

Teaching Year Five students to ask questions, clarify meaning and generate more questions as they are reading will improve the students' reading comprehension especially of non-fiction texts.

Abstract

Many students in the upper year levels of primary school struggle with comprehension of non-fiction texts because they do not '*stop pause and think*' as they are reading. These students do not question what they are reading, or clarify the meaning of the topic or the vocabulary. These students can often be reading fiction text at an appropriate year level but show poor understandings of the content of non-fiction.

The hypothesis of this study is that explicit teaching of questioning and clarifying while reading will improve the reading comprehension of non-fiction text for students in year five. Current research supports the notion that teaching students how to question while reading can assist their understandings of what they are reading.

The study examined the effectiveness and compared the results from two groups of year five students. The intervention group was taught the explicit strategies of questioning and clarifying with both content and vocabulary, and the control group who were receiving school based reading intervention that was not explicitly focused on the strategies of questioning and clarifying.

The results support the hypothesis and show that there was a definite improvement in the comprehension of the students who are explicitly taught to question and clarify while reading.

Introduction

So much is demanded of young readers in today's world. Hervey (2006) states that today's students need to be able to deal with the sheer quantity of printed material available to them in both paper and electronic form. They need to be able to deal with the range and difficulty of this material as they wade through it to decide if it is useful to them. Today's students need to be equipped with an inquiring mind that leads them to, and enables them to be, critical readers. Today's young readers need to be able to ask questions about what they are reading to stop themselves from drowning in a sea of print. Unfortunately many students in year five and six become so overwhelmed with the utter volume of printed material available, that they never '*stop, pause and think*' as they are reading. They don't ask questions to gain understanding, clarify information or confirm meaning. They continue to bark at the print, mimicking reading but not reading.

Many students in the middle years of schooling continue to have difficulty with comprehension despite years of intervention and small group explicit teaching. They continue to read across the surface of the print never stopping to pause, never stopping to question at any time – before, during, or after reading. Keene and Zimmerman (1997) describe these students as inert. These students tend to be oblivious to content, style, genre, or author intent. These are the students who struggle with the content area reading in the middle years. When the switch is made from narrative to non-fiction, they struggle to not only comprehend, but they struggle to ask questions, and/or seek clarification about their understandings or misunderstandings. Therefore some important questions need to be asked: Are students specifically taught to ask questions? Do they know how to ask, or what are, clarifying questions? Do they know what they are meant to be questioning as they are reading? Do they have the skills and strategies to engage with a text beyond decoding and sounding like a reader? Have they been taught to question as a comprehension strategy?

In examining the research on questioning Hervey (2006) asserts that many students don't know how to ask questions or clarify meaning because teachers ask most of the questions. No-one doubts or denies that the ability to ask questions comes naturally for young children but somewhere in the early years of schooling the reader's attention is focused in on the printed word, the letter patterns, the single sentence. Then when a young reader has ploughed through the mammoth task of making sense of the black marks on the page, they collapse exhausted on the floor, happy to have the teacher ask a question, that most probably has the answer quite literally in the text. Hervey (2006) tells us questioning is the central most important strategy for comprehension because when you ask a question, you seek an answer and this will lead to another question and so on. This is what keeps the reading going. This is what enables the reader to interact with the text in order to extract meaning, express opinions and discover the underlying values of the author's intent. Munro (2002) in his reading model designed for struggling readers in secondary school also purports the necessity to question the text at a word, sentence, paragraph and topic level.

What is a comprehension strategy? According to Dymock and Nicholson (2010) comprehension strategies are techniques employed by students to gain meaning or information they need, from a text. Strategic, competent or skilled readers can call on a repertoire of strategies to make meaning. For the struggling reader these strategies need to be taught explicitly, slowly, one at a time and over a long period of time. Questioning is one of these strategies that struggling readers are not readily able to call upon. Readers need to be encouraged to generate and answer questions that are literal, inferred, and synthesised throughout a text, or as Bishop, Reyes and Pflaum (2006) call it – Global Reading – evaluating and reconsidering the text. They put forward the notion that students need to be taught to read smarter, not harder, in order to move beyond literal comprehension and mere decoding. Global Reading encompasses the metacognitive approach to a text that is implicit in strategic reading. Good readers are able to question the text before, during and after reading. It is this very thinking that is difficult to teach because teachers need to model their thinking, and explicitly show students how to think as you read.

Bishop, Reyes and Pflaum (2006) suggest you begin by teaching students to first question unfamiliar words before moving onto generating more global questions and thinking. Meyers (2010) calls these 'Burning Questions', whereby students are provided with question stems in order to support their questioning ability. Many students faced with new ideas often begin their questioning with the literal, seeking clarification of words or facts, before they are able to move to inferential or evaluative. So students need to start with *What does ... mean? What are...? Does ... mean ...?* According to Luke and Freebody (as stated in Meyer 2010) providing students with the opportunity to generate their own questions will lead to far more significant and powerful reading than if teachers continue to make up questions themselves, in isolation before the lesson. If students are to be critical readers they need to generate questions as they read.

Asking questions is not an easy task for many students (Trinkle, 2009). Many students don't know when to ask, if it is okay to ask, what to ask, or how to ask it. It is far easier to copy screeds of notes, or just disregard the text as not relevant to what you need. Students need to be scaffolded and taught explicitly about asking questions. Students need to be begin with fact based, or convergent questions, – who, what, where and when questions. As students develop their ability to ask questions they need to be explicitly taught to ask divergent question. Questions that infer, make connections with self, other texts and the world. Divergent questions begin with suppose ..., what if ..., imagine that ... how would could ...

Harvey and Goudvis (2000) call these 'thick and thin' questions. 'Thick and thin' questions help the reader to propel forward with their reading. 'Thin' questions assist us to clarify meaning in a text, whereas 'thick' questions are the inquiring questions, the deep level questions, the big questions, the ones that mean we will probably have to read more to find

the answer. Williams (2010) call these two types of questions *heavyweight* and *lightweight* questions. *Heavyweight* questions move us towards critical thinking. *Lightweight* questions focus on the literal or 'right there' meaning or information. As a strategic reader you need to continually ask both types of questions, and as a teacher, you need to teach students the difference between the two types of questions, and how to ask both.

Fordham (2006) suggests that the key to comprehension is how students think their way through a text while reading. She states quite clearly that the quality of the thinking is directly related to the types of questions that teachers ask. Students need to be able to question the text on a range of levels in order to discover that meaning is made by the reader and not merely found on the page. Taberski (2011) cautions us that often comprehension is narrowed down to a list of strategies that are taught in isolation and then ticked off. She reminds us that comprehension is the end in itself. Comprehension is what reading is. A good reader uses an internal set of strategies to make meaning. Good readers call on their repertoire of strategies innately and automatically, not because one strategy became a colourful laminated poster to act as a reminder on a classroom wall! Teachers need to teach core reading strategies, not comprehension, so that students can be active readers. One core reading strategy that needs to be explicitly taught is active questioning before, during and after reading. Unless readers generate questions and wonder, it is more than likely they do not comprehend, enjoy or remember what they have read. For questioning to really be effective, students need to know, and be able to identify, what legitimately puzzles them.

Zimmerman and Hutchins (2003) adapted Tovani's signals for alerting readers when they are stuck, puzzled or have lost meaning. Many struggling readers just don't know when they have lost meaning. They don't know what 'not understanding' looks like or feels like. They are unable to articulate what it is they cannot do. The signals alert readers to what might be happening with their thinking when they are no longer comprehending a text. The alerts could be boredom, confusion, daydreaming, not remembering what you have just read, not able to visualise what's happening, or no longer asking or answering questions as you are reading. It's only when a reader realises they are confused or zoned out, that they can then call on a fix-up strategy to regain meaning. We are very good at teaching fix-up strategies when meaning is lost, but often forget to be explicit about what is the thinking that is taking place when meaning has broken down.

Palincsar and Brown's Reciprocal Teaching, (Oczkus 2010 and Williams 2010) is one way of explicitly teaching students what to employ when trying to comprehend a new text or genre in order to make meaning. The concepts of predicting, clarifying, questioning and summarising are strategies that can assist students understand a text and restore meaning. Despite the Reciprocal Teaching strategies having been in use for over twenty years, what still happens is that much time is spent on only teaching and practicing prediction and summarising in the early years. It's the other two strategies that are often forgotten, or on shaky ground for struggling readers in the middle years, as they are often not explicitly taught. Students need experience with forming and asking questions about texts before, during and after reading so that they come to an understanding that all readers ask questions as they engage with a text. They need to know good readers should, and do, stop and ask questions when comprehension breaks down. A middle years student's ability to ask questions, clarify meaning and gain understanding from non-fiction texts is vital to their success at school.

A teacher's key role in assisting students that struggle with reading according to Collins, Brown and Newman (1989) is modelling, coaching, and scaffolding the skills being taught for each and every student. It then remains the student's responsibility to be able to articulate, reflect on, explore and use the skills each and every time they read.

Therefore the hypothesis of this intervention is that teaching year five students to ask questions, clarify meaning and generate more questions as they are reading will improve the student's reading comprehension especially of non-fiction texts.

Method

Design: This Action Research Study uses the OXO (assessment, teaching, assessment) model. Gains in the ability to question a text and reading comprehension, following explicit teaching of just two of the four reciprocal reading strategies - questioning and clarifying, are monitored for year five students. The study compares two groups of students, a control group and a teaching group.

Participants: All students chosen to participate in the research are presently in year five in a 5/6 composite class. The students were chosen on their Online Placement Instrument¹ (OPI) reading results from May, 2010. All students except Student A had received earlier intervention. Student A was chosen as she had high absenteeism, and found it difficult to work in cooperative reading groups without teacher supervision. Student A missed 3 of the 10 sessions and was a late arrival for two other sessions. The control group are currently receiving school based reading intervention three times a week in a small group withdrawal setting. This school based intervention continued as usual during the action research implementation. There was no interruption or change to their intervention. The teaching group was discontinued from the school based intervention according to their OPI results. Despite Student G's high OPI result, the student was placed in the school based intervention group as up to this point of the school year, he had not finished reading any texts, either fiction or non-fiction, and struggled with even choosing texts to read for independent reading or literature circles.

Student	Control = 0 Teaching=1	Age in MONTHS	Gender	Years of Schooling	ESL	Earlier Intervention	OPI	EMA
A	1	131	F	6	No	None	49%	Yes
B	1	127	F	6	Yes	Intervention Works ²	65%	No
C	1	128	M	6	Yes	Reading Recovery Intervention Works	12%	No
D	1	132	F	6	Yes	Intervention Works	44%	No
E	1	137	M	6	No	Reading Recovery Intervention Works Erik	29%	No
F	0	132	F	6	Yes	Reading Recovery Intervention Works Erik	13%	No
G	0	129	M	6	Yes	Intervention Works	69%	No
H	0	133	M	6	Yes	Reading Recovery Intervention Works Erik	19%	No
I	0	132	F	6	Yes	Intervention Works	15%	No
J	0	126	F	6	No	Reading Recovery Intervention Works Erik	12%	No

Table 1: Background information on participants

¹ For a more thorough explanation and description of the OPI Assessment see B

² For a detailed description of Intervention Works see Appendix B

The teaching group was chosen as after discontinuation from the school based intervention program, it was observed by the two 5/6 classroom teachers that the teaching group struggled with independent reading and reading tasks. They also achieved very little in cooperative reading group tasks and spent most of their time debating who would be the leader, who should read first, who would report back. In a twenty minute session of reading groups, these students were observed to be actually engaged in reading the nominated text for less than five minutes. With further investigation it was noted that these students avoided reading as they found it difficult to comprehend what they were reading. Through further questioning and independent reading conferences by the classroom teachers, it was revealed that the students did not slow down when reading, did not question what they were reading. In fact, they often did not know when they had lost meaning, and seemingly had no strategies in place to call upon to restore meaning. Although Student C's and Student E's OPI results indicate that they qualify to be placed in the school based intervention group, they remained discontinued from intervention due to their parental consent being withdrawn for them to continue with intervention. They had received intervention for Term 1 2011, as a lead up to NAPLAN, but then their parents were unwilling to let the students continue.

Materials: The following materials were used for pre and post testing to help monitor and track any change in results during the explicit teaching period:-

- Synonym Test (John Munro, 2005). Students are asked to provide synonyms from a set of list of words. Group administration.
- Paraphrasing Test (John Munro, 2005). Students are asked to paraphrase a set of sentences changing as many words as possible whilst retaining meaning. Group administration.
- TORCH – Tests of Reading Comprehension 2nd Edition (2003). Text 'Donna Dingo' was used for both pre and post testing. Students are asked to read the chosen passage and then complete a cloze activity to ascertain their comprehension ability. Group Administration.

The following materials were used during the lessons:-

- Reading passages for the lessons, and follow-up activities were downloaded from www.superteachersworksheets.com Year Five comprehension passages. Non-fiction only was chosen for this study.
- Reciprocal reading prompts from *Reciprocal Reading at Work: Powerful Strategies and Lessons for Improving Reading Comprehension* 2nd Edition (Lori Oczkus, 2010).
- Manilla folders for students to keep their work in.
- Teacher's folder of all materials, and a journal to record observations and anecdotal notes during the lessons.
- Meaning Making Motor recording sheet for each student.(class lecture notes, 2011)
- Prompt poster for each student – **RCQS** – Read **C**larify **Q**uestion **S**ummarise.
- Pens, pencils and highlighters.

Procedure: All students in the research project were pre and post tested with TORCH. The pre-test was administered whole class with the year five students completing *Donna Dingo*, and year six students completing *Swamp Creature*. Whilst the year six data was not used in this research project, whole class testing was deemed a way to allow for an uninterrupted, quiet testing setting. For the TORCH post-test just the year five students were invited to sit the test in the school library.

The teaching group in the research project were also pre and post tested using John Munro's synonym and paraphrasing tests. The synonym test was scored giving 2 marks if the synonym was correct grammatically as well as meaning. 1 mark was scored if meaning was maintained but grammatically the word did not match. The paraphrasing test was

scored using the scoring guide in Appendix C. TORCH was scored using the manual. OPI is an on-line assessment and scoring is computer generated.

The researcher deemed the OPI and TORCH results enough to compare the control group data with the teaching group data. Timetabling and constraints of the school day did not allow for effective and opportune testing of the control group for the synonym and paraphrasing tests for pre and post-testing.

The ten intervention lessons took place over a three week period. The sessions took place during the 5/6 class literacy block while the rest of the class were involved in reading groups. It is at this time that the school based intervention sessions also happen three times a week. Therefore the control group also continued their normal routines for reading sessions. This is so students are not missing out on other content areas, and it provides for minimal interruptions to the students learning in other subject areas, e.g. mathematics, ICT, inquiry etc.

The materials used in of all reading sessions in the 5/6 level is non-fiction. The testing, analysis and observations of the teaching staff in the 5/6 area had led to the conclusion that it is the content area reading, the reading of non-fiction, that was the most troublesome for students in this level. Therefore all students in years five and six were engaged in reading sessions using only non-fiction reading material. This was also true of the school based intervention group. Therefore the reading material for the teaching group was only non-fiction texts.

The sessions for the teaching group were a mix of in-class and withdrawal type sessions. On a Monday and Tuesday the sessions were within the context of the whole class setting. Wednesday to Friday the sessions were administered in the school library or a small meeting room. The sessions were not run on consecutive days as timetabling, extra-curricular commitments and teacher professional development commitments, and other duties, did not allow for implementation over consecutive days.

The lessons were administered in forty minute sessions. All lessons followed the predictable format of:

- Predicting what the text was going to be about from title, skimming and scanning the text.
- **Reading** a paragraph and highlighting any new, unknown or difficult words or phrases.
- **Clarifying** anything you did not understand.
- Transferring text-based vocabulary with synonyms onto the individual Meaning Making Motor sheet.
- Sharing **questions** and thinking as you were reading.
- **Paraphrasing** what you have just read before continuing with the next paragraph.

Each session ending with a sharing time of strategies students had used in the lesson, and some new information they had learnt from today's article.

In order for the students to become proficient at using this approach to reading and to continue to employ the reading strategies taught in this brief intervention, ongoing support will be required to further develop these skills so that they become automatic and innate.

Analysis of Data: The pre and post-test TORCH scores of the control and teaching groups will be compared. This analysis will be based on identification of the impact of two different types of Intervention Instruction. The Teaching Group's data will be analysed using all three pre and post-tests. The post-test scores will be the dependent variables that are used for an in-depth -analysis.

Results

The results for this intervention support the hypothesis that teaching year five students to ask questions, clarify meaning and generate more questions as they are reading will improve the student's reading comprehension especially of non-fiction texts.

	Para PRE	Para POST	TORCH raw PRE	TORCH raw POST	TORCH Score PRE	TORCH score POST	Synonyms PRE	Synonyms POST
Student A	20	24	14	18	46.4	56.6	48	61
Student B	16	13	13	18	44.5	56.6	23	53
Student C	12	17	17	17	53.3	53.3	23	42
Student D	20	25	18	20	56.6	68.9	33	52
Student E	16	14	8	11	35.7	41	13	20

Table 2: Teaching Group Pre and Post-test Scores

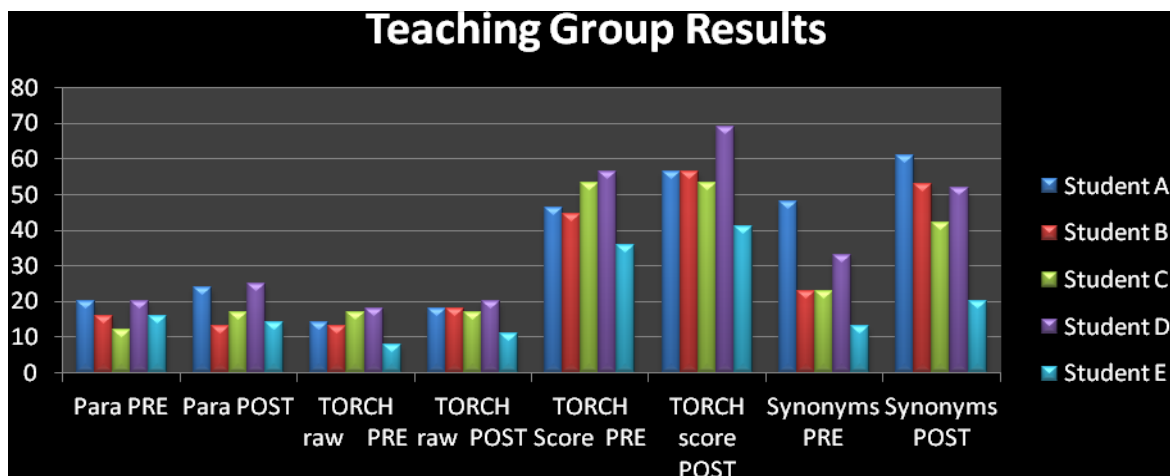


Figure 1: Pre and Post-testing results of the Teaching Group

The data trends for the teaching group shows an increase in scores for comprehension and synonym use but not for paraphrasing. Student C and E show a loss in performance for paraphrasing. This result would suggest that these two students still require further explicit teaching in paraphrasing. The original data used to select students for the teaching group indicated that Student C and Student E experienced greater difficulty with comprehension than the rest of the teaching group before the intervention began.

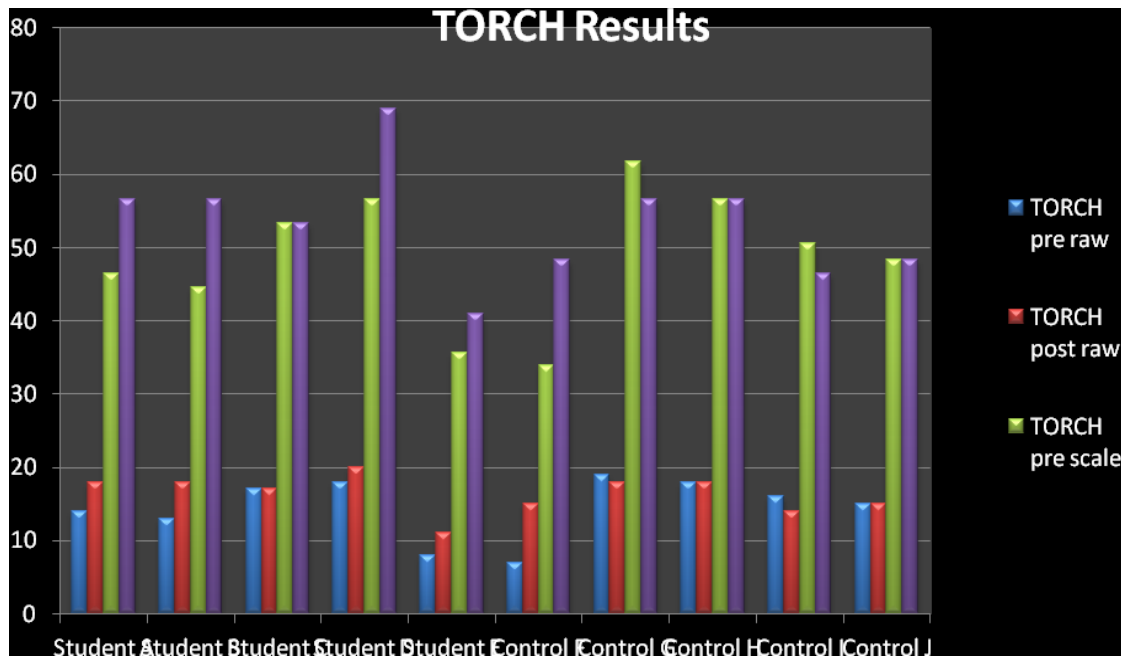
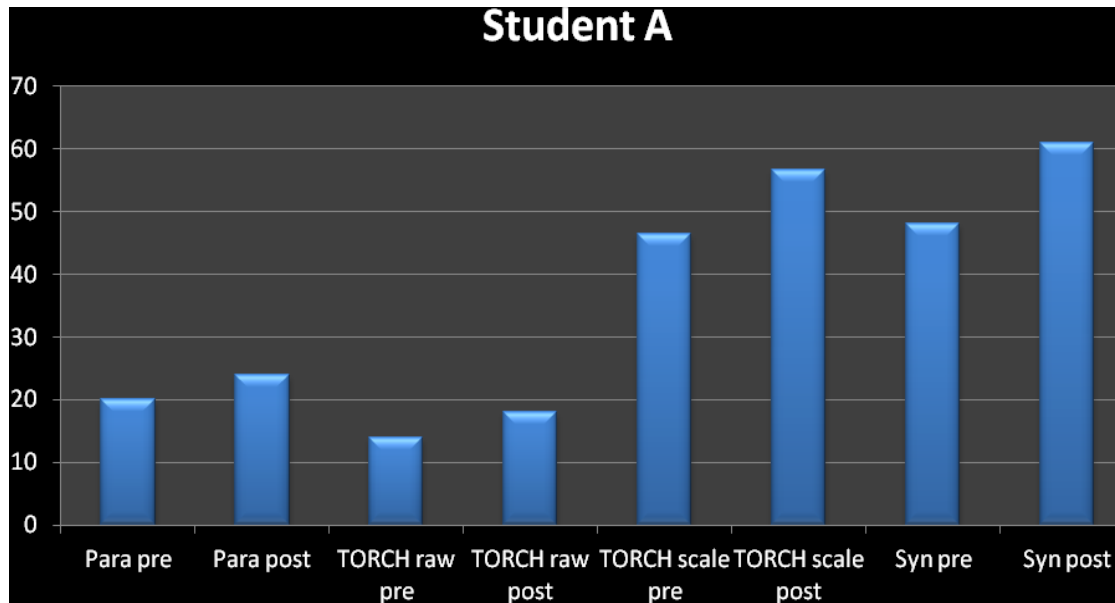


Figure 2: Pre and Post-testing results for the Teaching and the Control Group

The trend data for TORCH (Figure 2) shows that the teaching group (students A – E) made the greatest gains overall for comprehension. Again Student C had no change to his pre and post test scores suggesting he may be experiencing greater difficulties with reading even in small group explicit intervention. Whilst overall, Control F, from the control group, made the most considerable gains, it should be stated here that the post-testing was teacher assisted. The pre-test was independent of support or assistance. In this case the results show what Control F can achieve independently and then with assistance. Control F experienced trauma during the pre-testing experience but was able to deal with the experience without teacher assistance as everyone in the class was doing the test, and she had not been singled out. Control F again experienced severe trauma when asked to be part of the post-test experience, so it was deemed necessary to assist and offer support during the post-testing session rather than just pull her out of the group. It was felt that her well-being and confidence were in need of teacher support and assistance on this occasion. When analysing her data in greater detail it should be noted that no new errors occurred between the pre and post-test. Five of the errors were consistent with both tests.

A further analysis of the overall TORCH data for the control group indicates that whilst Control H and J attained the same score for the pre and post-test they did however make different errors. Control J only had 1 of the error items in common between the pre and post. Control H had one error the same and one that differed between the pre and post-test. Control G's errors between the pre and post-test differed in consistency also. They fell within the same analysis of reading behaviour i.e. *locating directly stated information, rephrased, reworded* and *complex inferring*, but were different items in both the pre and post-test. Control I also differed in her pre and post-test errors. Control I only had one error item in common between the pre and post-test. The error items that were different in the pre and post-test fell within the same analysis of reading behaviour i.e. *locating directly stated information, rephrased, reworded*.



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Figure 3: Results for Student A

As seen in Figure 3, Student A demonstrated an improvement in the areas of comprehension, paraphrasing and use of synonyms. Within the TORCH test it indicates that Student A showed gains with the items on the test that describe *drawing together several pieces of information to infer a relationship that is not directly related*, and *locating a single piece of explicitly stated information when there is closely competing information*. This indicates a gain of 10% with her comprehension. Student A shows a gain of 5% with the paraphrasing task. The gains were most noticeable in the fact the Student A was able to answer more of the questions in the post-test. In the pre-test and post-test the scores for items 1 - 8 remained the same. The difference came in items 9 – 16. In the pre-test the student only answered items 9, 12 and 13. In the post-test the student answered 9, 12, 13, 14 and 16. The student still attempts paraphrasing by leaving words out rather than changing them. This would indicate that more work is needed in this area. For the synonym task Student A made a gain of 13 words. She was able to provide a greater variety of synonyms for the list of words associated with the task. The other significant improvement was the student's ability to provide a synonym rather than an adjective or description.

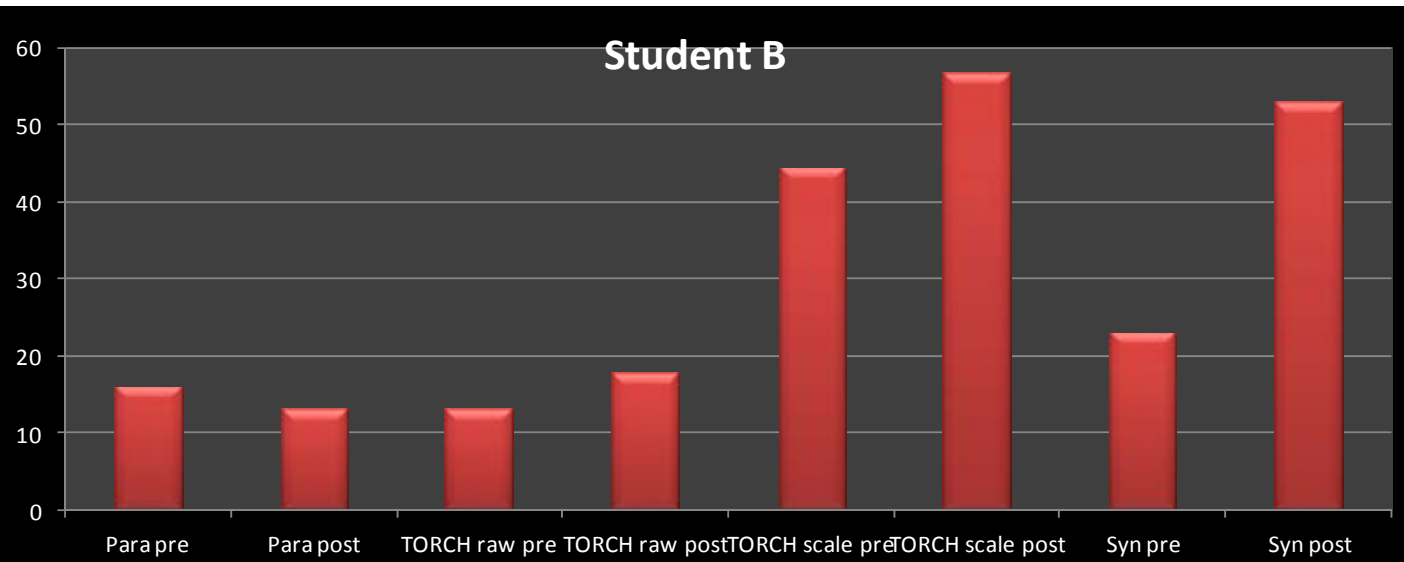


Figure 4: Results for Student B

Student B (Figure 4) made gains with comprehension and the synonym task but not paraphrasing. For the paraphrasing task Student B merely leaves out words and phrases rather than making changes to words within the original sentence. This would indicate that Student B needs more explicit teaching on paraphrasing, and how to do it at a word then a sentence level. Student B showed a gain of 12% with comprehension. During the post-test the student was observed breaking the passage down into manageable sections, as well as continually skimming and scanning the text while searching for answers. Within the TORCH test it indicates that Student B showed gains with the items on the test that describe *drawing together several pieces of information to infer a relationship that is not directly related*, and *locating a single piece of explicitly stated information when there is closely competing information*. The errors that the student made in the post-test were errors repeated from the pre-test, not new errors. The student showed a greater slowing down of her reading rate over the 10 sessions to allow herself thinking space. With the synonym task the student made the gains of 20%. With the pre-test the student tended to add a description for the listed word e.g. walk = slow, but she tended to do this less in the post-test demonstrating a greater understanding and ability to use synonyms. This skill is still only used in isolation as was not transferred to the paraphrasing task.

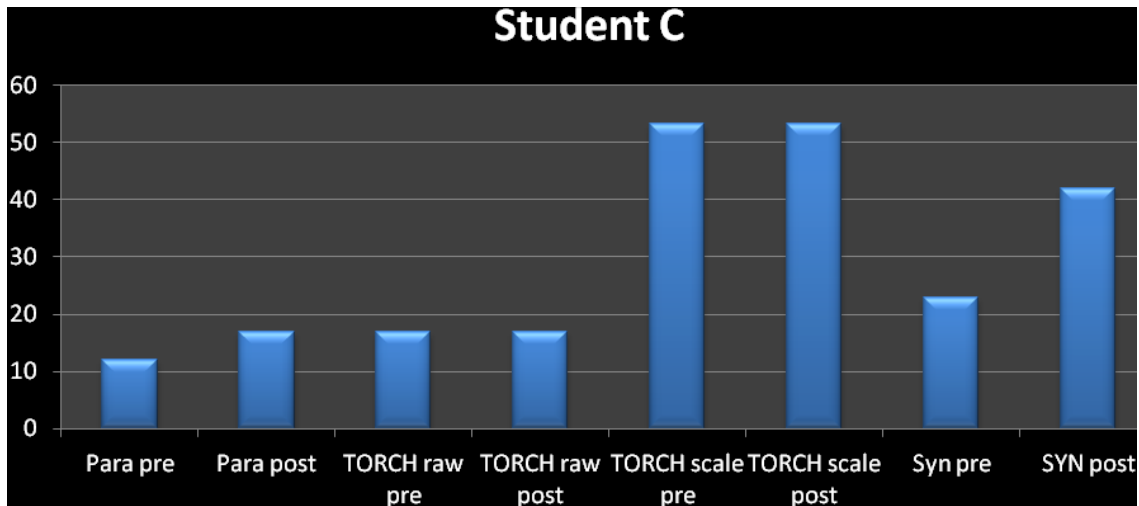


Figure 5: Results for Student C

Student C shows no growth in the comprehension task, a gain of 6% with paraphrasing and a 13% gain in the use of synonyms (Figure 5). Between the TORCH pre and post-test results the student only had one error in common although the errors fall within the same reading behaviour analysis of *locating directly stated information that is restated or reworded, and simple inference*. Student C has an ESL background can interfere with tenses, reading accuracy. This inaccuracy was evident in the paraphrasing task and the TORCH test that requires students to work at the sentence level. Student C made the most gain with the use of synonyms. He displayed a great enthusiasm for stopping to question new and unfamiliar vocab in the sessions. Much of the time the student struggles with the sounding out of words that he has not seen in print before, when the word was revealed, he immediately knew the meaning and understanding was restored. The student worked hard at just this word level strategy during the sessions and the results for the synonym related task showed the most gains.

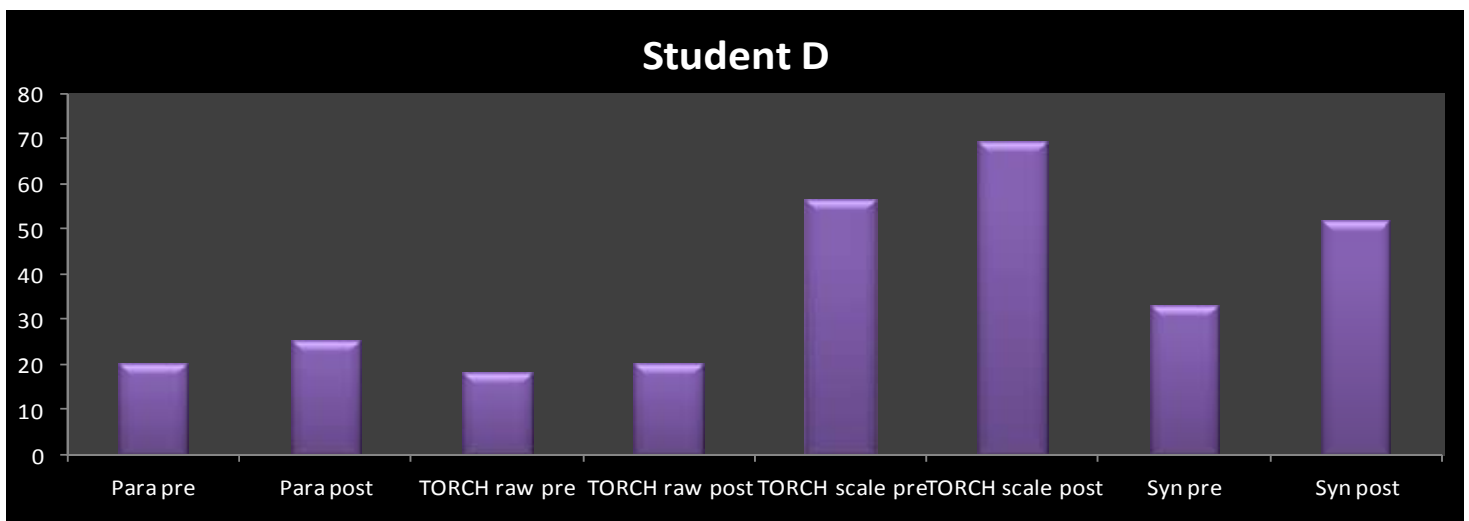


Figure 6: Results for Student D

The results for Student D (Figure 6) show the strongest overall growth of all the participants in the teaching group. Student D showed growth across the three assessment tasks. During the sessions, student D show an ability to vary her reading rate to maintain and/or regain meaning and used the strategies of rereading, checking, pausing and questioning more consistently and with very little prompting from the teacher. Student D needs to continue to break down a text into manageable pieces i.e. paragraphs. In the comprehension test student D's results showed an achievement in the reading behaviour analysis to be able to *draw an inference using knowledge of cultural values, and reconstructing the writer's general message from specific statements*. The results for the synonym task showed an improvement of 13%. The student gained confidence in using synonyms to work out unknown words and to gain the meaning of a text. The paraphrasing task showed an improvement of 6%. The same items - 14 and 16 were not completed in the pre or post-test. This student also tends to just leave out words when paraphrasing rather than knowing which words to change when paraphrasing. More explicit teaching needs to be done with paraphrasing.

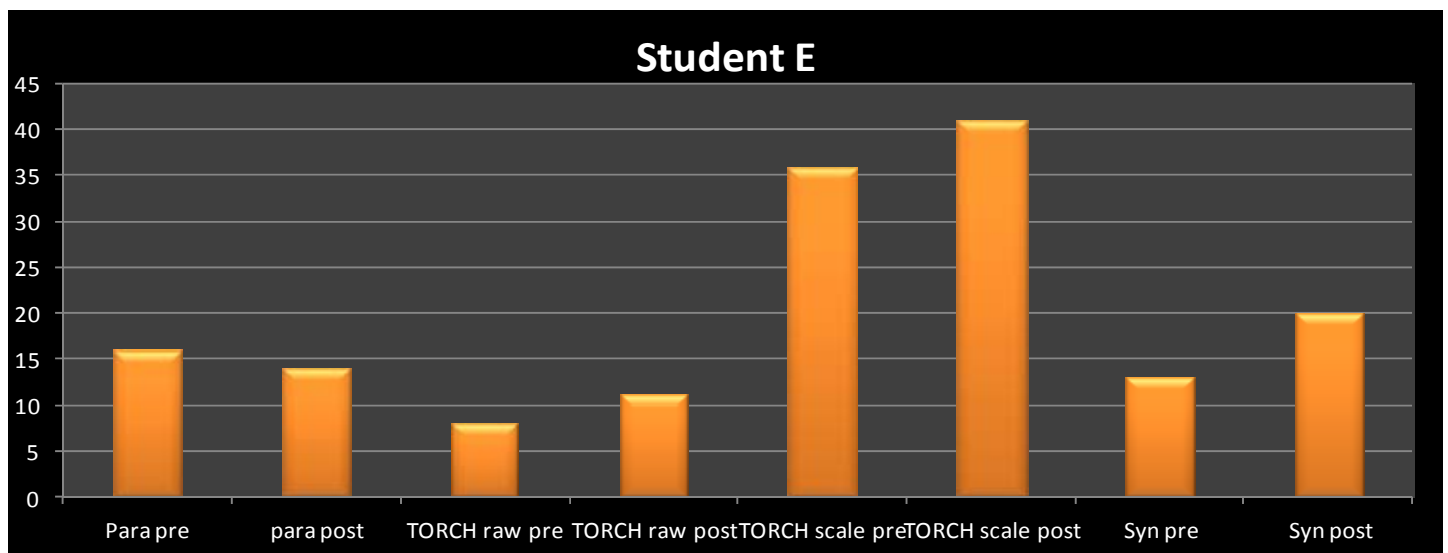


Figure 7: Results for Student E

Student E was faced with the most challenges in the teaching group. Student E has had the most intervention throughout their schooling and is the student hardest to keep on task and focused. Student E requires glasses but never has them at school. Student E was also discontinued from speech therapy as the parents did not support the intervention. By the end of the 10 sessions student E was only just beginning to answer and ask questions in full sentences, rather than singles words or phrases, and always with prompting. This would account for the 3% drop in achievement for the paraphrasing task (Figure 7). With the TORCH comprehension task the student did not reread the entire passage, but filled in the answers from memory and then went back to find the answers he had not completed. Therefore the errors were not consistent across both the pre and post-test. Student E does not engage with texts and/or content that is revisited. When reading texts the student does not pay attention to punctuation, and rereading does not always lead to making meaning. Many of the student's errors are related to his articulation difficulties. With the synonym task

the student made a gain of 4% but still tended to write a description rather than substitute a synonym e.g. car = fast.

Students in the control group demonstrated less improvement in the comprehension test (Table 3). Control H and J remaining the same, and Control G and I decreasing achievement in the post-test. Even with Control F being given teacher assistance with the post-test, the control group only made an improvement, on average, of 1%, whereas the average improvement of the teaching group was 2.8%.

	TORCH raw pre	TORCH raw post
Control F	7	15
Control G	19	18
Control H	18	18
Control I	16	14
Control J	15	15

Table 3: TORCH Results for the control group

Discussion

This study explored how teaching year five students to ask questions, clarify meaning and generate more questions as they are reading will improve the students' reading comprehension especially of non-fiction texts. The overall result for this study (Appendix B) lends support to the hypothesis, and the research, that explicitly teaching students the strategies of questioning and clarifying to use while reading leads to an improvement in their comprehension of texts, especially non-fiction.

The results of the study show that the students in the teaching group demonstrated the least improvement in paraphrasing and the greatest improvement in synonym use. The explicit teaching of the Meaning Making Motor strategy and the attention to clarifying confusions in a passage of text could help explain this. Throughout the action research the students were constantly directed to clarify the meanings of words and to use their meaning making motor to associate synonyms for the vocabulary in the text, while reading. This differed to the approach used in independent reading in class where they collected and noted down new words, difficult or unknown words while reading but then did not use the meaning making motor until later. Finding synonyms for the collected list of words was seen as an '*after reading*' activity, away from the text. The locating of words and the quick finding of a meaning were not done together while reading. This shift in thinking, and in practice, supports the research by Bishop et al. (2006), Dymock and Nicholson (2010) and Meyers (2010) that many students don't know what strategies to call on while reading, and/or don't know which ones to employ at a particular time. These are the students who do not automatically call on their repertoire of strategies to make meaning.

Over the course of the intervention the students became more confident with asking questions, clarifying meaning and stopping to think and discuss. In the first few sessions, the students were very quiet and appeared very timid about asking questions. They either did not know what questions to ask, what to ask about, or thought that as readers they were meant to know everything the text presented. These are the students Keene and Zimmerman (1997) refer to as inert. On reflection it would seem these students are passive because they do not know how to engage with a text rather than because they are disengaged from reading and learning. As the sessions progressed and the texts were constantly broken down into manageable bits as suggested by Munro (2002), the students were able to have greater control over their reading which gave them greater confidence. The students moved from not highlighting any words in a paragraph, to highlighting nearly all, and by the later sessions being more strategic, and highlighting just key words that needed clarifying to help establish meaning.

The narrowing of comprehension strategies to have students focus on in small group work appears beneficial to this group of students. Even in hindsight the study could have been narrower still. For the short intervention of just ten sessions, the strategy of paraphrasing was not as explicitly addressed as clarifying and the use of the meaning making motors. The results of the study supports this reflection as the least improvement was with the students' ability to paraphrase.

Throughout the study it became clear that the students need time not only to question the text but also to articulate what they were noticing about what they were doing as they were reading. Hervey (2006) tells us that an important strategy for comprehension is to ask a question, seek an answer and ask another question in order keep the reading going and to interact with the text. Student A and Student D came to the understanding by articulating that many times when you think of a question in your head about the text, if you keep reading it will often be answered somewhere else in the text. They came to the conclusion that most authors really support the reader while reading because they want their text to be understood. Looking for answers in the text, and waiting for the author to answer most of your questions the group decided was a good strategy for keeping you tuned in while reading, as when meaning is lost, the author can help you restore it if you are paying attention. While this may be an obvious and very basic understanding to a competent reader, for this group of students, and perhaps for many struggling reader, they just need to be able to articulate what is going on for them while reading, as it's not always obvious. This is taking the implicit - where you know it but cannot explain it, to the explicit - where you teach it, so someone knows it and can explain it. When faced with a very challenging text in session 7, the students tackled it with confidence, generating a lot of questions and discussions. It was not daunting or overwhelming for them.

Previous to the intervention, many of the students activated prior knowledge at a topic level, and mostly only for the initial prediction. During the sessions Student A and Student D became particularly confident and expert at activating prior knowledge at a word level. They were to share with the group how prior knowledge helped them work our unknown words e.g. rejuvenate – called on the prefix knowledge of re – to go back, and then skin care adds on TV about rejuvenating or renewing your aging skin. This was just one example where the group really began to see reading as a puzzle to solve, and that is was solvable.

Munro (2002) reminds us that the connection between reading comprehension and vocabulary knowledge is strong, and it is this vocabulary knowledge that can only grow through reading experiences. The students in this study were often not in a position to grow their vocabulary knowledge as they did not question what they were reading, or stayed with texts that were within their comfort zone. When a text became too challenging they abandon it, or as in Student B's case, always said there was nothing to question, or no words that she did not know. Often throughout the sessions Student B was very quiet until more explicitly questioned about the paragraph or text. It took Student B longer to appear confident about not knowing what it was she did not know. This was especially evident in session 8 when it was her turn to be the leader. She asked for clarification on how you know what a paragraph is, even though we had been reading paragraph by paragraph for the entire intervention to date. She had not noticed the physical layout of a printed text with paragraphs, and the teacher made the assumption this would be knowledge the student had. This may well be why this student appeared so reluctant to engage with the highlighting and questioning, as she was so unsure about what, and how much, to break the text into. It was such a sense of relief for this student when her confusion was clarified. It was even noticed in her TORCH post-test that she numbered and ruled off the paragraphs in order to manage her reading.

Munro (2002) suggests that many students have reading difficulties because they cannot read words accurately or automatically. For student C this would seem to be the greatest hindrance to his reading ability. Student C tends to leave off the endings of many words e.g. *pay attention* rather than *paying attention*, as well as leaving out articles – *a*, *the*. This

inaccuracy with reading leads to his poor comprehension as tense, etc. is often confused and meaning is lost. This student is just beginning to slow his rate of reading, and question unfamiliar words and/or phrases by the end of the ten sessions, but still needs prompting to do so. He does not always recognise when meaning is lost. Throughout the intervention Student C had no idea how to break a word apart to work it out. He has a corresponding difficulty with spelling. Student C seemed to have a very limited exposure to written language. Once he heard the word, he knew it and could explain the meaning, but so often he had never seen the word in print, or as the case may be, he had never paid close attention to the printed and the correlating spoken word. He is the typical reader whilst sounding like a reader is in actual fact only mimicking reading. So the fact that Student C may not have made the most considerable gains with his results, he did make the most substantial gains in his understanding of what reading is. He was able to articulate that reading on answers many of your questions, and that you should look for the meanings of words in the text, as it's often further along in the next sentence, or the next paragraph. It is a matter of slowing down to allow yourself thinking space.

The choice of text is critical to the success of the group especially if you are aiming for the group to be self-run as is suggested in the Reciprocal Teaching model. The texts need to be at an easy independent level for discussion and questioning at a deeper level to take place. When the texts are too challenging the group become less focused and are easily taken off on a tangent of thinking that does not lead to comprehending the text at hand. It may also be advantageous for this group of students to work in different groupings in order for them to become more independent. Student C sub-vocalises as he reads. He cannot read without hearing what he is reading. This is very distracting for the others in the group, so perhaps he needs to read away from the group and then join them for discussion. Student C would greatly benefit from 1:1 work with an adult during reading time to assist him with making the reading strategies the intervention has focused on more automatic. Student E is a very distracting influence and needs constant reminding about not distracting others, giving others reading and thinking time, and staying focused with predictions and connections to the text.

Further intervention for these students would be in paraphrasing as this will help them integrate the use of synonyms into their repertoire of reading strategies they can call upon. For paraphrasing they need to know which words can be changed in a sentence to retain meaning, and which ones cannot. Students would also benefit from reviewing nouns, verbs, adjectives and adverbs so what they are doing with paraphrasing and synonyms is clearer still. They need to know that you substitute with a similar word. They need to know that when you are prompted to think of another word that makes sense, you are calling on our meaning making motor strategy. For these students, as with many struggling readers in the middle years of schooling, you need to connect the dots for them, as they are not able to see the connections for themselves.

Another area of study would be further teaching on 'wondering' questions. When the students were directed to wonder about information in the text, it helped them visualise and bring deeper meaning to the text. One text described an underwater cave as 1000ft deep. It was only when time was spent wondering how deep this was and converting feet to metres, a metre pictured as a metre ruler that they could then visualise the depth of the cave and the fact got the amazement it deserved. The students could see that wonderings lead to greater understandings and insights.

It would be extremely valuable to share the findings of this study with the entire teaching staff so that the teaching of paraphrasing, synonyms and questioning is more strategically taught throughout the school, with strong foundations being established in the junior years, and then clearly scaffolded throughout all year levels.

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Resources

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www.readinga-z.com

www.superteachersworksheets.com

Appendix A: Teaching Unit

Teaching Unit: Questioning and Clarifying

- 10 sessions of 40 minutes duration
- Year Five
- Small group – withdrawal optional

Teaching Year Five students to ask questions, clarify meaning and generate more questions as they are reading will improve the students' reading comprehension especially of non-fiction texts.

Session 1

Activity	Description						
Purpose of sessions	<p>Discuss results of pre-testing and give students feedback on what was noticed from the testing. Explain that the goals for improving our reading over the next 10 sessions are to:</p> <ul style="list-style-type: none"> • Think about our thinking as we are reading. • Question every time we do not understand. • Stop to give ourselves thinking time. <p>In order to help us improve comprehension we always need to question and clarify during and after reading a text or passage.</p>						
Reciprocal Teaching Prompts	<p>Share with the students the reciprocal teaching prompt posters of clarifying and questioning. Discuss the use of sentence starters. Sometimes we do not know what it is that is confusing us, or how to explain our confusions. If we are able to explain the confusion and appeal for assistance we can restore meaning to the passage more quickly and efficiently.</p> <table border="1" data-bbox="528 1207 1399 1655"> <thead> <tr> <th data-bbox="528 1207 967 1240">Clarify</th> <th data-bbox="967 1207 1399 1240">Question</th> </tr> </thead> <tbody> <tr> <td data-bbox="528 1240 967 1655"> <ul style="list-style-type: none"> • I didn't get ... so I ... • I didn't understand the part where ... • This doesn't make sense ... • This is tricky because ... • To clarify I can read on, reread, think of another word, make a picture in my head </td> <td data-bbox="967 1240 1399 1655"> <ul style="list-style-type: none"> • I wonder ...? • Who ...? • What ...? • Why ...? • How ...? • When ...? • What if ...? • Why do you think ...? • How do you think ...? </td> </tr> </tbody> </table> <p>Have the students read the prompts and practice asking questions using a sentence starter. Students paste the two prompt cards into their reading folders for future reference.</p>	Clarify	Question	<ul style="list-style-type: none"> • I didn't get ... so I ... • I didn't understand the part where ... • This doesn't make sense ... • This is tricky because ... • To clarify I can read on, reread, think of another word, make a picture in my head 	<ul style="list-style-type: none"> • I wonder ...? • Who ...? • What ...? • Why ...? • How ...? • When ...? • What if ...? • Why do you think ...? • How do you think ...? 		
Clarify	Question						
<ul style="list-style-type: none"> • I didn't get ... so I ... • I didn't understand the part where ... • This doesn't make sense ... • This is tricky because ... • To clarify I can read on, reread, think of another word, make a picture in my head 	<ul style="list-style-type: none"> • I wonder ...? • Who ...? • What ...? • Why ...? • How ...? • When ...? • What if ...? • Why do you think ...? • How do you think ...? 						
Meaning Making Motor (MMM)	<p>Provide students with a blank MMM recording sheet and explain that we will be using this during our sessions. Students are familiar with using a MMM, although during these sessions the use of the MMM strategy will be explicitly addressed</p> <table border="1" data-bbox="639 1946 1305 2013"> <tr> <td data-bbox="639 1946 887 1980">Vocabulary</td> <td data-bbox="887 1946 1094 1980">Synonym</td> <td data-bbox="1094 1946 1305 1980">Synonym</td> </tr> <tr> <td data-bbox="639 1980 887 2013"></td> <td data-bbox="887 1980 1094 2013"></td> <td data-bbox="1094 1980 1305 2013"></td> </tr> </table>	Vocabulary	Synonym	Synonym			
Vocabulary	Synonym	Synonym					

Review	Review what we know about, and why we use: Text-to-Self connections, Text-to-Text connections and Text-to-World connections.			

Sessions 2 – 7

Teacher Directed

Activity	Description
Predict	Look at the title of the passage, quickly scan the text and use any picture clues to make a prediction about what the text may be about. This prediction can be a Text-to-Self connection, Text-to-Text connection or Text-to-World connection. Explain your prediction connection.
Procedure	<ul style="list-style-type: none"> • Read • Clarify • Question • Summarise
Read and highlight	Read the first paragraph, highlighting any words or phrases that you would like clarified. Following the discussion add any new words to your MMM with a synonym that will help you remember.
Clarify and Question	Share and seek clarification of any words and phrases, share your questions and thinking. Do you need to adjust your prediction? Why?
Continue through the Text	Continue reading the text paragraph by paragraph, stopping at the end of each paragraph to share and seek clarification of any words and phrases, share your questions and thinking. . Add any new words to your MMM with a synonym that will help you remember. Do you need to adjust your prediction? Why?
Share thinking about text or my reading	How close was your original prediction? Can you explain why you think it was close or way off the mark? What did you do to help you understand the text? Can you summarise the text for the group?

Session 8 – 10

Student Directed Students take it in turns to lead for each paragraph

Activity	Description
Predict and prompt the procedure	<p>Student Leader:</p> <ul style="list-style-type: none"> • Look at the title of the passage, quickly scan the text and use any picture clues to make a prediction about what the text may be about. • This prediction can be a Text-to-Self connection, Text-to-Text connection or Text-to-World connection. Explain your prediction connection. • Remember to – Read Clarify Question Summarise • Read the first paragraph, highlighting any words or phrases that you would like clarified. • Following the discussion add any new words to your MMM with a synonym that will help you remember. • Share and seek clarification of any words and phrases, share

	<p>your questions and thinking.</p> <ul style="list-style-type: none"> • Do you need to adjust your prediction? Why?
Continue through the text changing the leader with each new paragraph	<p>Student Leader:</p> <ul style="list-style-type: none"> • Remember to – Read Clarify Question Summarise • Read the next paragraph, highlighting any words or phrases that you would like clarified. • Following the discussion add any new words to your MMM with a synonym that will help you remember. • Share and seek clarification of any words and phrases, share your questions and thinking. • Do you need to adjust your prediction? Why?
Share thinking about text or my reading	<p>Student Leader:</p> <ul style="list-style-type: none"> • How close was your original prediction? • Can you explain why you think it was close or way off the mark? • What did you do to help you understand the text? • Can you summarise the text for the group?

Texts taken from www.superteacherworksheets.com Year 5 Comprehension*

Session	Text	Genre	Flesch-Kincaid Grade Level
2 and 3	Hitchhikers in the Bathroom	Non-fiction	5.2
4 and 5	Spitting to Survive	Non-fiction	4.9
6	April Fools	Non-Fiction	6.1 (historical aspect of text increases the difficulty)
7	Another Peter Pan	Non-Fiction	8.8 (scientific vocabulary makes this a demanding text)
8	Leaving Her Mark	Non-Fiction	4.8
9	Fly Into Action	Non-Fiction	5.5
10	John Muir: The Conservationist on the Quarter	Non-Fiction	5.5

- The variety of grade levels within the Year Five section on this particular website show that levelling on many of the sites is fairly random, and it would suggest that you are cautious with choices, and use your best teacher judgement and a reliable readability levelling formula as has been used here.

Poster Prompt to remind students of the strategy for their reading.

<p>Remember to:</p> <ul style="list-style-type: none"> • Read • Clarify • Question • Summarise <p>Then move on to the next paragraph!</p>

Key Links to the 'Multiple Levels of Text Processing' Model (MLOTP)

<p>'While Reading' Stage</p> <p>Processing text and self-monitoring</p>	<p>Sentence level</p> <ul style="list-style-type: none">• Break text into digestible bits, decide where to pause• Listen to themselves as they read• Paraphrase• Ask myself, what questions does the text answer• Does it make sense/fit in? <p>Conceptual Level</p> <ul style="list-style-type: none">• Summarise, what is the main idea so far?• Infer, why did that happen?• Review and consolidate. What do I know now?• Underline, note down useful information• Gradually build an impression of the text. <p>Word level</p> <ul style="list-style-type: none">• Use context of word and initial first sounds• Read to end of sentence and re-read• Use your meaning making motor (MMM)
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Pg. 92 of course notes, 2011

Appendix B

A. Online Placement Instrument (OPI) from ACER (from the ACER website)

The **Online Placement Instrument (OPI)** offers a series of assessments designed to give schools information that will assist them to make decisions about the relative ability levels of students. This enables the school to identify interventions required for students commencing at the school and helps in the placement of individual students who may be seeking entry from interstate or overseas. It also can be used as a tool to support students referred on for additional support, and offers comparative assessment on ongoing performance. The OPI measures student performance in the generic skills that underpin the teaching of English and Mathematics for students from Years 3 to 10.

The OPI measures student performance in the generic skills that underpin the teaching of English and Mathematics for students from years 3 to 10.

As students complete the tests online, teachers are able to access immediate feedback and reports on each student's performance in relation to expected performance at grade level.

Content

The OPI offers eight test levels in both English and Mathematics. These eight levels correspond to the skills developed from grades 3 to 10.

In Maths, the OPI strands are:

- Number
- Measurement
- Space
- Chance and Data.

In English, the OPI strands are:

- Reading Comprehension
- Vocabulary
- Grammar
- Punctuation
- Spelling

B. Literacy Intervention from Sunshine Publishing (From the Sunshine Publishing website) **Intervention Works**

Intervention Works is a series of high-interest low-level texts ranging from Reading Recovery levels 16 to 29 and are especially designed to engage the struggling reader in Years 3 - 6. The high-interest books are a mix of fiction and non-fiction titles. The series includes an interactive online component featuring the complete text along with three learning activities that focus on comprehension, spelling, phonics and writing. The Teaching and Assessment Guides offer explicit and systematic teaching plans that focus on reading strategies, comprehension and fluency.

Appendix C: Method for scoring paraphrasing test.

For each word or phrase underlined and in bold students must give a synonym or a phrase for that word to be given a point. Students must maintain the meaning of the sentence whilst paraphrasing them.

	Passage Sentence	Number of ideas/points
1	The <u>young man</u> and his <u>friend rode</u> on the <u>bike</u> .	4 marks
2	<u>They</u> were <u>enjoying</u> themselves.	2 marks
3	The <u>birds</u> were <u>singing</u> in the <u>trees</u> .	3 marks
4	The <u>two friends chatted</u> . They were not <u>paying attention to anything</u> .	4 marks
5	<u>They</u> were <u>supposed</u> to <u>watch</u> where they were <u>going</u> .	4 marks
6	The <u>track</u> became <u>narrow</u> and <u>twisted</u> .	3 marks
7	<u>Suddenly</u> it began to <u>slope down</u> and the <u>bike sped up</u> .	4 marks
8	<u>People</u> in the <u>park watched</u> and <u>gasp</u> ed as it went <u>faster and faster</u> .	5 marks
9	The <u>two riders weren't smiling</u> and <u>chatting any longer</u> .	5 marks
10	<u>Now they</u> were <u>gripping</u> the <u>bike</u> as <u>tightly</u> as they could, <u>showing fear on their faces</u> .	6 marks
11	<u>People</u> in the <u>park</u> had <u>stopped</u> what they were doing and <u>started to yell, "Stop" or "Be careful"</u> .	6 marks
12	All of a <u>sudden</u> the <u>path</u> goes <u>around</u> a <u>sharp curve</u> .	4 marks
13	<u>Ahead</u> they see in the <u>middle</u> of the <u>path</u> , a <u>huge stone</u> .	5 marks
14	The <u>closer they</u> get to it, the <u>more enormous</u> it <u>becomes</u> .	5 marks
15	As they <u>fly towards</u> it, their <u>hearts</u> are <u>beating louder and louder</u> and they try to take <u>avoidance action</u> .	7 marks
16	There is a <u>loud thud</u> , the <u>front wheel crumples</u> and the <u>young couple</u> is <u>airborne, flying over</u> the <u>obstacle</u> to the <u>grass</u> on the <u>side</u> of the <u>path</u> .	13 marks
	Total	80

Appendix D: Excel Spread sheet

Name	Control = 0 Teaching =1	Age in MONTH S	Gender 0=Male 1= Female	Years of Schoolin g	ESL No=0 Yes= 1	Earlier Inteventio n No=0 RR=1 Interventio n Works=2	OPI	EMA No=0 Yes= 1	
A	1	131	1	6	0	0	49%	1	
B	1	127	1	6	1	2	65%	0	
C	1	128	0	6	1	12	12%	0	
D	1	132	1	6	1	2	44%	0	
E	1	137	0	6	0	123	29%	0	
F	0	132	0	6	1	123	13%	0	
G	0	129	0	6	1	2	69%	0	
H	0	133	0	6	1	123	19%	0	
I	0	132	1	6	1	2	15%	0	
J	0	126	1	6	0	123	12%	0	
Name	Attendan ce No. of sessions	Para PRE	Para POST	TORCH raw PRE	TOR CH raw	TORCH Score PRE	TORCH score POST	Syno nyms PRE	Synonyms POST
A	7	20	24	14	18	46.4	56.6	48	61
B	9	16	13	13	18	44.5	56.6	23	53
C	10	12	17	17	17	53.3	53.3	23	42
D	10	20	25	18	20	56.6	68.9	33	52
E	10	16	14	8	11	35.7	41	13	20
F	0			7	15	33.9	48.4		
G	0			19	18	61.8	56.6		
H	0			18	18	56.6	56.6		
I	0			16	14	50.6	46.4		
J	0			15	15	48.4	48.4		