

Explicit teaching of Visualising
using the R.I.D.E.R. Strategy
will improve the comprehension
of a whole class of Grade 4
students.



Abstract

Most students in middle to late primary school are excellent text decoders, but some are unable to fully understand the text they are reading. Often students have trouble comprehending because they are unable to visualise.

The hypothesis of this study is to see whether explicit teaching of the RIDER (Read, Imagine, Describe, Evaluate, Repeat previous steps) Strategy will improve the comprehension of a whole class of students, as apposed to working with small intervention groups.

Two year 4 classes were selected for this study, one of which experienced explicit teaching; the other was the control group. The study examines the hypothesis that teaching the RIDER Strategy of visualising to a class of students will improve their comprehension.

The 10 lessons on using the RIDER Strategy to visualise were organised using the Visualising Strategy developed by Dr J. Munro in 2006. The lesson sequence provided the greatest amount of scaffolding at the beginning and this was gradually lessened as each lesson progressed to enable each student to move to the zone of proximal development and then to independence level (Vygotsky, L.S. 1978).

The findings of this study indicate that most students can be taught a strategy as a whole class. The results of this study support my hypothesis. My findings showed that the Visualisation and Torch test average scores of participants improved substantially in post testing. As apposed to the control group whose averages increased only minimally.

These results suggest that teaching visualisation using the RIDER Strategy to a whole class can work as effectively as teaching a small intervention group.

The implication of this study is that comprehension strategies like RIDER can be taught successfully by classroom teachers during their literacy blocks, without the need for intervention teachers to remove groups of students for specialised teaching.

Introduction

Many students in middle to late primary school have difficulty comprehending what they read. Reading comprehension is one of the most important life skills that students need to develop.

In the late 1990's Pressley, et al., (2002) (cited in Pressley, Wharton-McDonald, Hampton & Echevarria, 1998) observed a number of middle primary classes and found that there was very little comprehension instruction. What they found was many teachers asking a multitude of comprehension questions after students finished reading. Therefore, they believed that there should be greater emphasis on effective instruction to increase students' comprehension.

Before students can read words they need to be taught how to decode accurately.

Pressley, et al., (2002) believe that once students are taught to decode they need to be taught vocabulary thoroughly for their comprehension to improve. Research by Pressley, et al., (2002) (cited in Pearson & Dole, 1987; Pearson & Fielding, 1991; Pressley, Johnson, Symons, McGoldrick & Kurita, 1989) developed strategies to improve reading comprehension, the following are strategies they believe will improve memory and comprehension of texts:

- Generating questions about ideas in text while reading
- Constructing mental images which represent ideas in the text
- Summarising and analysing stories read.

Mastropieri, et al., (1997) found that even though structured programs approached the teaching of comprehension differently common threads existed; the following are some of their recommendations:

- Teacher modelling
- Reading for a variety of purposes
- Teaching behaviours that readers need to use before, during and after reading
- Repeated exposure to stories and giving instantaneous feedback on their comprehension of its elements

Visualisation is the ability to make mental images of a text to assist with comprehension. Students can be taught how to make pictures in their minds as they read and then use these pictures to monitor their understanding of what they have read, Hibbing et al., (2003).

“A picture is worth a thousand words”, this statement by Hibbing et al., (2003) is extremely pertinent when we think of visual memory.

Students of this generation are continually bombarded by visual images in most facets of their lives as never before. Hibbing et al., (2003) also remark that even though students are continually bombarded by visual images, this does not always mean that they are able to create images that support reading comprehension.

Literacy Consultant Puett Miller, (2004) believes that visualising can be taught using simple step-by-step strategies. The first of which is by direct modelling of the thought process involved in visualising a text. Also, it is important to give the students concrete ideas to connect to prior knowledge and then share their ideas.

Puett Miller, (2004) strongly believes that by using visualisation you open the door for life-long reading. By teaching visualisation you will help students to develop the habit of thinking about what they read which will then lead to greater retention and understanding.

Back in 1984 research by Clark, Deshler, Schumaker, Alley & Warner (1984) showed that explicit teaching of visual imagery improved the comprehension of Learning Disabled students. The RIDER Strategy was developed to improve each student's ability to visualise and led to an improvement in their ability to spontaneously recall details of a text and their understanding of the text.

Clark et al., (1984) believed that using the RIDER Strategy of:

1. READ
2. IMAGINE
3. DESCRIBE
4. EVALUATE
5. REPEAT steps 1-4

And the self questioning procedures of Who, What, Where, When and Why would allow students to read a passage, create visual images and then form questions about the content of the passage as they read.

In this way they would maintain interest and enhance the recall of their students.

Clark et al., (1984) concluded that Learning Disabled students could be taught to use reading comprehension strategies and that these strategies needed to be specifically taught before performance improved.

There is evidence in the research performed by Pressley, et al., (2002) that teachers need to model and explain comprehension strategies, let the students practise these strategies with support and then expect the students to continue using these strategies when reading independently.

Therefore, handing over control to students after scaffolding their initial learning. Also Pressley, et al., (2002) suggest that the teaching of comprehension strategies occur everyday, for as long as it takes to get all readers using the strategies on their own.

With this statement in mind this research project needs to take into account that all students learn at different rates and that there is a real need to constantly revisit the strategies taught to check for continued understanding.

It is important that the students are taught directly and explicitly, that the students know not only what they are doing but why they are doing it. The teaching should be scaffolded so that the responsibility for the learning passes from the teacher to the student.

Comprehension is not just something that all students master independently. With this in mind I have decided to teach a strategy to assist with visual imagery in an effort to improve a class' comprehension of texts.

The present investigation aims to examine whether the teaching of visualisation using the explicit teaching of the RIDER Strategy to a whole class of grade 4 students will improve their comprehension.

Prediction:

Explicit teaching of Visualising using the R.I.D.E.R. Strategy will improve the comprehension of a whole class of Grade 4 students.

Method

Design:

This study uses an OXO design (Assess, Teach, Assess) where the students in the teaching group will be taught to use the RIDER Strategy to improve their comprehension.

This study will compare two grades of Year 4 students, a teaching group and a control group. The two groups of students will be pre tested using the Torch comprehension test, the Munro Self Efficacy test and the Munro Visualising test.

After the explicit teaching of the RIDER Strategy to the teaching group all students in both groups will be post tested using the same tests used in pre testing (except Torch which uses a different text and cloze activity).

Setting:

This study took place in a Primary School in the Western suburbs of Melbourne. The school's enrolment is approximately 580 students.

The school is situated in a low socio-economic area and has high numbers ESL students.

The school has straight grades throughout each year level.

Participants:

Two of the three grade four classes were chosen for this study.

The teaching group consists of 26 students, 23 of whom returned permission slips and results were included in this study. The control group consists of 27 students, 15 of whom returned permission slips and have their results included in this study.

The ages of the students range from 106-121 months.

Five students completed the Reading Recovery Program in Year 1 and one child completed the Bridges program in Year 2.

There is only one child in the study who has qualified for LNSLN funding and they are in the control group.

There are many other students in both the teaching group and control group who have learning difficulties; however they are not eligible for funding.

52% of the teaching group are from ESL backgrounds and 47% of their families receive EMA benefits.

In the control group 67% have ESL backgrounds and 33% of their families receive EMA benefits.

Their ages and other relevant information about each student in the study are contained in Table 1.

Table 1
Participants

Name	Control = 0 Teaching=1	Age in MONTHS	Gender 0=Male 1= Female	Years of Schooling	ESL No=0 Yes=1	LNSLN funding 0=SLD 1=ID 2=Asp	Earlier Intervention No=0 RR=1 Bridges=2 ERIK=3...	EMA No=0 Yes=1
A	1	110	1	4	0		0	0
B	1	108	1	4	0		1	0
C	1	113	1	4	1		0	0
D	1	110	1	4	1		0	0
E	1	112	1	4	0		1	1
F	1	113	1	4	0		0	1
G	1	106	1	4	1		0	1
H	1	108	1	4	0		0	0
I	1	112	1	4	0		1	0
J	1	114	1	4	0		1	1
K	1	115	1	4	0		0	0
L	1	112	1	4	1		0	0
M	1	118	1	4	1		0	0
N	1	115	0	4	0		0	0
O	1	108	0	4	1		0	0
P	1	111	0	4	0		0	1
Q	1	115	0	4	1		0	1
R	1	110	0	4	1		0	1
S	1	118	0	4	1		0	1
T	1	111	0	4	1		0	1
U	1	114	0	4	1		0	1
V	1	111	0	4	1		0	1
W	1	121	0	4	0		0	0
SUM/TOTAL								
Mean/ Average								
Standard Deviation								
X	0	109	1	4	1		0	1
Y	0	110	1	4	0		0	0
Z	0	109	1	4	0		0	0
AA	0	108	1	4	0		2	0
BB	0	112	1	4	1		0	0
CC	0	116	1	4	1		0	0
DD	0	114	1	4	1		0	0
EE	0	117	1	4	1		0	1
FF	0	116	0	4	0		0	0
GG	0	109	0	4	1		0	1
HH	0	109	0	4	1		0	0
II	0	118	0	4	0		1	1
JJ	0	112	1	4	1	0	0	1
KK	0	118	0	4	1		0	0
LL	0	114	0	4	1		0	0
SUM/TOTAL								
Mean/ Average								
Standard Deviation								

Materials:

The materials used in the Pre and Post tests were;

1. TORCH Tests of Reading Comprehension second edition (2003) Mossenson, Hill & Masters, ACER

Lizards Love Eggs pre test

At the Zoo post test

2. Visualising task: Group administration J. Munro (2005)

(Scoring used contained in appendix 9)

3. Self Efficacy test (adapted from those designed by James W. Chapman & William E. Tunmer, Massey University New Zealand, 2002) by J. Munro 2006

(Scoring used contained with test in appendix 8).

The materials used for the lessons were;

1. **ERIK Program** story called The Joke is on You! Session 24

2. **Magic Beach** Picture story book by Alison Lester (Published 1996, Allen & Unwin)

3. **Australians ALL!** Factual text, Pages 27-36 Australia Becomes a Nation, Written and compiled by Stacey Hattensen and Robin Platt

4. **Harry and the Anzac Poppy** Picture story book by John Lockyer (Published 1997 Reed for Kids)

5. RIDER Prompt sheet, copied from Project 142 see appendix 5

6. RIDER Bookmark, copied from Project 191 see appendix 4

7. Questioning Prompt sheet to assist with asking questions related to the information in each text, see appendix 7

8. RIDER Story board sheet see appendix 6

9. Visualising Strategy J. Munro (2006) to assist with lesson outlines (teacher use only) see appendix 3

Procedure:

After discussion with the Deputy Principal regarding possible grades that would benefit from using the RIDER Strategy it was decided to work with one particular grade 4 class whose teacher has identified that the students need assistance with comprehension strategies.

A control class was established from another grade 4 class.

The children in the teaching group and control group were then pre tested as whole classes using:

Torch Test – Lizards love Eggs

Visualising Test

Self Efficacy Test

The results for each group were collated and lessons using the RIDER Strategy were developed for the teaching group.

The teaching sessions were conducted daily during the literacy block over a period of two weeks. The ten teaching sessions were of approximately 40 minutes in length and were conducted to the whole class.

In the first session the RIDER Strategy prompt sheet was enlarged for all to see and the children were taught how to use the RIDER Strategy to visualise by creating pictures like a video camera in their minds. The students were each given a Story board sheet and asked to draw a picture with grey lead pencil after they had made an image in their minds. The ERIC story The Joke is on You! was used as a text.

In sessions 2 and 3 the picture story book called Magic Beach was used along with the Story board sheet and the students were asked to draw their images again.

The grade 4 level were working on an Australian history unit in class, therefore it was decided to use a non fiction text related to their unit to give the students experience with visualising factual texts.

The story of Australia Becomes a Nation was used to assist the students with visualising the events of Federation. Sessions 4-7 were conducted without using a Story board and the lessons were designed following the Visualising strategy by John Munro (2006). This strategy was used along with the RIDER Strategy to assist the teacher with scaffolding the learning of RIDER and then lessening the scaffolds when appropriate to do so, creating more independent learning by the students.

In sessions 8-10 to coincide with Anzac Day, Harry and the Anzac Poppy fiction text was used to tap in to prior knowledge and to assist the students in working independently using the RIDER Strategy. A Story board to write responses after making images in their minds was used in the final session.

At the completion of the 10 teaching sessions both the control group and teaching group were post tested using:

Torch Test – At the Zoo

Visualising Test

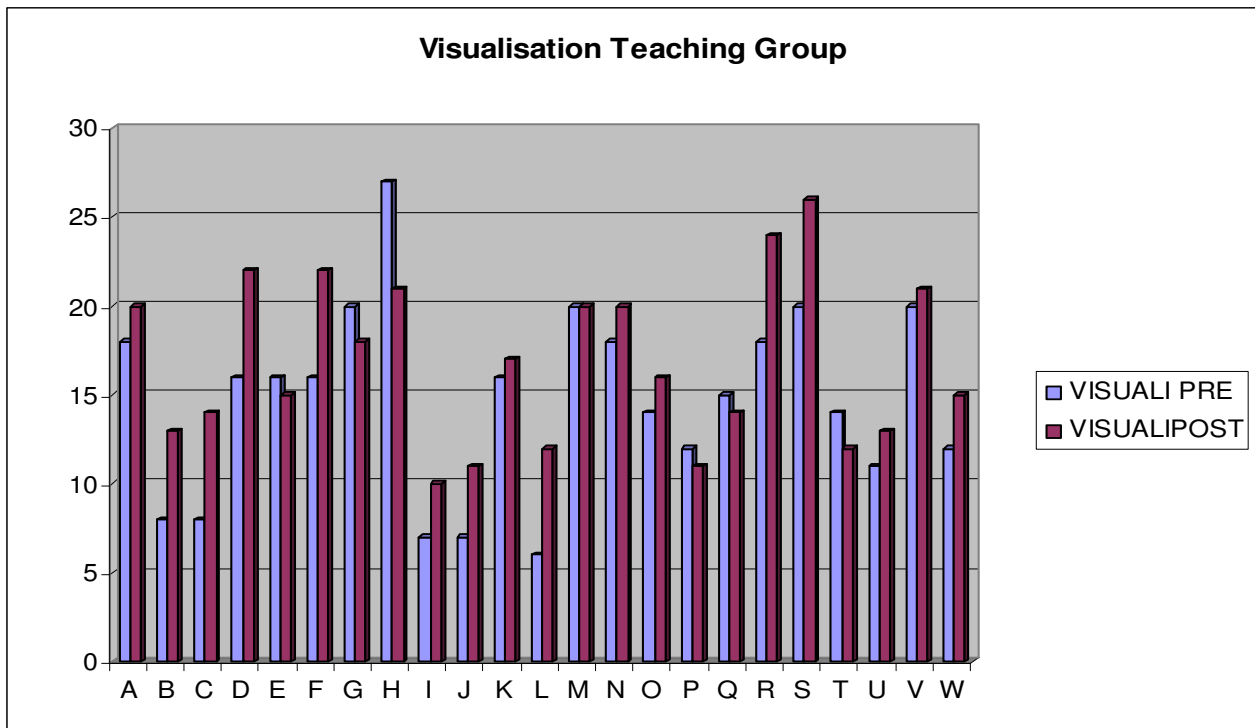
Self Efficacy Test

Table 2
Results of Testing

NAME	Attendan ce No. of sessions	SELF EFFIC		TORCH		TORCH		VISUALI PRE	VISUALI POST
		PRE	POST	raw	PRE	raw	POST		
A	10	41	33	8	9	29.2	33.7	18	20
B	10	48	47	5	10	23.4	35.5	8	13
C	9	26	39	6	11	25.5	37.4	8	14
D	10	45	49	10	12	32.8	39.4	16	22
E	10	33	36	5	5	23.4	26.1	16	15
F	6	39	38	12	9	36.4	33.7	16	22
G	10	45	49	13	15	38.2	46.3	20	18
H	10	40	44	19	17	56.5	52.1	27	21
I	10	30	47	5	9	23.4	33.7	7	10
J	10	43	50	1	3	9.1	21.2	7	11
K	7	46	47	12	13	36.4	41.5	16	17
L	10	54	42	7	4	27.4	23.9	6	12
M	10	41	50	14	14	40.2	43.8	20	20
N	10	47	46	9	13	31	41.5	18	20
O	10	41	46	12	16	36.4	49	14	16
P	10	45	48	6	9	25.5	33.7	12	11
Q	10	53	54	9	11	31	37.4	15	14
R	10	49	52	17	18	47.5	56	18	24
S	10	31	40	19	17	56.5	52.1	20	26
T	10	6	44	2	10	14.6	35.5	14	12
U	8	46	46	12	14	36.4	43.8	11	13
V	10	52	52	15	16	42.3	49	20	21
W	10	44	39	9	9	31	33.7	12	15
Total		945	1038	227	264	754.1	900	339	387
Aver/ Mean		41.087	45.1304	9.86956522	11.4782609	32.786956 5	39.1304348	14.7391304	16.826087
Stand. Devea.		10.917	5.05447	5.07561866	4.30503581	11.774781 4	9.43029566	5.29060263	4.7147185 9
X	0	32	50	11	9	34.6	33.7	7	7
Y	0	34	36	5	10	23.4	35.5	11	9
Z	0	30	30	13	12	38.2	39.4	12	10
AA	0	45	45	7	5	27.4	26.1	5	6
BB	0	32	32	12	7	36.4	30	14	15
CC	0	32	32	16	16	44.7	49	21	19
DD	0	14	10	14	16	40.2	49	16	11
EE	0	48	45	18	15	51.1	46.3	21	20
FF	0	43	47	14	16	40.2	49	19	14
GG	0	51	51	13	13	38.2	41.5	22	21
HH	0	33	37	8	9	29.2	33.7	14	12
II	0	28	47	3	4	18.2	23.9	6	6
JJ	0	53	53	6	6	25.5	28.1	2	6
KK	0	40	33	10	14	32.8	43.8	12	11
LL	0	51	40	11	15	34.6	46.3	17	17
Total		566	588	161	167	514.7	575.3	199	184
Aver/ Mean		37.733	39.2	10.7333333	11.1333333	34.313333 3	38.3533333	13.2666667	12.266666 7
Stand. Devea.		10.787	11.1176	4.23365203	4.27395211	8.5621982	8.83344834	6.25033332	5.2025634 7

Results

Figure 1

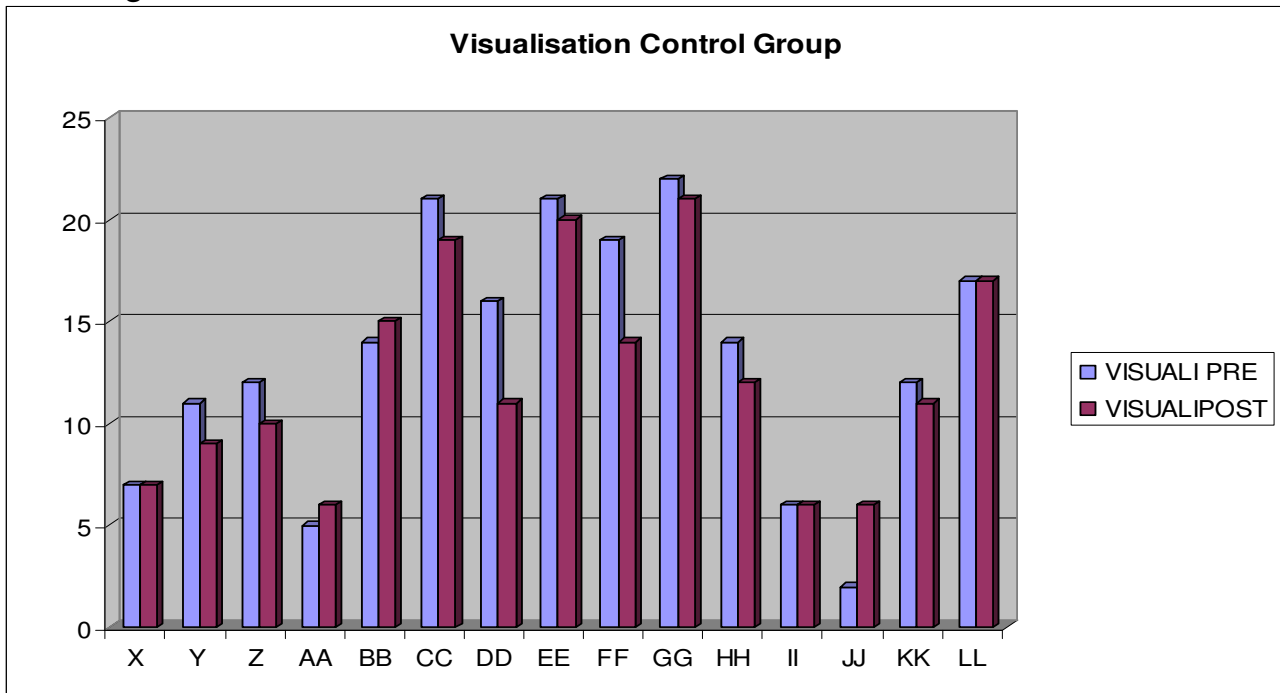


The results of the Visualisation Test on the Teaching Group support my hypothesis that *explicit teaching of visualising using the RIDER Strategy will improve the comprehension of a whole class of grade 4 students*. The post test results of the Visualisation test indicate that 74% of students received an increased visualisation score.

The largest gains in the teaching group were made by students D, F and L. Student L is a child who needs constant instruction and assistance with work and this result has shown that with explicit teaching they are now better able to visualise when reading a text.

The average/mean score for the Visualisation Test was 14.7 in the pre test and 16.8 in the post test. This indicates that there is a standard deviation of 4.7 between the two results meaning that the deviation between the lowest and highest performing students was less than the pre test of 5.2.

Figure 2



In the control group only 20% of students improved their visualisation score from the pre test. Showing that even though there was some improvement in the scoring for some participants, there was no where near the improvement of the teaching group who had explicit instruction using the RIDER Strategy to visualise.

The student with the largest gain was student JJ (who is funded for Severe Language disorder) who tripled her score. The rest of the participants made minimal or no gains.

The average for the control group actually was lower in the post testing, from a score of 13.2 to 12.2. The standard deviation consequently improved by one point from 6.2 to 5.2 for post testing.

Figure 3

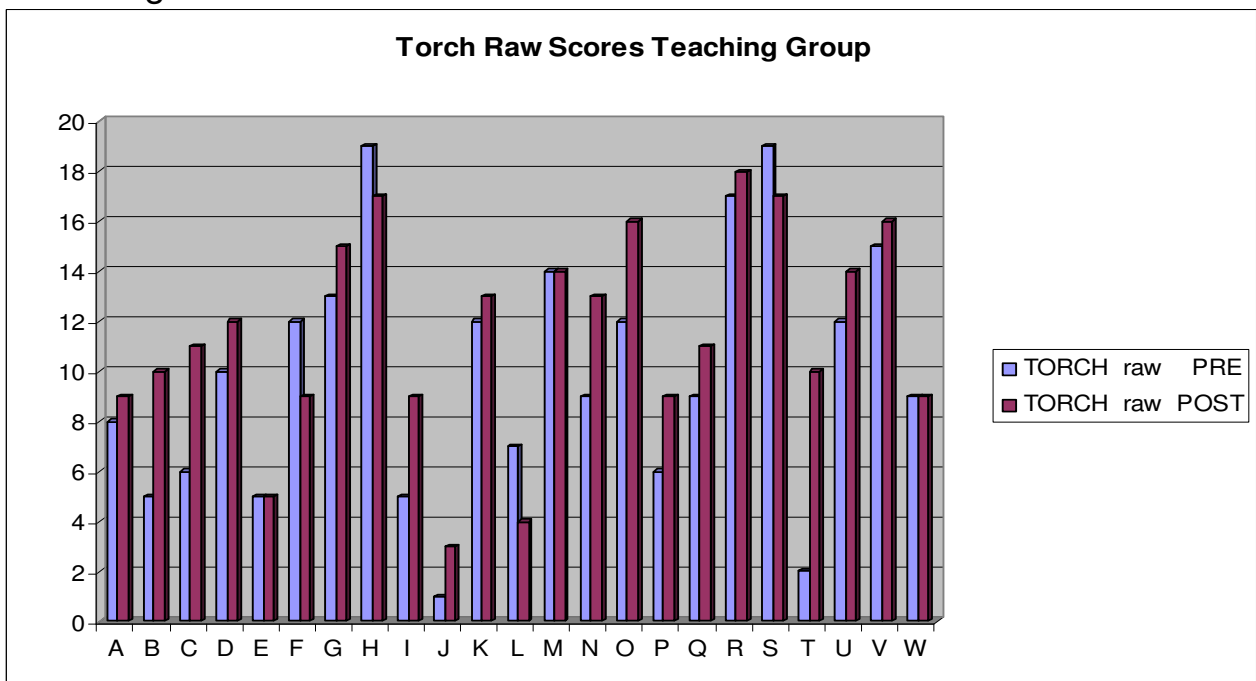


Figure 4

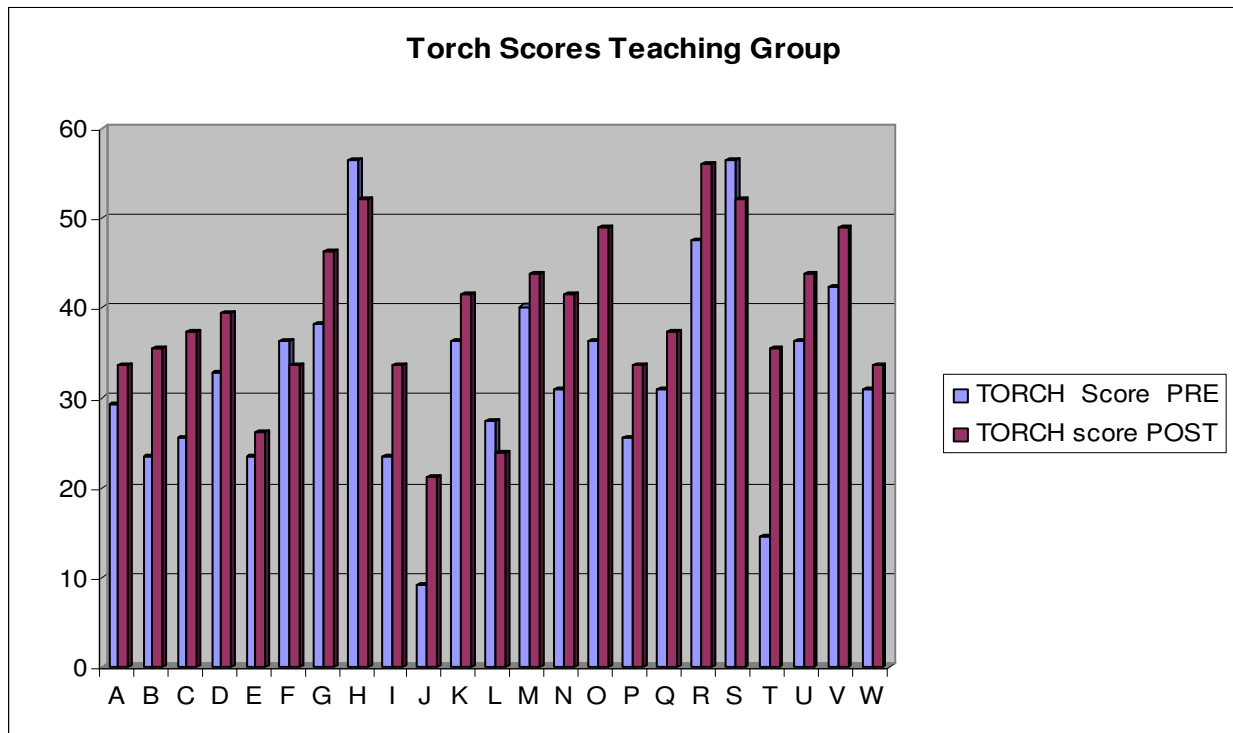


Table 3

Percentile Rank and Stanines/ Teaching Group

Name	Torch score Percentile Rank Pre Test	Torch score Stanine Pre Test	Torch score Percentile Rank Post Test	Torch score Stanine Post Test
A	16	3	23	4
B	4	1	29	4
C	6	2	35	4
D	21	3	42	5
E	4	1	7	2
F	32	4	23	4
G	38	4	67	6
H	91	8	83	7
I	4	1	23	4
J	1	1	3	2
K	26	4	50	5
L	9	2	5	2
M	45	5	58	5
N	16	3	50	5
O	32	4	75	6
P	6	2	23	4
Q	16	3	35	4
R	71	6	91	8
S	91	8	83	7
T	1	1	29	4
U	32	4	58	5
V	53	5	75	6
W	16	3	23	4

* Blue scores indicate improvement by two or more Stanines

The Torch Score results indicate that 83% of the students in the teaching group improved their overall Torch scores.

From the Torch results it was evident that a number of students in the teaching group were able to increase their percentile ranks and Stanines considerably. Students C, D, G, N, O, P and R in the teaching group increased their Stanine scores by two levels. Students B, I and T made the greatest gains by moving up from the 1st Stanines to the 4th Stanines. Students H, and S were the only students in the teaching group who dropped in their Stanine levels by 1 each.

There were two groups of students from the teaching group who scored in the upper end of the Described Regions Along the Torch Scale (page 27 of Teachers Manual).

Students G, H, O, R, S and V all scored at the upper end of the Region indicating that they are more likely to be able to deal with texts containing unfamiliar topics, ideas or difficult vocabulary or structures. They can locate and synthesise several interrelated pieces of information, draw inferences and interpret relationships using knowledge of cultural values when the context is not familiar.

Students K, M, N, and U are all in the second highest Region which indicates that they can locate and synthesise one or several pieces of specifically stated information, they can deal with texts containing unfamiliar topics and ideas and they can locate some dependent or interrelated pieces of information.

The average/mean for the pre and post testing increased substantially from 32.7 to 39.1. The standard deviation improved from 11.7 to 9.4.

Figure 5

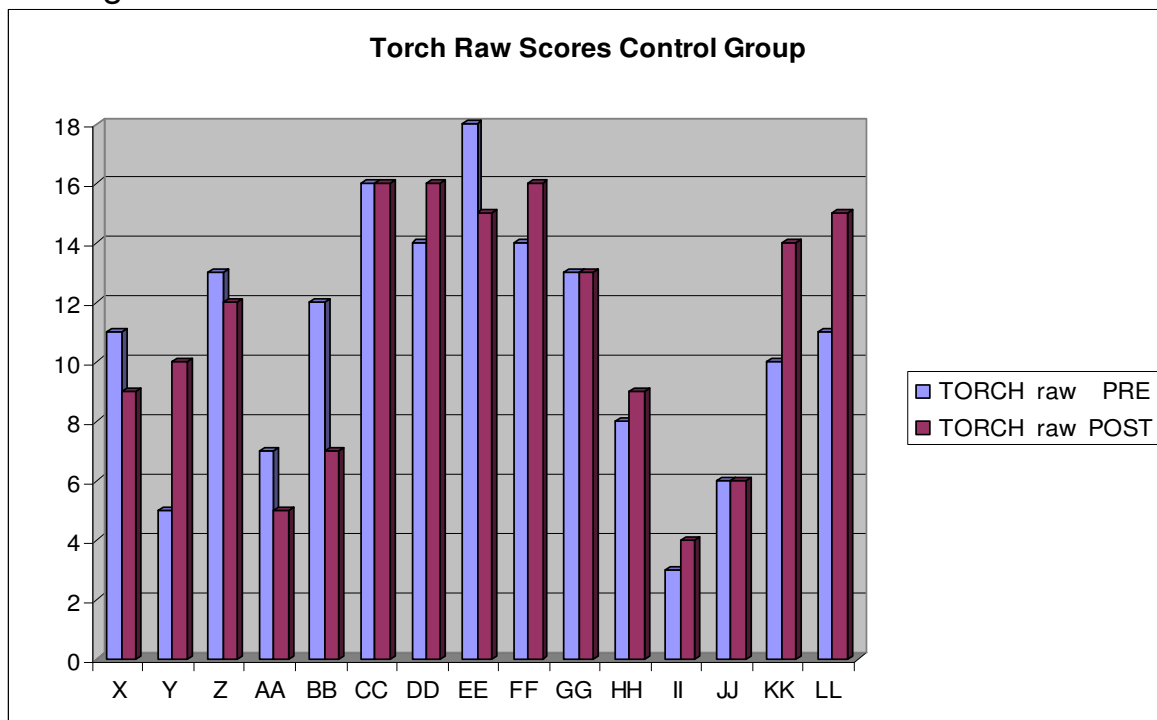


Figure 6

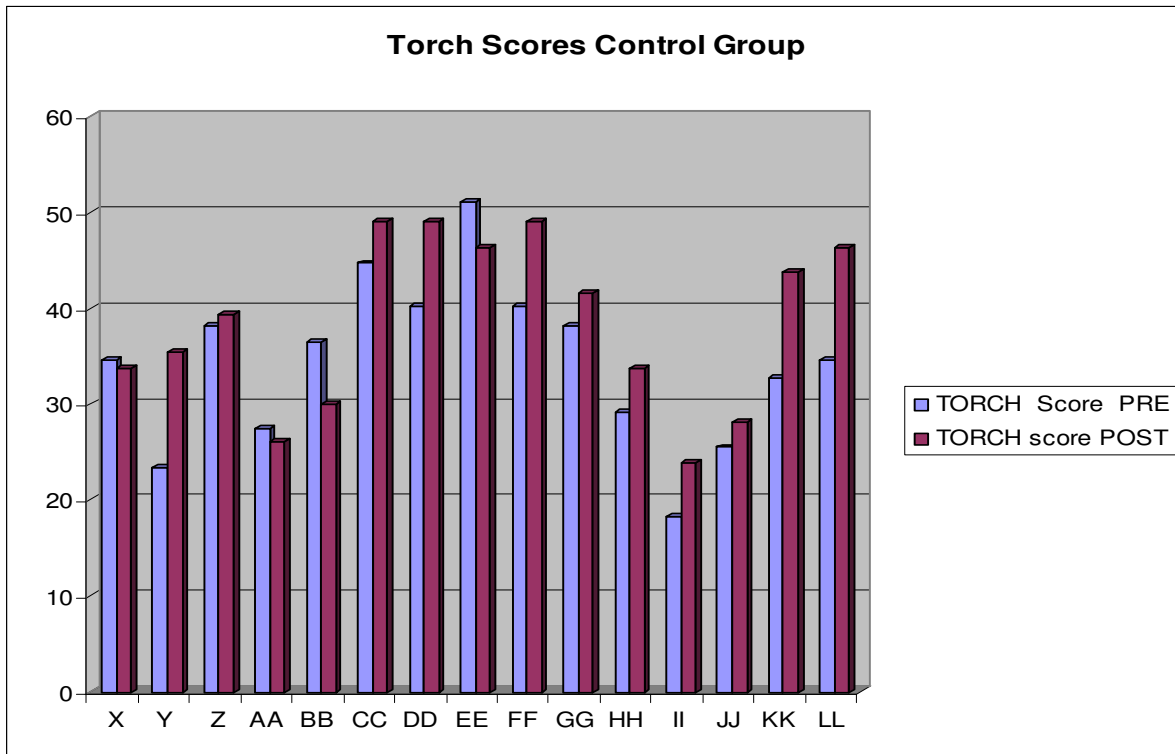


Table 4

Percentile Rank and Stanines/ Control Group

Name	Torch score Percentile Rank Pre Test	Torch score Stanine Pre Test	Torch score Percentile Rank Post Test	Torch score Stanine Post Test
X	26	4	23	4
Y	4	1	29	4
Z	38	4	42	5
AA	9	2	7	2
BB	32	4	14	3
CC	61	6	75	6
DD	45	5	75	6
EE	81	7	67	6
FF	45	5	75	6
GG	38	4	50	5
HH	12	3	23	4
II	1	1	5	2
JJ	6	2	10	2
KK	21	3	58	5
LL	26	4	67	6

* Blue scores indicate improvement by two or more Stanines

In the control group 73% of students improved in their overall Torch score in the post testing.

Students KK and LL improved their Stanine levels by 2 points. Student Y made the greatest gains by moving up 3 Stanine levels, from the 1st to the 4th level.

Student EE dropped in their Stanine level from level 7 to 6.

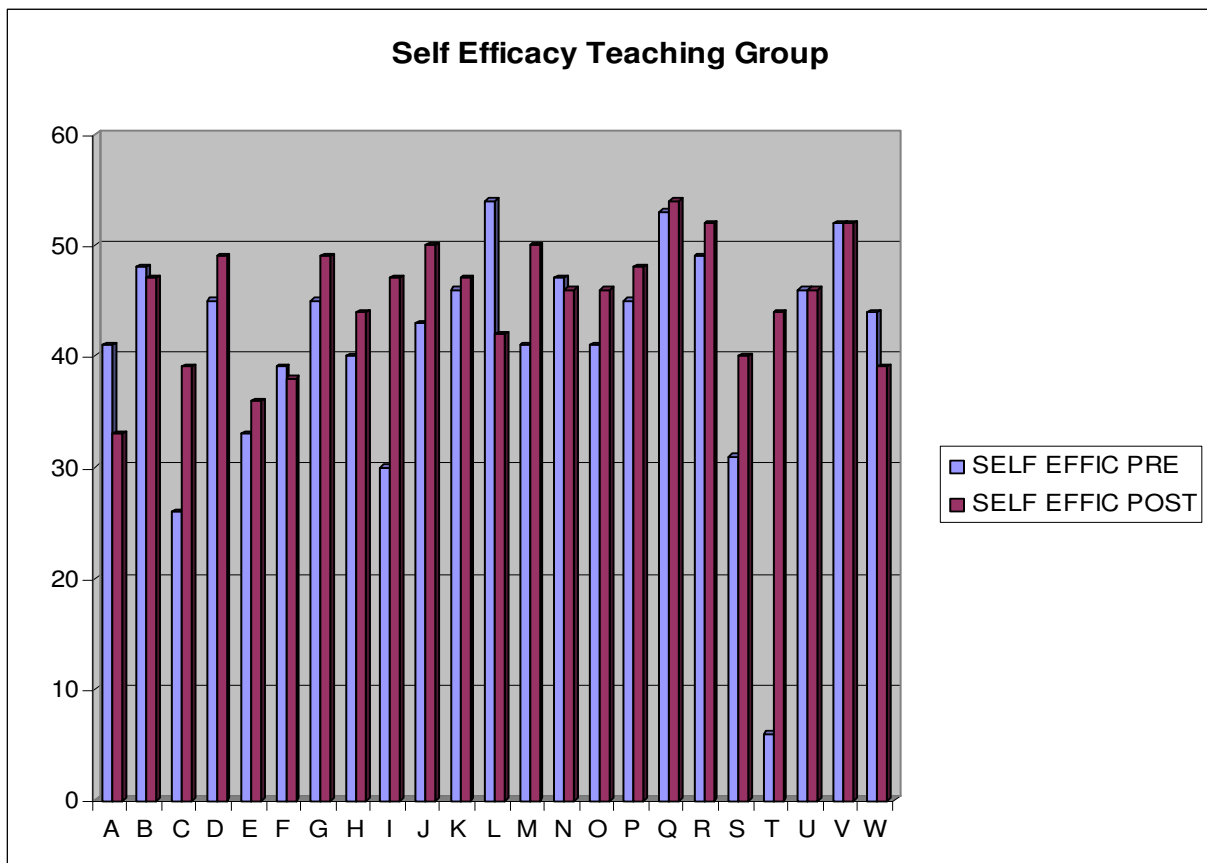
Students CC, DD, EE, FF and LL all scored in the upper end of the Described Regions Along the Torch Scale (see above information in teaching group for specific information about this region).

Students GG and KK scored in the second highest region along the Torch Scale (see above information in teaching group for specific information about the region).

There was an improvement in the average/mean for the control group from 34.3 to 38.3, which is a lower average than the teaching group.

The standard deviation between the Pre and Post Torch scores actually increased slightly from 8.5 to 8.8 indicating that the deviation in scores was widening a little.

Figure 7

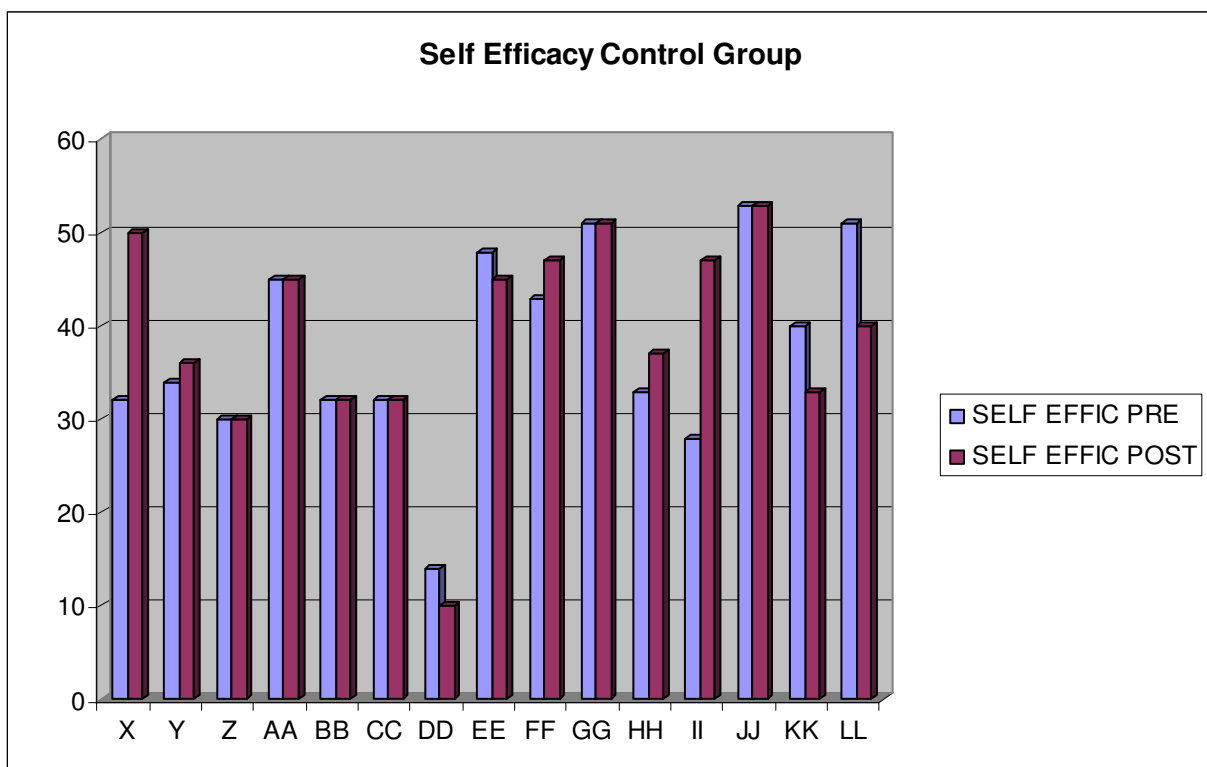


Self efficacy was another area where the teaching group made substantial gains compared to the control group. 65% of the teaching group were able to increase their score from the pre test.

Student T made the greatest gain in relation to his self efficacy score. This student went from a score of 6 to a score of 44. It was evident by this child's demeanour at the beginning of the RIDER instruction that he was not very confident in his own ability. As the lessons progressed the teacher was able to notice a change in the child's enthusiasm and involvement. This obviously then transferred to improved self efficacy.

The average/mean for the teaching group improved from an average score of 41.9 to 45.1. The standard deviation therefore narrowed greatly from 10.9 to 5.0.

Figure 8



33% of students in the control group improved their score from the pre testing. Students X and II made the greatest gains. The majority of students either stayed the same or lowered their score.

The average/mean for the pre test was 37.7 and the post test was 39.2. The standard deviation was then higher than the pre test from 10.7 to 11.1.

This indicates that the students self efficacy was spread a little more and therefore there was no real measurable improvement.

Discussion

Upon examining the results of this study there is support for the hypothesis that teaching a whole class of students to use the visualising strategy of RIDER will improve comprehension.

This backs up the belief by Pressley, et al., (2002) that we need to teach students how to use a repertoire of comprehension strategies, visualisation being one of them.

Support for this hypothesis also comes from Woolley, (2008) who states that instruction programs need to include strategies which enhance memory such as visualisation.

The use of the RIDER acronym enabled students to remember the steps they needed to go through when reading and then visualising.

In a document prepared by McCusker and Oliver (2006) based on the research of Dr John Munro, it was stated that the use of RIDER strengthens the students monitoring of comprehension and recall of information.

One surprising finding from this study was that of student H in the teaching group whose results in the visualising and Torch scores were lower in the post test. This result can in part be possibly attributed to the fact that this student scored very good results in the initial pre tests and may have become a little complacent in the answers given in the post tests.

Student S, also in the teaching group whose score for the Torch test declined in the post test could possibly be attributed to the nature of the text for the Torch post test called *At the Zoo*. This text contained concepts which may have been foreign to this student who is from an ESL background.

This argument is supported in the study by Pressley, et al., (2002) who state that a student's prior knowledge about a topic they are reading allows them to understand it better.

There were 4 students in the teaching group who missed some sessions. On the whole they were all able to show improvements in their post test scores, except for student F. This student was only able to increase her score in the visualising test and showed decline in the Torch and Self efficacy tests. This could be partly due to the fact that she missed the initial 4 sessions of the program.

The findings of this study and other studies including that of Mastropieri, & Scruggs, (1997) support the opinion that explicit teaching of various comprehension strategies should be part of a school's literacy program.

In this study the teaching of the RIDER Strategy took place during normal class time in the literacy block. It took place with a whole class of year 4 students and indicates strongly that the teaching of strategies of this type does not have to only happen in intervention groups, they can be successfully conducted using the whole class.

There were a number of students in the teaching group who are of ESL backgrounds or have low levels of word understanding and these students would have benefited from extra sessions looking more closely at the use of the various concepts/vocabulary in the stories.

As a school we are consciously looking more closely at teaching various comprehension strategies. We have found that through the CLaSS model that our students have become experts in barking at print, but they don't always understand what they are reading.

The implications for my teaching practice in the future will need to involve teaching the RIDER Strategy to the other two grades of year 4 classes and to check in with the teaching group of my study to make sure that they have been able to maintain the use of the RIDER Strategy.

Also, as a school we will need to look more closely at the strategies we are using to teach comprehension and fine tune what we are doing in each grade level.

References/Bibliography

Clark, F.L., Deshler, D.D., Schumaker, J.B., Alley, G. & Warner, M.M. (1984). Visual-Imagery and Self-Questioning Strategies to Improve Comprehension of Written Material. *Journal of Learning Disabilities*, 17, p. 145-149.

Hibbing, A.N., Rankin – Erickson, J (2003) *A picture is Worth a Thousand Words: Using visual Images to Improve Comprehension for Middle School Struggling Readers* The Reading Teacher 56(8) 758 –770.

Mastropieri, M. A., Scruggs, T. E. (Jul/Aug 1997). *Best practices in promoting reading comprehension in students with learning disabilities: 1976 to 1996. Remedial and Special Education [h.w. Wilson - Educ] 18 P.197-213.*

McCusker Hugh and Lee Oliver (Lewis & Lewis 2006) *Language Support Program*, Teaching Procedure, RIDER Strategy

Munro, J. (2009) *Literacy intervention Strategies*, 472 697. Lecture notes. 2009-2010

Pressley, M., Roehrig, A., Bogner, K., Raphael, L. & Dolezal, S. (2002) *Balanced Literacy Instruction*. Focus on exceptional children 34: 5 (pp. 1-14). Denver

Puett Miller, C. (2004) Opening the door: Teaching students to use visualisation to improve comprehension, *Education World Article*

Vygotsky, L.S. (1978). *Mind in Society*. Cambridge, MA: Harvard University Press.

Woolley, G. (2008). Supported Vocabulary Development from Context for Children Experiencing Reading Difficulties, *Australian Teacher Education Association*

Resources

Hattensen S. and Platt R. *Australians ALL!* (Pages 27-36) Australia Becomes a Nation, Curriculum Corporation, (Commonwealth of Australia 2001)

Lester A. *Magic Beach* (Published 1996, Allen & Unwin)

Lockyer J. *Harry and the Anzac Poppy* (Published 1997 Reed for Kids)

Mossenson, Hill & Masters. (2003). *Tests of Reading Comprehension (TORCH)* ACER. Melbourne. Australia.

Munro J. (2006) Self Efficacy test (adapted from those designed by James W. Chapman & William E. Tunmer, Massey University New Zealand, 2002)

Munro J. (2005) Visualising task: Group administration

University of Melbourne and Catholic Education Office Melbourne.

(2006). *Enhancing Reading Intervention Knowledge*. ERIK Program

Appendix 1
Lesson Plans

Lesson 1

Introduction to RIDER Strategy

Materials:

RIDER prompt sheet enlarged for all to see (appendix 5), storyboard worksheet (appendix6), ***The Joke is on You!*** Session 24 story (copy for each child), bookmark of RIDER Strategy (appendix 4) and grey lead pencils.

Procedure:

Before the formal lessons begin the children are instructed on how to use the RIDER Strategy.

The story called *The Joke is on you!* From the ERIK kit was used.

Using the prompt card of:

R- read

I- imagine

D- describe

E- evaluate

R- Repeat steps (read on)

Each child is given a copy of the story and as the teacher reads one sentence at a time (students read along side the teacher) they make a picture in their minds. The teacher tells the students the picture in her mind and the students draw their own mental image onto their Storyboard sheet.

Once the students are finished drawing each picture the teacher will get them to discuss what they drew in an effort to get them to evaluate their image.

This process is continued until the end of the story.

- Each child is given a bookmark with the RIDER Strategy on it.

At the end of each session the students are given a chance to verbalise their learning from the lesson using various sentence starters;

Today I learned.....

I now know.....that I didn't know before.

I can use what I learned to.....

Lessons 2 & 3

Materials:

RIDER prompt sheet enlarged for all to see, storyboard worksheet, picture story book called *Magic Beach* by Alison Lester (copy of words for each child), bookmark of RIDER Strategy, and grey lead pencils.

Procedure:

Revise the RIDER Strategy.

Revise the story from the previous lesson at the beginning of lesson 3

Using the book *Magic Beach* continue the same process by reading a few sentences at a time, students making mental images in their minds, describing/drawing their images onto a storyboard sheet and evaluating their images with the whole class.

Read whole story using the same strategy.

Lessons 4 & 5

Materials:

RIDER prompt sheet enlarged for all to see, *Australians ALL! Pages 27-36 Australia Becomes a Nation, Written and compiled by Stacey Hattensen and Robin Platt* (copy of words for each child), bookmark of RIDER Strategy, Questioning prompt sheet (appendix 7).

Procedure:

Revise the RIDER Strategy.

Revise the story from the previous lesson at the beginning of lesson 5.

Using the story of *Australia Becomes a Nation*, teacher and students read each paragraph aloud.

The teacher and students then visualise /imagine a pair of sentences to the whole group.

In small groups the students visualise the sentences and describe their images, using the Questioning prompt sheet to help them with organising their thoughts.

In this small group the students then evaluate their images with each other.

Continue this process until the completion of the passage.

Lessons 6 & 7

Materials:

RIDER prompt sheet enlarged for all to see, *Australians ALL! Pages 27-36 Australia Becomes a Nation, Written and compiled by Stacey Hattensen and Robin Platt* (copy of words for each child), bookmark of RIDER Strategy, Questioning prompt sheet.

Procedure:

Revise the RIDER Strategy.
Quickly revise the story from previous lessons.

Continue using the story of *Australia Becomes a Nation*, students read each paragraph aloud.

The students then visualise /imagine a pair of sentences in the whole group.

In small groups the students visualise the sentences and describe their images, using the Questioning prompt sheet to help them with organising their thoughts.

In this small group the students then evaluate their images with each other.

Continue this process until the completion of the passage.

Lessons 8 & 9

Materials:

RIDER prompt sheet enlarged for all to see, *Harry and the Anzac Poppy* by John Lockyer (Published 1997 Reed for Kids) (copy of words for each child), bookmark of RIDER Strategy, Questioning prompt sheet.

Procedure:

Revise the RIDER Strategy.

Begin reading pages 2-8 (lesson 8) pages 10-16 (lesson 9) of *Harry and the Anzac Poppy*, students read each paragraph aloud.

Then a small number of students visualise /imagine a paragraph to the whole group.

In pairs the students visualise the paragraphs and describe their images, using the Retelling prompt sheet to help them with organising their thoughts.

In the whole group the students then evaluate their images.

Continue this process until the completion page 16.

Lesson 10

Materials:

RIDER prompt sheet enlarged for all to see, *Harry and the Anzac Poppy* by John Lockyer (Published 1997 Reed for Kids) (copy of words for each child), bookmark of RIDER Strategy, Questioning prompt sheet.

Procedure:

Revise the RIDER Strategy
Quickly revise the story from previous lessons

Students read each page of *Harry and the Anzac Poppy* independently.

Each child then visualises/imagines a paragraph and writes a retell of their visualisation using the RIDER strategy.

In pairs the students evaluate the sentences they have written for the visualisation of each page.

Continue this process until the completion of page 24, the final page.

Get the children to write a short reflection about the RIDER Strategy and what they have learnt by using this strategy.

Appendix 2
Words for stories

Lesson 1 Words for *The Joke is on You!* story

Tom and his friend Jack liked to play tricks on their friends.

One day they were having lunch with their friend Rick. "We'd like to do a trick," said Jack.

Tom picked up a moth on the end of a long stick and went to flick it at Rick. But it got stuck on the stick. "You missed," said Jack.

"Let's try and eat our lunch with sticks," said Jack. So Tom picked up two sticks. He tried to use them like tongs.

He started to eat his food and then he stopped. "What's wrong?" said Rick.

"There's a moth on this stick. I think I'm going to be sick," said Tom.

"Oh no! He must have picked up the wrong stick," said Jack.

"Ha-ha! The joke is on you," said Rick. "That will teach you not to play tricks on friends," said Jack.

And Tom laughed and laughed as he ate the rest of his lunch.

Lesson 2 words for the *Magic Beach* story

At our beach, at our magic beach, we swim in the sparkling sea, surfing and splashing and jumping the waves, shrieking and laughing with glee.

Wild white horses are thundering past, racing to get to the land, plunging and prancing and tossing their heads, then fading away in the sand.

At our beach, at our magic beach, we play for hours, digging and building, with buckets and spades, invincible castles and towers.

The king and the queen are trapped in the moat, a dragon is spitting out flames.

Princess Belinda is charging the beast to rescue little Prince James.

At our beach, at our magic beach, we search in the clear, warm pools, peering at starfish, limpets and crabs, and tiny fish darting in schools.

Into the Kingdom of Fishes we go, riding on sea-dragons' tails.

Angelfish ferry a cargo of pearls past creeping convoys of snails.

At our beach, at our magic beach, we walk when it's cloudy and grey, looking for driftwood, feathers and shells washed up on the edge of the bay.

A leather-bound chest with buckles of brass lies tossed on the sand by the tide.

Lesson 3 words for the *Magic Beach* story

As we push back the lid we are dazzled by light from the glittering treasure inside.

At our beach, at our magic beach, we rock in the tangerine boat, paddling out to the end of the line, then drifting back to the float.

The wind fills our sails as we follow the sun, and the look-out's eyes are keen.

We'll navigate over the edge of the world to islands where no-one has been.

At our beach, at our magic beach, we laze on the jetty and wait, watching the watery shadows below for something to nibble the bait.

A monstrous shark has taken the hook, it's struggling hard to break free, thrashing and crashing and fighting the line as we drag it in from the sea.

At our beach, at our magic beach, we bask in the glow of the fire.

The moon makes a silvery path on the sea, and the waves come to shore with a sigh.

A beacon is signalling up on the cliff, an answer blinks back from the bay.

Smugglers are hauling in crate-loads of rum, then silently stealing away.

At our beach, at our magic beach, the old bed is cosy and wide.

To the sounds of the ocean we sleep through the night.....
adrift on the evening tide.

Lesson 4 words for Australia Becomes a Nation

Australia is the largest island in the world. It is home to more than 18 million Australians, like you and me. It is one country under one flag. But Australia hasn't always been like this.

Just over a hundred years ago, Australia was made up of six British colonies: New South Wales, Victoria, Tasmania, Queensland, South Australia and Western Australia. The colonies were like separate countries.

Each colony had its own small army, and some had their own navy, too. Each colony had its own postal service.

And the colonies made people pay taxes, called customs duties, when they took things from one colony across the border into another.

In the 1880's the fastest way to travel in Australia was by train but travelling by train was very difficult. Each colony had its own railway system.

Sometimes the trains of one colony could not run on the tracks of a neighbouring colony because the tracks were a different size.

This meant that if travellers wanted to go from Brisbane to Melbourne, they had to stop at the border of Queensland and New South Wales and change trains. They had to stop and change trains again at the border of New South Wales and Victoria.

To make things even worse, at border crossings between colonies, there were customs officers who checked every bag and box.

Travellers would have to unpack everything they were carrying and have their belongings searched. Then the officers would make the travellers pay taxes, or customs duties, on certain items before they were allowed to cross over the border. This made travel slow and people often became very angry!

By 1880, more and more people began to believe that the colonies should unite to become one country with federal government that looked after the whole nation.

Lesson 5 words for Australia Becomes a Nation

One politician, Henry Parkes, made a speech in Tenterfield, New South Wales. He said, "The six colonies should join together and become one nation. Our nation is equal to any nation in the world and just as proud. We would have just one army to defend us, instead of six little ones. We could even agree to have railway tracks that are the same size."

Many people agreed with Henry Parkes. In towns and cities all over Australia, people joined groups in order to work for federation.

Some people did not think that federation was very interesting. In 1898, an important meeting about federation was being held at the same time as the Australian cricket team was playing against England in a series of test matches. Many people were much more interested in finding out the cricket scores than in hearing what was being discussed at the meeting. Even those people who were attending the meeting would sneak out early to go to the cricket game!

The colonies sent people to a series of special meetings or conventions to plan how a federal government would work.

Many women campaigned for federation because they believed that a federal government would allow them to vote.

Many working people hoped that federation would improve their way of life. Miners working in the Western Australian goldfields thought federation was so important that they sent a petition with thousands of signatures to Queen Victoria in England asking her to support their desire to join the federation.

Lesson 6 words for Australia Becomes a Nation

But there were others who were not so sure that federation was a good idea. The smaller colonies worried that the bigger colonies would boss them around. Some of the bigger colonies thought that they would have to pay more for a new federal government.

Finally, the people were asked to vote on whether they should become a federation or not. They had to vote 'Yes', that the colonies should unite to form one nation, or 'No', that they should stay as separate colonies.

Wheat farmers in South Australia voted. Firemen in Victoria voted. Railway workers in New South Wales voted. Miners in Queensland voted. Dressmakers in Western Australia voted. Shopkeepers in Tasmania voted.

Most people in the colonies voted 'Yes'. On 1 January 1901, the six colonies of Australia became the Commonwealth of Australia. Celebrations were held all over the country. A new nation was born!

On the evening of 1 January 1901, there was a banquet at Sydney Town Hall and it was lit up with fireworks.

Lord Hopetoun, Australia's first Governor-General, proclaimed the Commonwealth of Australia at a ceremony in Centennial Park, Sydney. A crowd of over 100,000 people gathered to celebrate the event.

Edmond Barton became Australia's first Prime Minister.

Lesson 7 words for Australia Becomes a Nation

Today, Australia has the same system of federal government the people voted for in 1901. The federal Government meets at Parliament House in Australia's capital city, Canberra. It makes decisions about the whole nation.

The colonies became the States and Territories of today. Each State and Territory has its own parliament house and systems of government. These governments make decisions about their State or Territory.

Did you know that the city of Canberra did not exist until 1927?

After Federation, the new Commonwealth Parliament ordered a group of engineers, architects and surveyors to find a place that was 'no closer to Sydney than 100 miles' (approximately 160 kilometres).

It took nine years before Parliament agreed that a sheep paddock on the traditional lands of the Ngunawal people would be a suitable place to build the nation's capital. It took a further five years for the name Canberra to be chosen. It is the only capital city in Australia with an Aboriginal name.

Australia has been a federation for more than one hundred years. The Centenary of federation was in January 2001. Just as in 1901, celebrations took place all over the nation.

Lessons 8-10 words from Harry and the Anzac Poppy are not included
Visualisation story board for **Harry and the Anzac Poppy** included.

My visualisation of the book, *Harry and the Anzac Poppy* by John Lockyer

Appendix 3

Visualizing

***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, then pairs of sentences and then with paragraphs. There are 9 suggested steps in the process (each step may take a few lessons / a week).*

Session	Student activity
1	<ul style="list-style-type: none">• Teacher <u>reads aloud</u> a paragraph. (modeling) Students <u>read aloud</u> the same paragraph, sentence by sentence.• Teacher/students visualize and describe <u>sentence by sentence</u> in whole group.• In <u>small groups</u> visualize each paragraph, sentence by sentence & describe their image.
2	<ul style="list-style-type: none">• Teacher/students <u>read aloud</u> each paragraph. (modeling)• Teacher/students visualize and describe <u>sentence by sentence</u> in whole group.• In <u>small groups</u> visualize each sentence and describe their image.
3	<ul style="list-style-type: none">• Teacher/students <u>read aloud</u> each paragraph. (modeling)• Teacher/students visualize and describe <u>pairs of sentences</u> in whole group.• In <u>small groups</u> visualize sentences and describe their image.
4	<ul style="list-style-type: none">• Students <u>read aloud</u> each paragraph.• Students visualize and describe <u>pairs of sentences</u> in whole group.• In <u>small groups</u> visualize pairs of sentences and describe their image.
5	<ul style="list-style-type: none">• Students <u>read aloud</u> each paragraph.• Teacher/students visualize and describe each <u>paragraph</u> in whole group activity.• In <u>small groups</u> visualize paragraph and describe their image.
6	<ul style="list-style-type: none">• Students <u>read aloud</u> each paragraph.• Students visualize <u>sentence by sentence</u> in whole group activity.• Each student <u>individually</u> visualizes sentence by sentence and describes their image.
7	<ul style="list-style-type: none">• Students <u>read silently</u> each paragraph.• Students visualize each <u>paragraph</u> and describe their images in <u>whole group</u> activity.• In <u>small groups</u> visualizes each paragraph and describes their image.
8	<ul style="list-style-type: none">• <u>Read silently</u> each paragraph.• Students visualize each <u>paragraph</u> and describe their images in <u>whole group</u> activity.• Each student <u>individually</u> visualizes each paragraph (and describes image to partner).

9

- Read silently each paragraph.
- Each student visualizes each paragraph.
- Each student individually writes their ‘visualize’ of each paragraph.

J. Munro 2006

Appendix 4

RIDER Bookmarks copied from Project 191



Read



Imagine



Describe



Evaluate



Read on/repeat process

Appendix 5

RIDER Strategy Prompt sheet copied from Project 142

1. Read



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

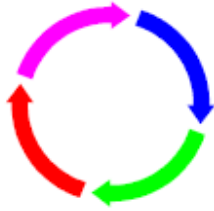


3. Describe



4. Evaluate check





5. Repeat
steps 1,2,3,4

Appendix 6

STORY BOARD

To be used with the RIDER strategy - for students who need to draw their image. The small boxes encourage small, consecutive pictures. Provide a lead pencil only.

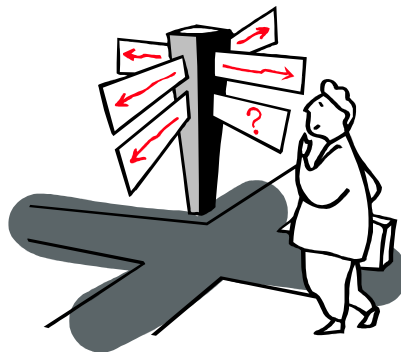
Appendix 7
Questioning Prompt sheet



Who?



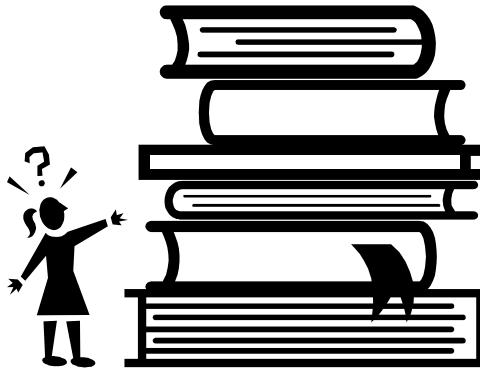
What?



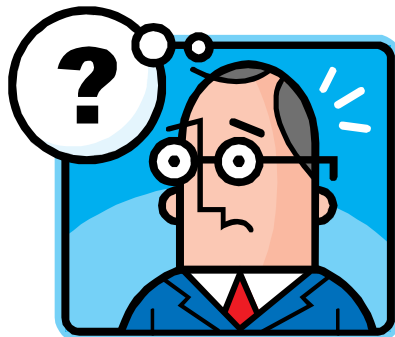
Where?



When?



How?



Why?

Appendix 8 Self Efficacy Test

To administer the questionnaire, the student needs to point to the face which best describes their answer. Introduce the sheet of faces with the practice questions. The faces relate to the following five responses:

- I know I can't
- I think I can't
- I'm half and half sure
- I think I can
- I know I can

Record the student's response to a question by ticking the appropriate box.

The Self-efficacy scales have been adapted from those designed by James W Chapman & William E Tunmer, Massey University New Zealand, 2002.

Self-efficacy scales

Name: _____ Date: _____

Pre-testing phase Post-testing phase or Review Session: _____

I'm going to ask you how you feel about some things you do when you read. It isn't a test. There are no right and wrong answers. It is just about you and what you feel. First of all for practice I'm going to ask you how sure you are about doing some every day things. Each time you can say:

I know I can't	I think I can't	I'm half and half sure	I think I can	I know I can
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Let's practise with these things. How sure are you that you can drink a glass of Coke. If you know you can, point to this square (far right), if you think you can point to this square, if you are not sure either way point to this square, if you think you can't point to this square and if you know you can't, point to this square (far left).

How sure are you that you can

1	catch a ball?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2	eat a cake?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3	spell supercalifragilisticexpialidocious?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4	ride a horse?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

How sure are you that you can

1	work out new words?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2	understand each sentence?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3	correct any mistakes you make?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
4	put together the ideas in the story?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
5	say each word?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
6	remember what happens in the story as you read it?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
7	read smoothly?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8	remember words you have read lots of times already?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
9	make a picture in your mind as you read?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
10	tell me what the story is about when you have finished it?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
11	answer questions about the story?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
12	read fast enough to keep the ideas in your mind?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	Scoring used:	0 1 2 3 4

Please tick only one box.

1. If you come to a word you don't know when you are reading would you	try to work out what the word is?	wait for someone to tell you?
2. If you made a mistake in reading would you	do nothing about it?	try to fix it up?
3. When you find words hard to read do you	work them out ?	give up on them?
4. When you read a sentence that doesn't make sense do you	go on reading because it doesn't really matter?	read it again to try to understand it better?
5. When you find a story you are reading hard to understand do you	not worry about it because you can't understand every story?	try harder to understand it?
6. When you have trouble working out how to say words do you	find a way to get them right ?	think you will get them wrong no matter what you do?

Scoring used: 1 point for positive answer

Appendix 9
John Munro Visualising test

Visualising task: Group administration

Student work 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.	

Scoring System (for description stage of RIDER)

At the completion of reading (or listening to) each sentence, ask the student to paraphrase the sentence in his/her own words.

Give 2 points for a sentence that has been reworded, and the student has substituted more than 50% of the words in the sentence (using synonyms).

Give 2 points for a sentence in which the order of the words within the sentence has been changed and meaning has been maintained. (Some synonyms may also be used.)

Give 1 point for a sentence that has had less than 50% of the words in the sentence have been substituted with synonyms.

Give 0 points if a sentence is complete, or does not maintain meaning.

Note: Students can only gain points if the meaning of the sentence is maintained.

Appendix 10
Information about all students in the study

Name	Control = 0 Teaching=1	Age in MONTHS	Gender 0=Male 1= Female	Years of Schooling	ESL No=0 Yes=1	LNSLN funding 0=SLD 1=ID 2=Asp	Earlier Intevention No=0 RR=1 Bridges=2 ERIK=3...	EMA No=0 Yes=1	Attendance No. of sessions	SELF EFFIC PRE	SELF EFFIC POST	TORCH raw PRE	TORCH raw POST	TORCH Score PRE	TORCH score POST	VISUALI PRE	VISUALIPOS T
A	1	110	1	4	0		0	0	10	41	33	8	9	29.2	33.7	18	20
B	1	108	1	4	0		1	0	10	48	47	5	10	23.4	35.5	8	13
C	1	113	1	4	1		0	0	9	26	39	6	11	25.5	37.4	8	14
D	1	110	1	4	1		0	0	10	45	49	10	12	32.8	39.4	16	22
E	1	112	1	4	0		1	1	10	33	36	5	5	23.4	26.1	16	15
F	1	113	1	4	0		0	1	6	39	38	12	9	36.4	33.7	16	22
G	1	106	1	4	1		0	1	10	45	49	13	15	38.2	46.3	20	18
H	1	108	1	4	0		0	0	10	40	44	19	17	56.5	52.1	27	21
I	1	112	1	4	0		1	0	10	30	47	5	9	23.4	33.7	7	10
J	1	114	1	4	0		1	1	10	43	50	1	3	9.1	21.2	7	11
K	1	115	1	4	0		0	0	7	46	47	12	13	36.4	41.5	16	17
L	1	112	1	4	1		0	0	10	54	42	7	4	27.4	23.9	6	12
M	1	118	1	4	1		0	0	10	41	50	14	14	40.2	43.8	20	20
N	1	115	0	4	0		0	0	10	47	46	9	13	31	41.5	18	20
O	1	108	0	4	1		0	0	10	41	46	12	16	36.4	49	14	16
P	1	111	0	4	0		0	1	10	45	48	6	9	25.5	33.7	12	11
Q	1	115	0	4	1		0	1	10	53	54	9	11	31	37.4	15	14
R	1	110	0	4	1		0	1	10	49	52	17	18	47.5	56	18	24
S	1	118	0	4	1		0	1	10	31	40	19	17	56.5	52.1	20	26
T	1	111	0	4	1		0	1	10	6	44	2	10	14.6	35.5	14	12
U	1	114	0	4	1		0	1	8	46	46	12	14	36.4	43.8	11	13
V	1	111	0	4	1		0	1	10	52	52	15	16	42.3	49	20	21
W	1	121	0	4	0		0	0	10	44	39	9	9	31	33.7	12	15
SUM/TOTAL										945	1038	227	264	754.1	900	339	387
Mean/ Average Standard Deviation										41.087	45.1304	9.86956522	11.4782609	32.7869565	39.1304348	14.7391304	16.826087
										10.917	5.05447	5.07561866	4.30503581	11.7747814	9.43029566	5.29060263	4.71471859
X	0	109	1	4	1		0	1	0	32	50	11	9	34.6	33.7	7	7
Y	0	110	1	4	0		0	0	0	34	36	5	10	23.4	35.5	11	9
Z	0	109	1	4	0		0	0	0	30	30	13	12	38.2	39.4	12	10
AA	0	108	1	4	0		2	0	0	45	45	7	5	27.4	26.1	5	6
BB	0	112	1	4	1		0	0	0	32	32	12	7	36.4	30	14	15
CC	0	116	1	4	1		0	0	0	32	32	16	16	44.7	49	21	19
DD	0	114	1	4	1		0	0	0	14	10	14	16	40.2	49	16	11
EE	0	117	1	4	1		0	1	0	48	45	18	15	51.1	46.3	21	20
FF	0	116	0	4	0		0	0	0	43	47	14	16	40.2	49	19	14
GG	0	109	0	4	1		0	1	0	51	51	13	13	38.2	41.5	22	21
HH	0	109	0	4	1		0	0	0	33	37	8	9	29.2	33.7	14	12
II	0	118	0	4	0		1	1	0	28	47	3	4	18.2	23.9	6	6
JJ	0	112	1	4	1	0	0	1	0	53	53	6	6	25.5	28.1	2	6
KK	0	118	0	4	1		0	0	0	40	33	10	14	32.8	43.8	12	11
LL	0	114	0	4	1		0	0	0	51	40	11	15	34.6	46.3	17	17
SUM/TOTAL										566	588	161	167	514.7	575.3	199	184
Mean/ Average Standard Deviation										37.733	39.2	10.7333333	11.1333333	34.3133333	38.3533333	13.2666667	12.2666667
										10.787	11.1176	4.23365203	4.27395211	8.5621982	8.83344834	6.25033332	5.20256347