E	4	9y7m	F	7.10-8.04	32	24	16
Student F	4	9y7m	M	10.07-11.01	42	24	14
Student G	4	9y7m	M	8.06-9.00	42	21	13
Student H	4	9y7m	F	8.06-9.00	32	23	16

CONTROL GROUP	Year	Age	Gender	Burt reading age	Torch score	Vis. Test	Self Effic
Student I	3	8y9m	M	8.04-8.10	17	12	15
Student J	3	8y4m	M	7.07-8.01	37	11	12
Student K	3	8y6m	M	10.00-10.06	37	31	14
Student L	4	8y11m	F	8.07-9.01	39	21	5
Student M	4	9y10m	F	8.07-9.01	30	22	13
Student N	4	9y9m	M	8.03-8.09	42	22	11
Student O	4	9y1m	M	10.07-11.01	37	23	15
Student P	4	9y2m	F	8.04-8.10	32	26	14

Materials:

The following materials were used:

Formal Assessment

- Torch Comprehension test. (Mossenson, Hill, & Masters, 1987).

The Pre test “Lizards Love Eggs” requires students to read the text

and complete a cloze activity. The Post test requirements were the same but the text was different - “Grasshoppers”.

- Visualizing Task (Munro, 2006). This was adapted and administered to each student individually.
- Self Efficacy Test (Chapman & Tunmer) was used for pre and post testing
- Burt Word Test (Gilmore & Reid, 1981) was used for pre testing to determine student’s entry reading abilities.

Informal Assessment

- Drawings or descriptions from each lesson were collected and scored by the researcher (Appendix 1)
- A Self Efficacy Test was developed by the researcher (Appendix 2) that focused on visualizing. This was used during the fifth lesson.

Teaching Sessions

Ten different texts were used during the teaching sessions, one per session. Nine stories were chosen from the “Enhancing Reading Intervention Knowledge” (E.R.I.K) kit (University of Melbourne, 2006). The tenth session used the pre test Torch story and cloze activity. The E.R.I.K stories were selected to provide students with a text that was easy to decode, so the focus could be on ‘visualizing’ rather than students focusing all their energy on decoding. The Fry Readability Procedure was used to determine the level and showed the texts to be at an estimated Grade 2 level. This acknowledges that the students would be reading this at either an instructional or independent level (Fry 1977). According to the test manual, the Torch story used in Session 10 contains a graded Year 3/4 passage.

- ‘Teaching a Visualizing Strategy’ sessions were adapted from (Munro, 2006) (Appendix 3).
- Nine different fictional texts were used during teaching sessions 1-9 (Appendix 4). These were selected from the Enhancing Reading Intervention Knowledge Kit Sessions 1-13. The texts pictures were omitted so the students could create their own images. Students were taught to visualize and use RIDER when reading these texts.
- Torch story – ‘Lizards Love Eggs’ and the accompanying cloze activity were used in session 10. Students read silently and used visualizing strategies to complete the activity.
- R.I.D.E.R cue/prompt cards (Appendix 5). This cue card was referred to and used from session 3 onwards.
- Overhead Projector and transparencies for stories and cloze activity.

Procedure:

These tasks are administered to the students in the following order:

- Burt word test
- Torch test
- Visualizing task
- Self efficacy test

In summary the Burt word test results were collated from the respective teachers who had pre - tested the students before this study. The Torch pre test was administered to all students in the Year 3 & 4 level to determine the target and control groups. Student D, H, and A in the target group and Student I, J and N in the control group were scaffolded, needing clarification of instructions and for the researcher to read either the passage or cloze activity aloud to them. Student A and E in the target group and Student P in the control group needed

more than an hour to complete the test. The visualizing task pre test (Munro, 2006) (Appendix 6) was administered to each student individually. Then the pre Self Efficacy Scales were administered to all sixteen students at once (target and control group combined).

The teaching sessions were conducted during the literacy block over a period of approximately 3 weeks, totalling 10 sessions. The post testing of the target and control group occurred after the last session. The ten explicit teaching sessions are of 40 minutes duration. The lessons were carried out by the researcher in the student's classroom.

Steps undertaken during all sessions are as follows-

- ❖ Introduce the visualizing strategy
- ❖ Students to read text (no more than sentence/paragraph at a time) and use the strategy as a class, then in pairs
- ❖ Students describe own images/visualizations in written and/or picture form
- ❖ Students reflect and reiterate learning about the strategy and how it helps them to comprehend
- ❖ In Session 3 the acronym R.I.D.E.R is explicitly taught. This acronym is referred to as the cue for visualizing while reading in each session thereafter.
Read Image Describe Explain Repeat
- ❖ Sessions 5-9 include the identification of unfamiliar words in the text where the students suggest synonyms or meaningful phrases for the unfamiliar words.
- ❖ Session 10 - after using R.I.D.E.R with the text, a cloze activity is completed as a whole class.

As the session's progress and the students are more confident in using RIDER, reading shifts from the teacher reading aloud, to the students reading aloud, to reading silently. Using visualizing progresses from reading one sentence, to two sentences, to a paragraph.

The students are asked to draw or describe their visualizations of story parts in each lesson and these are collected to assess whether or not they are visualizing accurately (Appendix 1). During session 5 the students are asked to complete a short self efficacy questionnaire related to "visualizing" to see how this new learning is affecting their own skill development and self efficacy (Appendix 2). On completion of the ten explicit teaching sessions the target and control group are post tested to assess and compare their overall gains.

RESULTS

Results indicate support for the hypothesis, that the explicit teaching of the visualizing strategy R.I.D.E.R improves reading comprehension of Year 3 and Year 4 students with low comprehension. The comprehension scores of all students in the target group indicate marked improvement in their average percentile scores, compared to the control group which also shows improved comprehension but by a much lesser degree. (Figures 1 and 2). Given that the control group in the pre testing started with higher comprehension scores, the gains made by the target group in the post scores are quite dramatic, showing an encouraging consistency with the prediction made in the hypothesis.

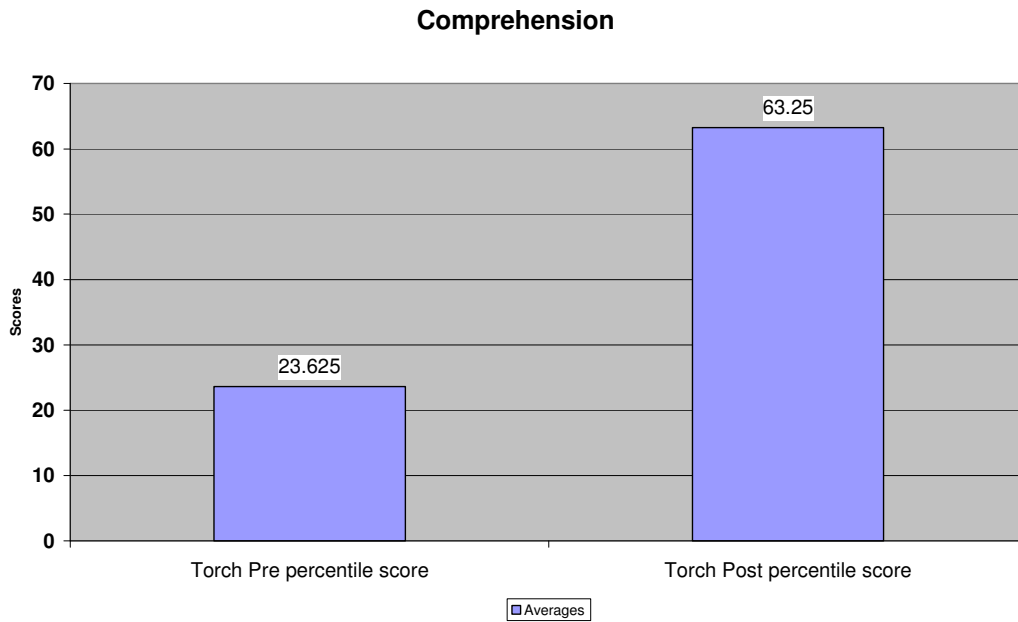


Figure 1 Averages: Target Group Comprehension

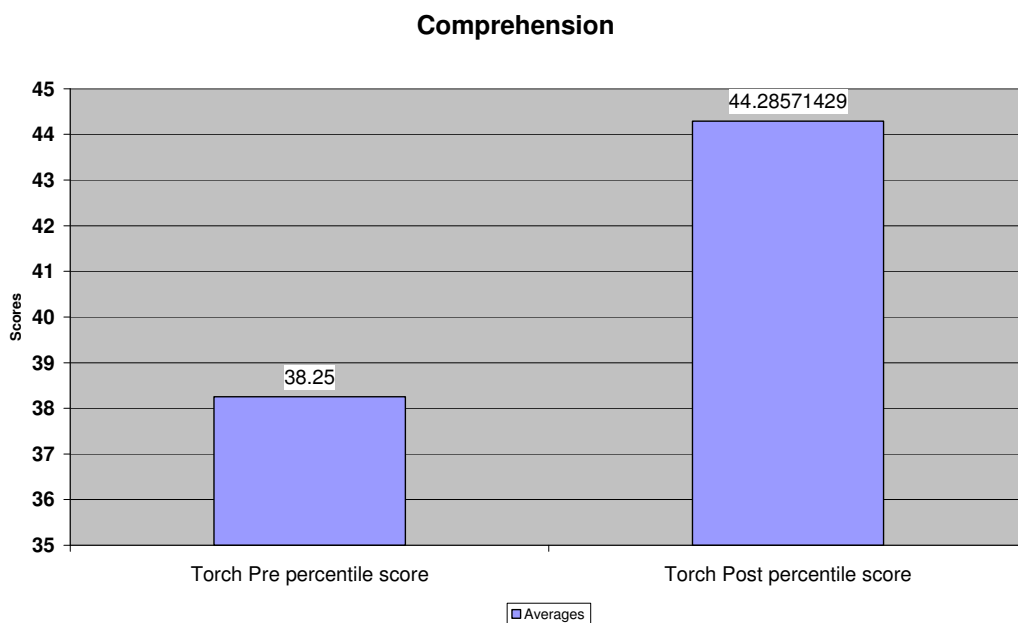


Figure 2 Averages: Control Group Comprehension

The Students were pre and post tested with a Visualizing task and the average post testing results of both groups, indicate gains in visualizing accurately (Figures 3 and 4). The results support the prediction as the target group have made significant gains in the post tests in comparison to the control group. Interestingly, both groups' pre test average scores show

that they had very similar visualizing capabilities to begin with, so the gains made by the target group are pleasing.

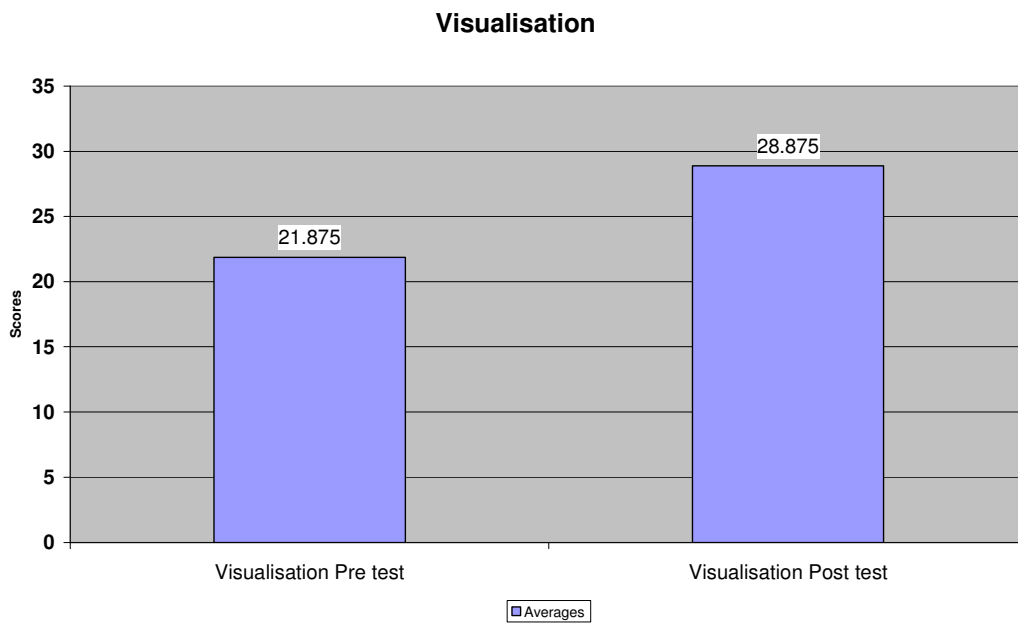


Figure 3 Averages: Target Group Visualizing Task

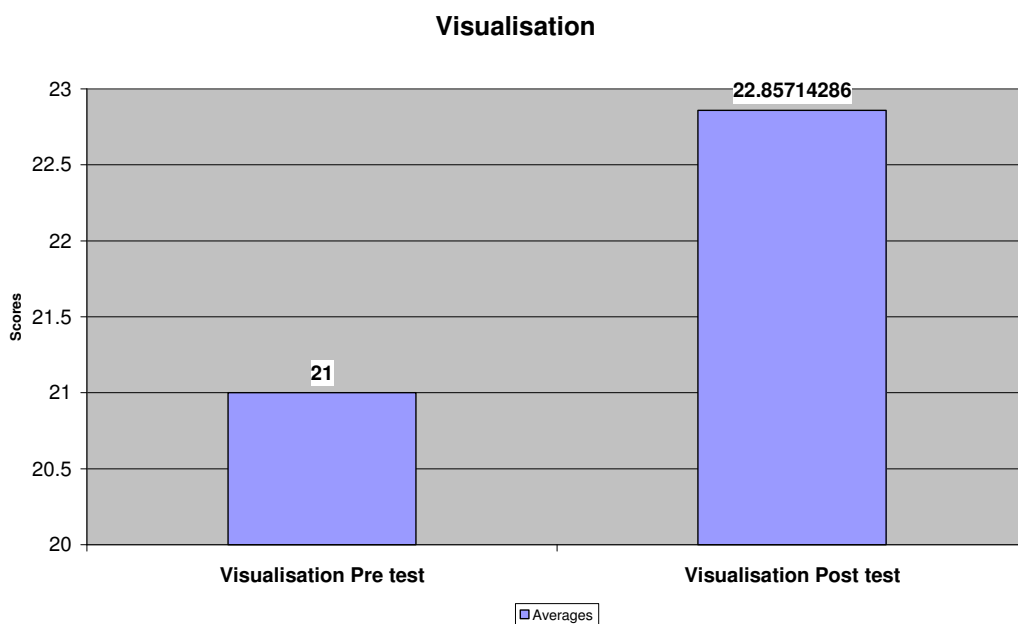


Figure 4 Averages: Control Group Visualizing Task

The average scores for Self Efficacy indicate that both the target and control groups did not show significant improvement when comparing pre and post test results. (Figure 5 and 6). Also the self efficacy average

scores do not tend to show a direct link with comprehension and visualization scores, other than the fact that they did improve, albeit marginally.

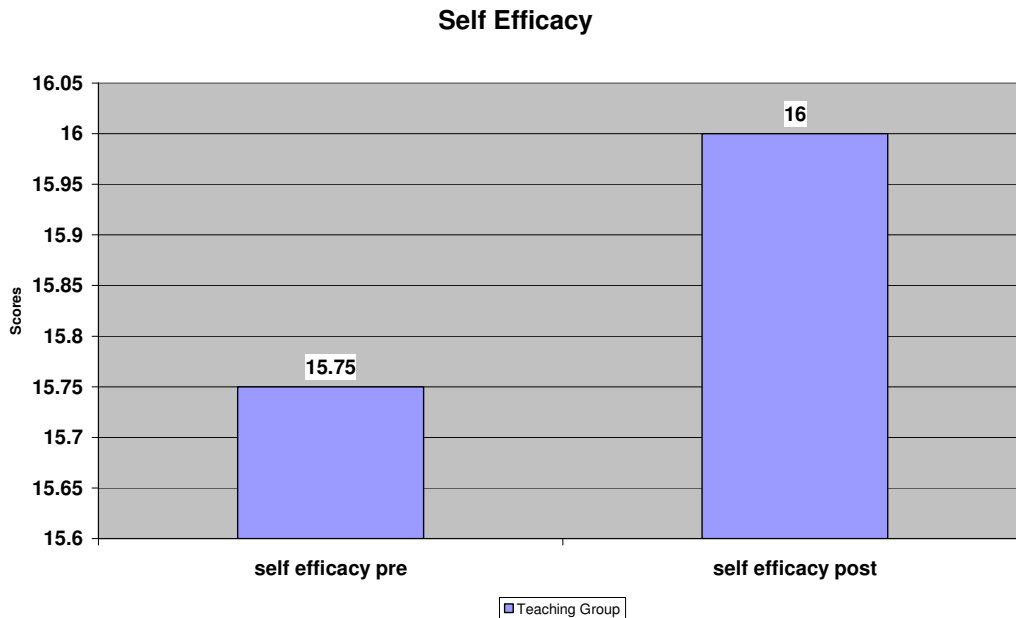


Figure 5 Averages: Target Group Self Efficacy

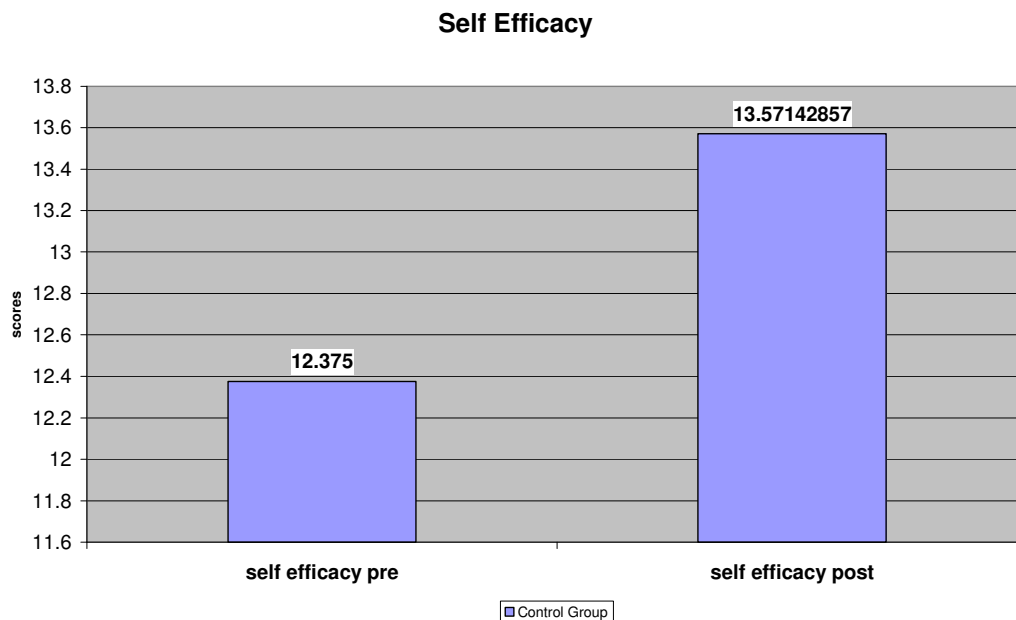


Figure 6 Averages: Control Group Self Efficacy

In analysing the students learning trends we can look at individual scores more specifically. The comprehension scores of all students in the target

group, except one student, indicate improvement in their comprehension. This is shown in the comparisons made by the pre and post testing scores of Torch. (Appendix 7, Table 2) (Figures 7 and 8).

In the target group, Students A and E show significant improvements. Moderate gains were made by B, D, and F, while Student G has made small gains. When we look to Student C we see a decrease in the post test Torch score which does not support the hypothesis. Interestingly, the control group's scores do not show consistent improvements in comprehension which supports the hypothesis for the target group. Unfortunately, Student P did not undertake the post tests. However, it is noted that Students I and M show significant improvements and small gains were made by Students L and O. Students J, K and N do not show improvement in comprehension with their post test scores falling below their pre test scores. The pre testing results indicate that the control group had higher comprehension scores. Given that the target group experienced more comprehension difficulties initially, the gains made in the post testing overall, are quite positive and support the prediction made in the hypothesis.

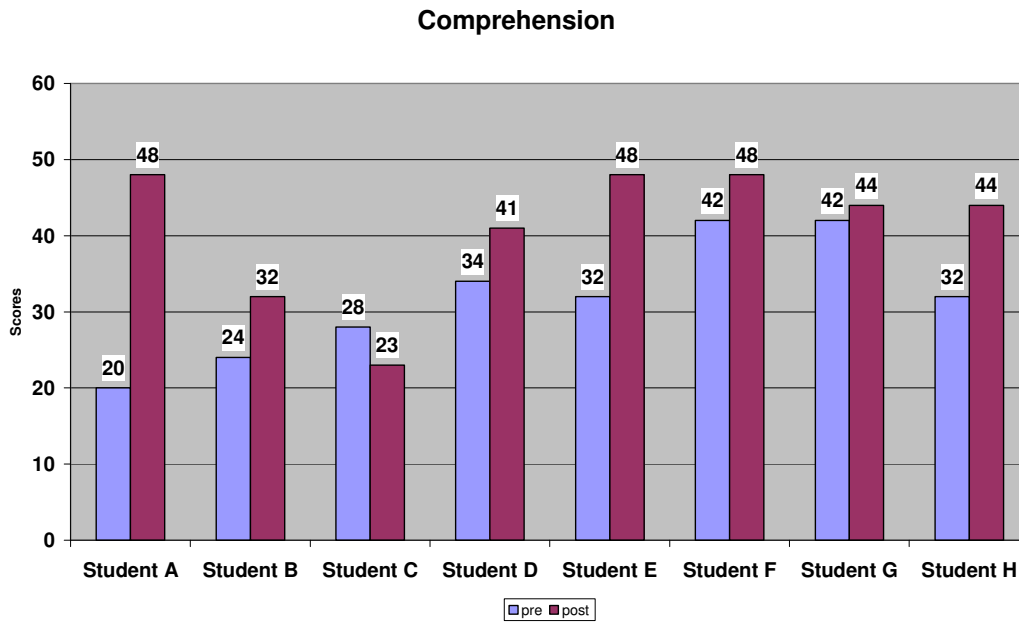


Figure 7 Target Group Torch Comprehension Scores

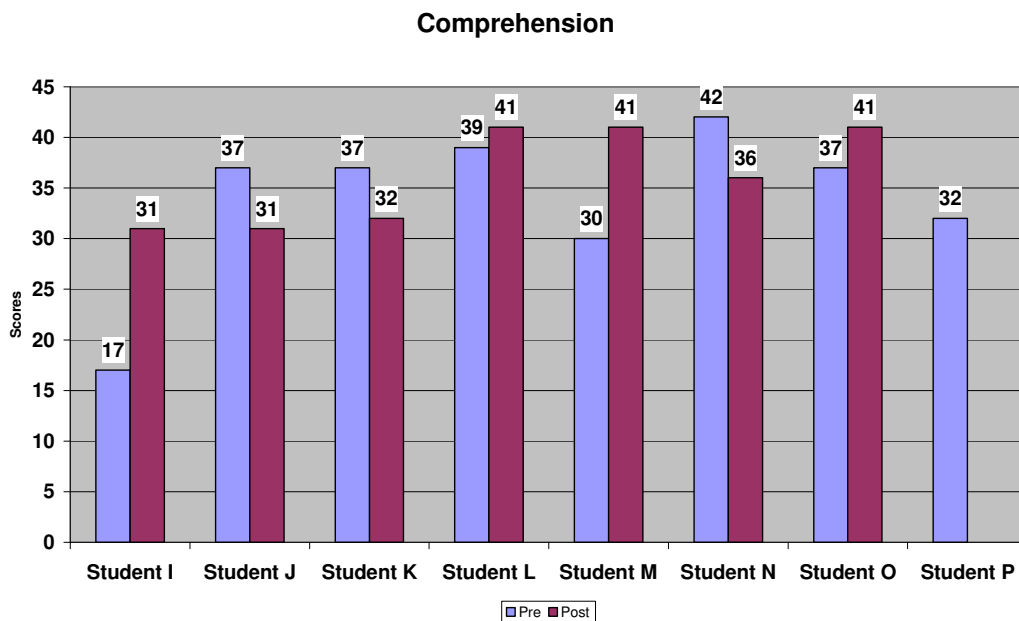


Figure 8 Control Group Torch Comprehension Scores

The Torch comprehension percentiles also indicate improvements made by the students in the pre and post tests. (Figure 9 and 10). The Torch comprehension percentiles also indicate improvements made by the students in the pre and post tests. (Figure 9 and 10). The percentile ranks show marked improvements made particularly by Student A who moved

from the first percentile rank to the 94th percentile. Student E moved from the 13th percentile to the 85th percentile in the target group.

Also the decreased post test scores indicated by Students J, K and N in the control group are quite dramatic when shown in percentile ranks.

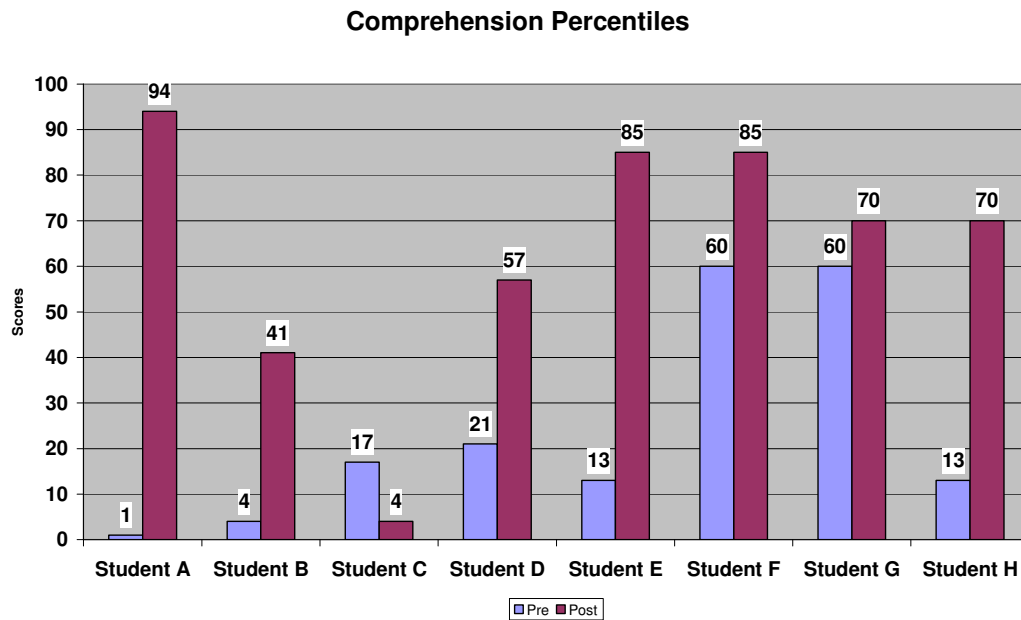


Figure 9 Target Group Comprehension Percentiles

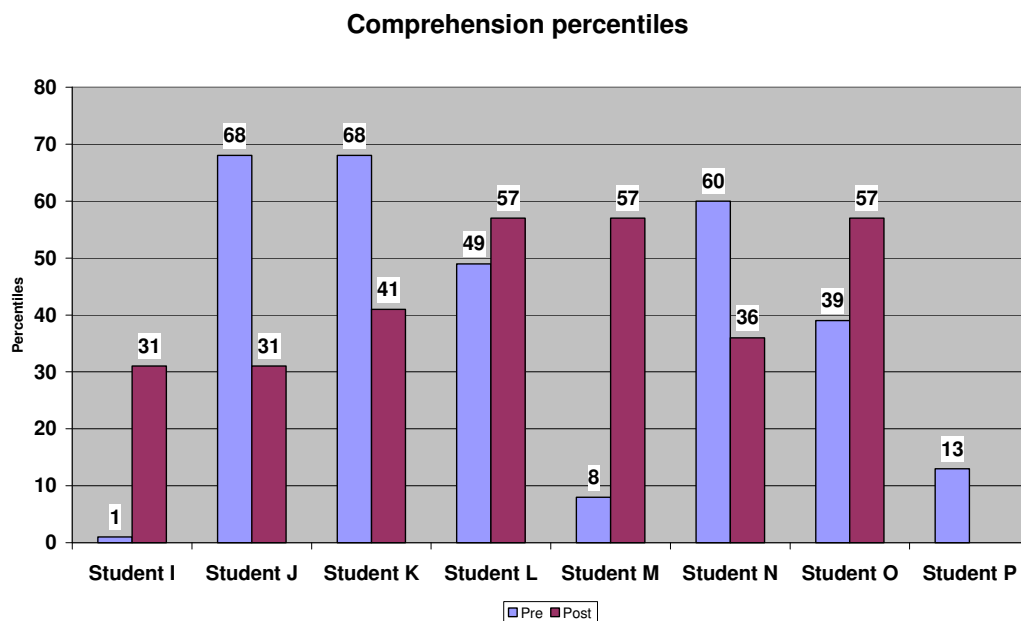


Figure 10 Control Group Comprehension Percentiles

The Visualizing task pre and post scores for the target group show improvements made by all but one student. Student B's result stayed the same. (Figure 11 and 12). Students F and G scores show significant gains. In comparison, the control group shows two Students I and K's post test scores to be lower than their pre test scores. All the other students in the control group show improvements.

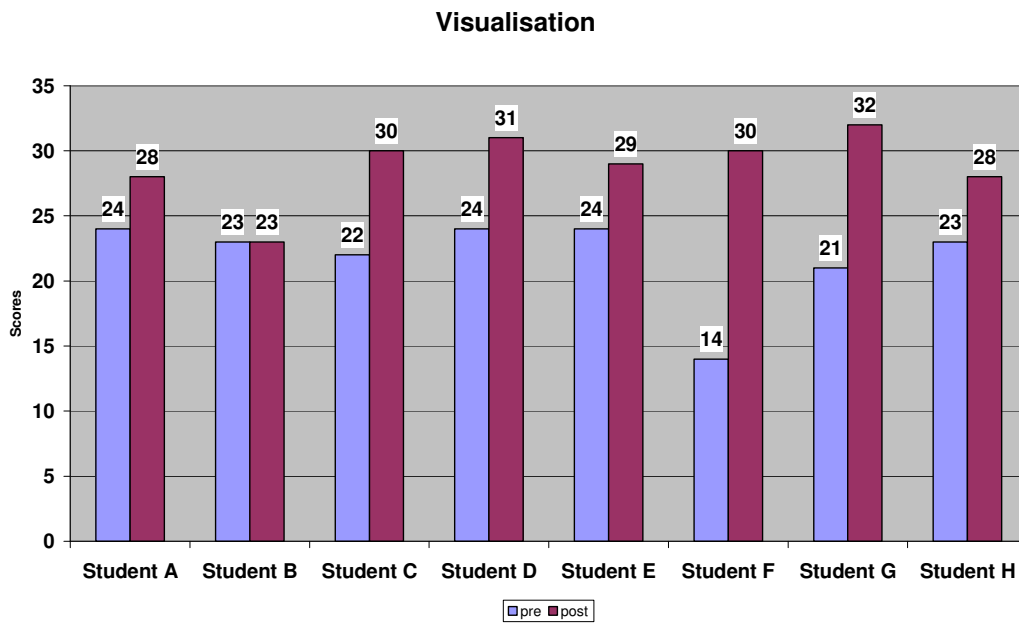


Figure 11 Target Group Visualizing Task

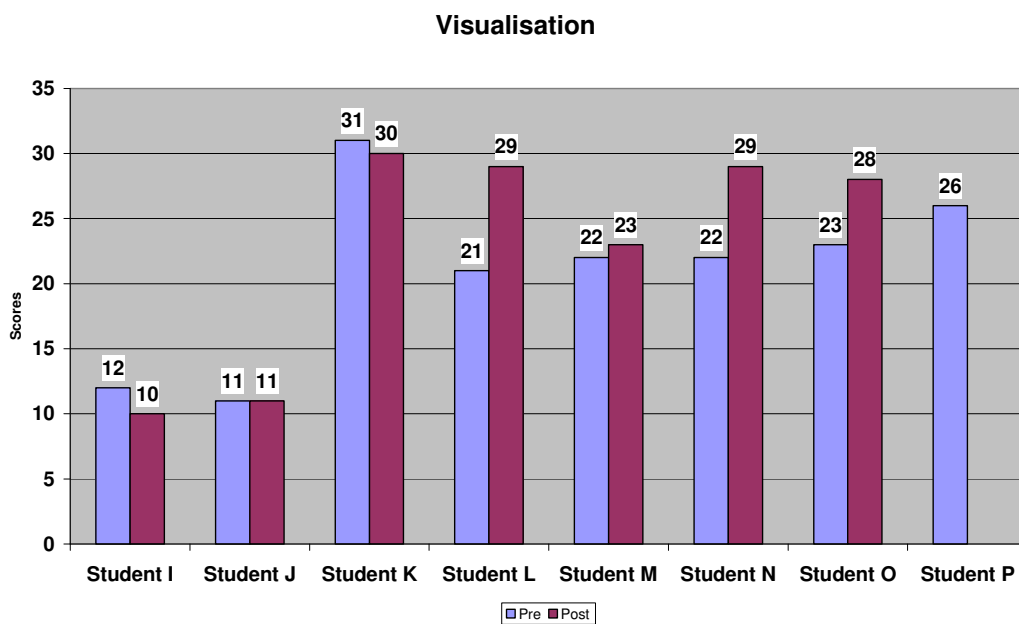


Figure 12 Control Group Visualizing Task

Ongoing monitoring of the use of visualizing strategies by students in the target group show an overall positive learning trend by the end of the intervention. (Figure 13). In the teaching sessions the students were required to visualise while reading and these responses were collected and analysed. Students firstly participated in drawing their visualizations and this showed fairly accurate scores. When the students then began describing their visualizations, some students such as D and E found this more challenging. The last three sessions scores show the students to be generally more accurate in their visualizing.

From session 6 onwards the target group was given explicit feedback on their visualizing responses in a small group, while the remainder worked on their visualizing task individually. Session 10 was a cloze activity where the students were asked to visualise and respond and all students answered accurately. A possible indication of how students would attempt the post Torch test.

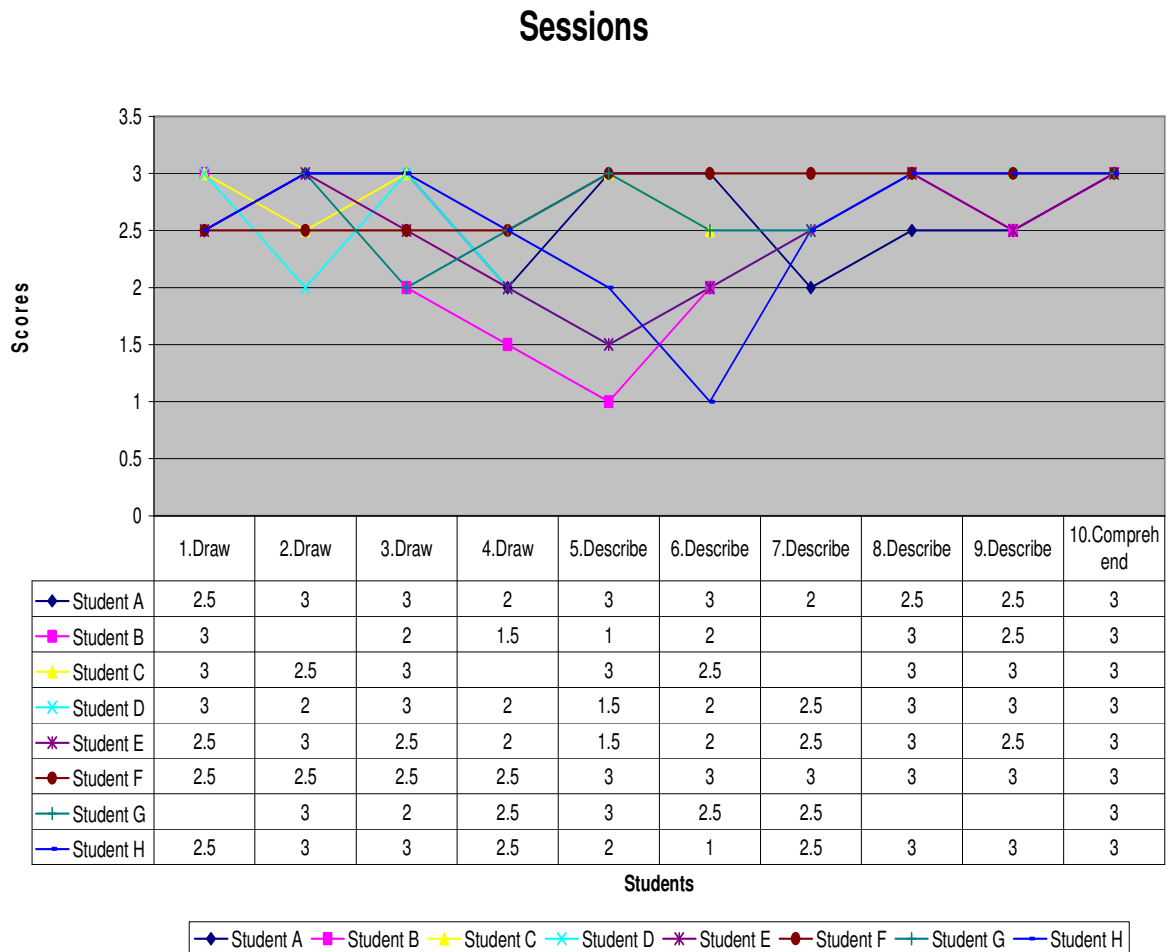


Figure 13 Teaching Sessions – Visualizing record

The Students in the target group completed a short self efficacy questionnaire in Session 5 which asked the students specifically about visualizing strategies. The results indicate that all students had a high self efficacy. (Appendix 2). Self efficacy was also Pre and Post tested indicating that both the target and control groups did not show any significant improvement of self efficacy. (Figure 14 and 15). The differences between pre and post scores for individual students didn't vary more than 4 points. It is interesting to note that Student G's visualizing capabilities improved as did the self efficacy score.

Self Efficacy

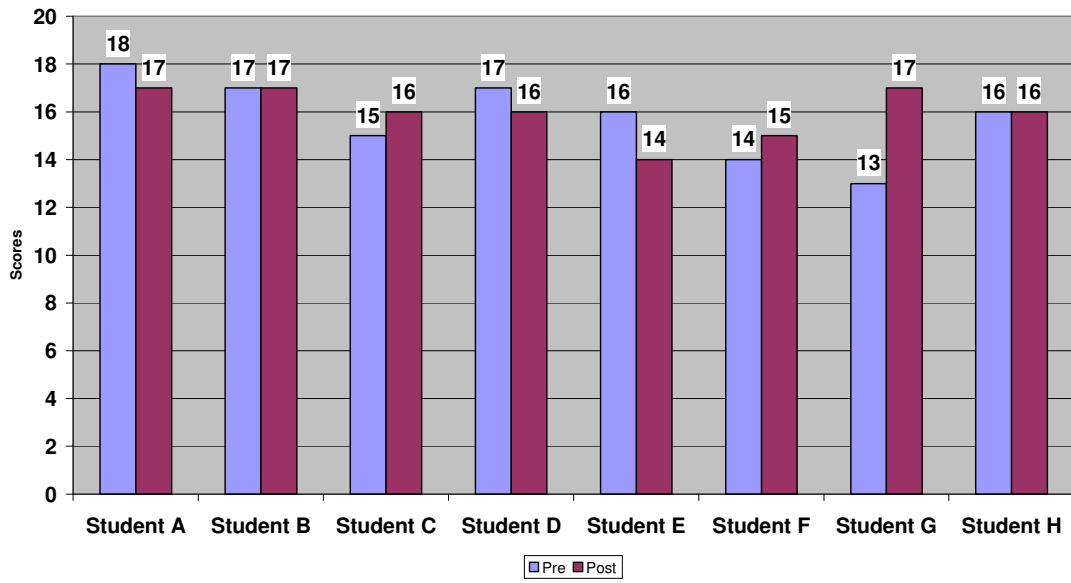


Figure 14 Target Group Self Efficacy

Self Efficacy

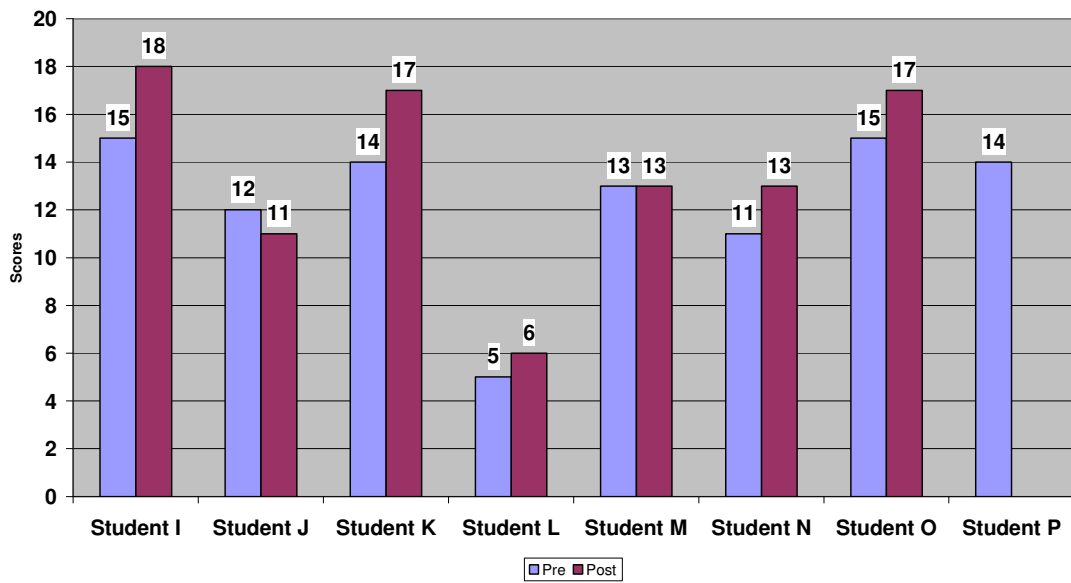


Figure 15 Control Group Self Efficacy

DISCUSSION

In reflecting on the results of this action research project and reviewing the research, there is support for the hypothesis. It explains, that teaching students visualizing strategies to use when reading, improves their comprehension. By explicitly teaching visualizing and the visualizing strategy R.I.D.E.R, students demonstrated some gains in reading comprehension. This was particularly evident when looking at the groups average results. The reading material in the lessons was at an instructional/independent level so the students did not have to focus their energies on decoding the text. The teaching was able to be specific to the visualizing strategy and was applied and reviewed in every lesson. All students in the target group either improved in their ability to visualise or comprehend. Most students improved in both areas.

The results lend support to the research carried out by Hibbing and Erickson (2003), Johnson-Glenberg (2000), Staal (2000), Wood and Endres (2004) and Whitehead (2002) who suggest that the teaching of visualizing or imaging strategies will improve students' comprehension. This was strongly demonstrated by seven of the eight students in the target group – Students A, B, D, E, F, G, and H, whose comprehension scores greatly improved. Although these results are positive and support the hypothesis, Johnson-Glenberg (2000) after conducting her study recommends a need for further studies and changes in research in this area. Researchers typically report gains by the imagery group (the target group in this study) and this tends to come out of studies that rarely use long term training techniques and/or train the students for short periods.

The use of the R.I.D.E.R acronym enabled students to remember what they needed to do when they were reading. (Munro, 2006). R.I.D.E.R was explained, modelled and implemented from lesson 3 onwards. Wood and Endres (2005) support this type of teaching, where the strategy is demonstrated, explicit, and thoroughly explained. They also encourage that the making of images occurs before, during and after reading which supports the way in which these sessions were conducted. Also students were able to articulate the meaning of the acronym and apply this visualizing strategy – Student A’s enthusiasm for using R.I.D.E.R was obvious as the cue card was on the desk ready to be used before each session started!

Each individual student’s visualizing capabilities in the target group improved in the last 3-4 sessions. This could be due to the change in session structure where the class was initially taught as a whole and the target group received extra tuition and feedback from the researcher in a small group, as the remainder of the class completed their work individually. This doesn’t necessarily support the ideas expressed in Wood and Endres (2004) who state that the teaching of their visualizing strategy – IEPC, to the whole class was a strength as a collective experience could be capitalized on. Some children would benefit from this approach, but as this was targeting students with poor comprehension it would be recommended that these “at risk” students need more time and explicit teaching.

There were a few unexpected outcomes. Student B improved in comprehension but not the visualizing task. This may suggest that visualizing was not necessarily an effective tool for this student to comprehend more efficiently. A possible explanation could be that

Student B preferred the post test Torch activity “Grasshoppers”, as it was a much shorter, factual text. The pre test “Lizards love Eggs” was a much longer and fictional text. Student C also had interesting results, where visualizing greatly improved but comprehension results declined. The comprehension test – Torch, was given under “test conditions” to the whole class, while the visualizing task was delivered to the each individual student separately. This may explain Student C’s results as this student does not cope well under pressure as indicated in the “Participants” section of this research.

Some results in the Control group were also unexpected. Student M’s comprehension post test score improved dramatically, but the visualizing task pre and post test scores were quite similar. Discussions with the teacher indicated that there had been a heavy focus on comprehension while the study was being conducted.

Also the self efficacy results are interesting in their own right but don’t seem to correlate with the students overall learning of new skills. It was unexpected that some students overall comprehension/visualizing skills improved greatly, but their self efficacy only improved slightly or actually decreased. In Session 5, Self efficacy results were also very high. The students knew that their answers would be read by, in this case, a teacher in the school. Quite possibly the students may be responding with what they think the teacher would like to read, rather than their true personal opinion about their own learning.

A number of considerations would need to be taken into account if repeating this study. Work sample scores from each session suggest that the target group benefited from extra tuition and immediate feedback.

Visualizations made by individual students that are not accurate can be overlooked in the larger class group. A teacher needs the opportunity to teach individual students in a small group and respond to the student's possible visualization inaccuracies immediately. It is recommended that small group work occurs in each one of these sessions to give individual students the best chance possible of learning how to be accurate with their visualizing.

Also some thought needs to be given to students in the whole class situation who can already visualise proficiently, or who can apply a visualizing strategy after one session. More challenging texts may need to be provided. The work on synonyms may need to be more thorough or specific to a student's needs. Synonym work could be included in each session. It would still be important to provide instructional/independent text to those students who cannot visualise as well, so the focus for these students doesn't shift to decoding. This would be supported by Center et al. (1999) who acknowledge that fluent reading/translations are essential for accessing meaning from print.

Consideration also needs to be given to different text types – in this study the pre test and sessions used fictional texts only and the post test was non-fiction. Results may have been different if the students were post tested with a fictional text, possibly even better results, given that all the student's work was with fictional texts in the ten intervention sessions. The pre and post tests were also different in the number of words to be read. The pre test was quite lengthy in comparison to the post test. This may affect student's willingness to read, especially if they are not confident decoders.

The results suggest that using a visualizing strategy before, during and after reading, improves the understanding of a text. Therefore, visualizing should be explicitly taught to assist students in their overall reading comprehension. Paraphrasing or increased work with vocabulary and meanings of words should also be explicitly taught alongside visualizing - so the process is an accurate one for students.

For students to comprehend automatically and proficiently it would be beneficial to teach visualizing from Grade Prep through to secondary school. An area that would be interesting to investigate is whether or not student's who can visualise and comprehend efficiently, already have a well established and growing vocabulary. It was noticeable during the teaching sessions that students who were able to express their visualizations with imaginative/descriptive embellishments, also wrote their visualizations accurately and within a short time frame.

Another area of possible study would be to look at self efficacy in depth, where students could complete self efficacy tasks privately/individually, so they are not influenced by what others might think. The administrator may need to declare confidentiality. It may then be possible to compile a clearer, more accurate picture of how self efficacy impacts on a student's ability to visualise and comprehend before teaching, during teaching and after teaching. In conclusion, the hypothesis that was put forward in this action research project was:

The explicit teaching of the visualizing strategy R.I.D.E.R improves reading comprehension of Year 3 and Year 4 students with low comprehension.

This has been supported throughout the teaching sessions and is evident in the pre and post testing results of the target and control group. Above all, it is an absolute pleasure to teach explicit, valuable strategies that enable children to not just ‘read the words’, but really experience the joy of reading.

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APPENDIX 1

This table shows the accuracy of the target students visualizations made in each session. The students were asked to re-read parts of the story and then draw or describe their visualizations. Scores shown are totalled out of 3. The overall total score is out of 30. Session 10 indicates three correct answers given in the Torch cloze activity. The letter A indicates that the student was absent.

Students	A	B	C	D	E	F	G	H
Sessions								
1 Draw	2.5	3	3	3	2.5	2.5	A	2.5
2 Draw	3	A	2.5	2	3	2.5	3	3
3 Draw	3	2	3	3	2.5	2.5	2	3
4 Draw	2	1.5	A	2	2	2.5	2.5	2.5
5 Describe	3	1	3	1.5	1.5	3	3	2
6 Describe	3	2	2.5	2	2	3	2.5	1
7 Describe	2	A	A	2	2.5	3	2.5	2.5
8 Describe	2.5	3	3	3	3	3	A	3
9 Describe	2.5	2.5	3	3	2.5	3	A	3
10 comprehend	3	3	3	3	3	3	3	3
Totals	26.5	18	23	24.5	24	28	19	24.5

APPENDIX 2

Self efficacy scale

Questions	Yes	No
Do you enjoy reading?		
Are you able to visualise when you read?		
Do you enjoy reading more if you are visualizing at the same time?		
Does visualizing help you understand what you are reading?		
Does RIDER help you remember what to do when you read?		

Scoring

Yes = 1 point

No = 0 point

Total score = 5 points

Results

Students	A	B	C	D	E	F	G	H
	5	5	4	4	4	4	5	4

APPENDIX 3

Teaching a Visualizing Strategy

Outcome: The Year 3/4 students will improve their use of visualizing strategies while reading to enhance sentence comprehension.

This reading strategy fits into the “Multiple levels of Text Processing” model (MLOTP) in the Sentence and Conceptual level. (Munro, 2006).

Format – whole class and some pair/individual activities within the whole class structure.

It is assumed the students can decode the text presented.

Materials – 9 ERIK fictional stories, Torch story – Lizards Love Eggs, Overhead projector, stories and cloze activity on overhead transparencies, and R.I.D.E.R cue/prompt cards.

Lesson Outline -Adapted from Munro (2006).

Teaching a visualizing strategy

Session 1

Teacher dialogue is shown in italics.

On the overhead projector present the story “Chicken Pox” and give each student a copy of this.

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 Max who has chicken pox.

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 whiteboard.

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 Max who has chicken pox	In my mind I see a boy called Max who has spots	

The other day when Max woke up he had lots of spots on his tummy.	In my mind I see Max in bed with red spots on his tummy	
The doctor gave Max a pill to fix his chicken pox.	In my mind I see Max sitting with the doctor. The doctor is handing him a white box with a red pill in it.	

Teacher reviews the action (This ensures that the behaviour is stored in memory to be transferred and will occur in each future session):

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 visualizing.

Once the text has been visualized as a group interactive activity, students in small groups/individually attempt writing and drawing 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.

Tell me what you know about visualizing and what steps you should follow to visualize a text. (This ensures that the behaviour is stored in memory to be transferred and will occur in each future session)

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.

* In each session students are also encouraged to describe their visualizations using their five senses, not just through their visual sense.

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 pairs. 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 “Chicken Pox”. Introduce them to the text “Catching a Butterfly” 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

The teacher introduces the R.I.D.E.R strategy. On the overhead the cue card is shown and the teacher explains how to apply this visualizing strategy in order to understand while we read. The teacher will now prompt students for the R.I.D.E.R strategy in all future sessions. **(This ensures that the behaviour is stored in memory to be transferred)**. Each student is given their own copy of the R.I.D.E.R cue card.

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 - R.I.D.E.R.

Introduce them to the text “A Race in the Snow” Discuss its title. Repeat the set of teaching procedures used for Session 1. Regularly remind students of the nature of the task and have them review the R.I.D.E.R action.

When you have finished it as an interactive activity, have students in individually write and draw their own mental pictures of it.

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

Session 4

Teacher reviews what students remember about using R.I.D.E.R.

- *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 “A Race in the Snow”

Introduce them to the text “Brad’s Farm”, discuss its title 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 Brief 5-9

Session number	Student activity
5	<ul style="list-style-type: none">• Review R.I.D.E.R strategy• Read aloud each paragraph.• Visualize sentence by sentence in whole group activity.• In pairs the students visualize each sentence and describe their image.• Students complete a self efficacy scale with reference to “visualizing” when reading Each student writes their visualization.
6	<ul style="list-style-type: none">• Review R.I.D.E.R strategy• Read aloud each paragraph.• Visualize sentence by sentence in whole group activity.• In pairs the students visualize each sentence and describe their image. Each student writes their visualization.
7	<ul style="list-style-type: none">• Review R.I.D.E.R strategy• Read <u>silently</u> each paragraph.• Visualize each paragraph and describe their images in whole group activity.• In pairs they visualize each sentence and describe their image. Each student writes their visualization.
8	<ul style="list-style-type: none">• Read <u>silently</u> each paragraph.• Visualize each paragraph and describe their images in whole group activity.• Each student visualizes each sentence and describes their image. Each student writes their visualization.
9	<ul style="list-style-type: none">• Read <u>silently</u> each paragraph.• Each student visualizes each paragraph. Each student writes their visualization.

Session 5

Recommended teacher dialogue is shown in italics.

Show on overhead and give each student a copy of “A Trip to the Dentist”.

Remind students of the R.I.D.E.R 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 Mum taking Tod, and Kip to the Dentist.

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
Gum	Chewy, bubble gum
Waiting room	A room where you wait to see the doctor/dentist
Chup-a-chup	A lollie or a lollipop

- Students will complete a short self efficacy with reference to “visualizing” when reading

Session 6

Use “A Picnic at the Dam”.

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. Students who are using the R.I.D.E.R strategy proficiently are encouraged to read this session story silently and complete their visualization descriptions individually.

After reading this, ask students to identify 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
Dam	
Rim	
Grubby	

Teacher reviews what students remember about visualizing:

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

The target group of students and any other students who need extra support with the R.I.D.E.R strategy are then taught in a small group. The story for this lesson is revised with these students and may be tackled sentence by sentence. The remainder of the class are required to finish their descriptions of each paragraph and then read their own “readers” and use the R.I.D.E.R strategy.

Session 7

Use “The Grubby Shed”.

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.

Students who are using the R.I.D.E.R strategy proficiently are encouraged to read this session’s story silently and complete their visualization descriptions individually.

When they have finished doing the text as a whole group activity, they work in pairs 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 identify 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.

The target group of students and any other students who need extra support with the R.I.D.E.R strategy are then taught in a small group. The story for this lesson is revised with these students and may be tackled sentence by sentence. The remainder of the class are required to finish their descriptions of each paragraph and then read their own “readers” and use the R.I.D.E.R strategy.

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 Fishing Trip**”

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.

Students who are using the R.I.D.E.R strategy proficiently are encouraged to read this session's story silently and complete their visualization descriptions individually.

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

After reading this section, ask students to identify 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.

The teaching group of students and any other students who need extra support with the R.I.D.E.R strategy are then taught in a small group. The story for this lesson is revised with these students and may be tackled sentence by sentence. The remainder of the class are required to finish their descriptions of each paragraph and then read their own "readers" and use the R.I.D.E.R strategy.

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 “Sid’s Cap”.

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, sentence by sentence and then describe the image 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.

Students who are using the R.I.D.E.R strategy proficiently are encouraged to read this session’s story silently and complete their visualization descriptions individually.

After reading this section, ask students to identify 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.

The teaching group of students and any other students who need extra support with the R.I.D.E.R strategy are then taught in a small group. The story for this lesson is revised with these students and may be tackled sentence by sentence. The remainder of the class are required to finish their descriptions of each paragraph and then read their own “readers” and use the R.I.D.E.R strategy.

Teacher reviews what students remember about visualizing:

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

Session 10

Use “Lizards Love Eggs”.

- Ask students: What do you do to visualize a paragraph? *How does visualizing a paragraph help you?*
- Ask students: *What does R.I.D.E.R stands for and how it helps us read?*

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. When they have finished doing this individually for the text, the students share their images for each paragraph with the group.

Then students read silently the second paragraph. Once they have done this at least once, students individually make an image of the paragraph and then describe the image to them. The students then read the third and fourth paragraph and continue to make an image. Students who are using the R.I.D.E.R strategy proficiently are encouraged to read the passage silently and complete the cloze activity individually.

As a whole class the first seven missing words in the cloze activity that come with “Lizards Love Eggs” are attempted. The students then attempt the remaining missing words individually. Students are reminded to use RIDER when they reread any parts of the passage. Students are

encouraged to read their own class “readers” and use R.I.D.E.R when they have finished the cloze activity. The teaching group of students and any other students who need extra support with the R.I.D.E.R strategy are taught in a small group.

- Review with students what they have learnt about reading in the sessions they have been involved in.

APPENDIX 4

Session	ERIK Text Title	Year level	ERIK Session
1	Chicken Pox	3/4	13-1
2	Catching a Butterfly	3/4	1-1
3	A Race in the Snow	3/4	2-1
4	Brads Farm	3/4	3-1
5	A Trip to the Dentist	3/4	12-1
6	A Picnic at the Dam	3/4	9-1
7	The Grubby Shed	3/4	8-1
8	The Fishing Trip	3/4	11-1
9	Sid's Cap	3/4	6-1
10	From the Torch Test - Lizards Love Eggs	3/4	Page 5-6

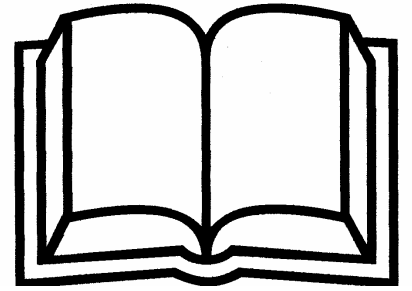
APPENDIX 5

CUE/PROMPT CARDS FOR RIDER STRATEGY

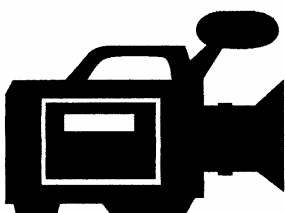
RIDER

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

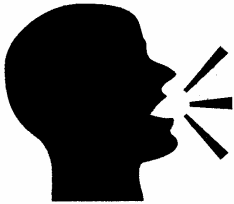
1. Read



2. **I**_{mage} - put a
picture in your
mind

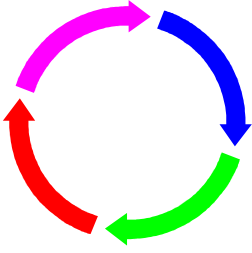


3. Describe



4. Evaluate check





5. Repeat
steps 1,2,3,4

APPENDIX 6

Visualizing task – adapted by Brenda Dalheim

Visualizing task: **Individual** administration

John Munro

In this task we are going to be reading (or listening to) sentences and then describing the picture that you make in your mind.

Look at the first two sentences. These are part of a story. I will read them and I want you to read them to yourself with me. Then I will think about what the story might say next. I want you to think about what it might say as well.

Teacher reads the two sentences. Then the teacher describes the picture they have made in their mind: *In my mind I see a man wearing work clothes going to live in a strange town. In his bag he has toys he has made and tools for making them. He is looking around the new town. Now you have a go at making your picture. Then describe what your picture has in it.*

Now you have a go at the second sentence. The teacher then reads the next sentence to the student (or the student reads the sentence). Now have a go at making a mind picture of it. Then describe your picture in words. Now listen to the picture I made. *“He wanted to find a place to live. I can see the man looking at a house where he could live.”*

Now you have a go at the third sentence. The teacher then reads the next sentence to the student (or the student reads the sentence). Now have a go at making a mind picture of it. Then describe your picture in words.

Now you have a go at the fourth sentence. The teacher then reads the next sentence to the student (or the student reads the sentence). Now have a go at making a mind picture of it. Then describe your picture in words. Now listen to how I say it. It says *“After he bought a map he looked for a bus. I can see the man buying a map and then looking in the street for a bus stop.”* Write down what I have said in the space.

Practice items

Sentence read	Teacher	Teacher writes child's response
A toy maker went to live in another city. He wanted to find a place to live.	This person who makes toys moved to a new town.	
	He needed to get a house to stay.	
He needs to get to know the city.	He wants to find out where things are in the town.	
After he bought a map he looked for a bus.	First he got himself a map. Then he searched for a bus stop.	

Introduce the set of teaching sentences. Give the student the following instructions: Listen to (or *read each sentence to yourself*). *Make a picture of it in your mind. Then describe your picture in words.* **The teacher writes the child's description in the space provided, next to each sentence.** Teacher reads these sentences to the student (or the student reads each sentence to themselves).

The young man and his friend rode on the bike.	
They were enjoying themselves.	
The birds were singing in the trees.	
The two friends chatted. They were not paying attention to anything.	
They were supposed to watch where they were going.	
The track became narrow and twisted.	
Suddenly it began to slope down and the bike sped up.	
People in the park watched and gasped as it went faster and faster.	
The two riders weren't smiling and chatting any longer.	
Now they were gripping the bike as tightly as they could, showing fear on their faces.	
People in the park had stopped what they were doing and started to yell, "Stop" or "Be careful".	
All of a sudden the path goes around a sharp curve.	
Ahead they see in the middle of the path, a huge stone.	
The closer they get to it, the more enormous it becomes.	
As they fly towards it, their hearts are beating louder and louder and they try to take avoidance action.	
There is loud thud, the front wheel crumples and the young couple is airborne, flying over the obstacle to the grass on the side of the path.	

Visualizing task: Individual administration

Teacher record sheet

Student name: _____ Grade: _____

Date: _____

Sentence	Teacher	Your try
A toy maker went to live in another city.	This person who makes toys moved to a new town.	
He wanted to find a place to live.		
He needs to get to know the city.		
After he bought a map he looked for a bus.		

	Sentences	Your mind picture
1.	The young man and his friend rode on the bike.	
2	They were enjoying themselves.	
3	The birds were singing in the trees.	
4	The two friends chatted. They were not paying attention to anything.	
5	They were supposed to watch where they	

	were going.	
6	The track became narrow and twisted.	
7	Suddenly it began to slope down and the bike sped up.	
8	People in the park watched and gasped as it went faster and faster.	
9	The two riders weren't smiling and chatting any longer.	
10	Now they were gripping the bike as tightly as they could, showing fear on their faces.	
11	People in the park had stopped what they were doing and started to yell, "Stop" or "Be careful."	
12	All of a sudden the path goes around a sharp curve.	
13	Ahead they see in the middle of the path, a huge stone.	
14	The closer they get to it, the more enormous it becomes.	
15	As they fly towards it, their hearts are beating louder and louder and they try to take avoidance action.	
16	There is loud thud, the front wheel crumples and the young couple is airborne, flying over the obstacle to the grass on the side of the path.	

Appendix 7

Table 2

Names	Target group	Torch Pre test	Torch Post test	Torch Pre percentile score	Torch Post percentile score	Visualizing Pre test	Visualizing Post test	self efficacy pre	self efficacy post
Student A	1	20	48	1	94	24	28	18	17
Student B	1	24	32	4	41	23	23	17	17
Student C	1	28	23	17	4	22	30	15	16
Student D	1	34	41	21	57	24	31	17	16
Student E	1	32	48	13	85	24	29	16	14
Student F	1	42	48	60	85	14	30	14	15
Student G	1	42	44	60	70	21	32	13	17
Student H	1	32	44	13	70	23	28	16	16
Target group	Averages	31.75	41	23.625	63.25	21.875	28.875	15.75	16
	Total possible score					32		18	
Student I	0	17	31	1	31	12	10	15	18
Student J	0	37	31	68	31	11	11	12	11
Student K	0	37	32	68	41	31	30	14	17
Student L	0	39	41	49	57	21	29	5	6
Student M	0	30	41	8	57	22	23	13	13
Student N	0	42	36	60	36	22	29	11	13
Student O	0	37	41	39	57	23	28	15	17
Student P	0	32		13		26		14	
Control Group	Averages	33.875	36.14286	38.25	44.28571	21	22.85714	12.375	13.57143
	Total possible score					32		18	

