

Abstract

Beyond the early years of primary school the texts children are expected to read, comprehend and use become increasingly varied in complexity of concepts and vocabulary. Many children in the middle years of primary school have difficulty with reading comprehension. Children from a low socioeconomic status background are at a further disadvantage in developing effective reading comprehension when their vocabulary knowledge development is also delayed. Children skilled in comprehension usually have a broad vocabulary knowledge as well and use this to assist them in gaining meaning from text.

The hypothesis of this study is that **improvement in vocabulary knowledge through the use of an explicit teaching and explicit learning strategy, improves reading comprehension in middle primary school children from a low socioeconomic status**. Research in the area of reading comprehension suggests that explicit teaching of vocabulary enables children to gain meaning of texts they read by focusing on key words. In this study students were taught to use a strategy with the acronym SALSAR to direct their thinking around words they encountered in texts read.

The acronym stands for: **S**ay the word correctly

Another word that means the same

Look for more clues

Sentences true or false

Actions for the word

Reread and check for meaning

The study involved the comparison of two groups; a control group and an intervention group. The control group continued to be taught in the classroom situation and the intervention group was removed and received the explicit instruction over ten, forty minute sessions. Results give some evidence to support the hypothesis as the majority but not all of the students' reading comprehension improved. The implications are that explicit teaching of vocabulary is successful in improving comprehension especially for children with poor comprehension skills and that the strategy used is a successful tool to guide the teaching and learning.

Introduction

Many children in the middle years of primary school have difficulty with reading comprehension. They have learned to decode words in the initial years of schooling and are able to make meaning of texts that are familiar in content and that use simple and common vocabulary. As children move beyond the early years of primary school the texts they interact with become greatly varied in complexity. The vocabulary also becomes more demanding and progressively less familiar. Children with delayed vocabulary development are usually also poor in reading comprehension as they need to spend more thinking space trying to work out the meanings of words in the text or they simply gloss over words and are unable to form a complete understanding when reading. The problem with poor vocabulary and poor reading comprehension seems to be high in children from a low socioeconomic background and so for these children in particular explicit teaching in vocabulary is essential for the improvement of reading comprehension.

The purpose for reading in the middle years of primary schooling also begins to change and effective reading becomes essential for all areas of learning in an increasingly multifaceted format. Children skilled in comprehension usually have good vocabulary knowledge, and are able to use this to gain meaning about the topics and concepts dealt with in the text. They notice words more and if they encounter an unfamiliar word they have strategies in place to assist them such as using the context of the text or prior knowledge and experience.

Children who are poor in reading comprehension usually also have poor vocabulary knowledge. One way to improve comprehension is to improve vocabulary knowledge through explicit teaching. Kato and Manning (2007) suggest that, children who have been taught to read words without experiencing and interacting with texts that are authentic and rich in content across various subjects in the curriculum will develop limited vocabularies and limited knowledge and have poor comprehension of texts read in older grades. It stands to reason that children expand their vocabulary when they explore different topics and use new words to explain and question their understandings, leading them to have a deeper conceptual understanding when they read.

Studies by Biemiller and Slonim (2001, cited in Boulware-Gooden, Carreker, Thornhill, and Malatesha, 2007) found that at grade 2, a child in a high socioeconomic status (SES) had an average of around 7,100 words in their vocabulary compared with a child in low SES who had an average of only around 3,000. Similarly Hart & Risley (1995, cited in Beck & McKewon 2007) propose staggering differences in the number of words children are immersed in depending on their SES. Their study revealed that children of higher SES are immersed in 30 million words of spoken language by the time they are 3 years old, compared with 20 million for working class, and 10 million for lower SES.

Research by Cunningham (2005, cited in Yopp and Yopp 2007) found that children increase their vocabularies naturally through speaking and reading in the home. However, it is often children from low-income backgrounds who don't read widely because reading and books are not valued or available in the home and it is these same children who are often not immersed in vocabulary- rich conversations.

Biemiller and Slonim (2001, cited in Boulware-Gooden, Carreker, Thornhill, and, Malatesha 2007) discouragingly found that children with poor vocabulary development by grade 3 may not improve in their entire schooling experience unless they receive extended and explicit teaching in this area. The implications of this information are that it is critical for schools to address these problems, to build vocabulary and to heighten awareness of words within text in order to improve reading comprehension.

Researchers Labbo, Love and Ryan (2007) were successful with work involving a group of kindergarten children from low SES backgrounds, which led to improvement in both their receptive and expressive vocabularies. The method used storybook read alouds, to focus children's attention on vocabulary in the text. They then interacted with the words in meaningful ways in language experience-type activities using interactive whiteboards as a focus for learning. The researchers found that explicitly teaching vocabulary successfully transferred into the children recycling words in a way that had not previously been seen.

Boulware-Gooden, Carreker, Thornhill & Malateshi (2007) completed a study in which vocabulary was specifically taught focusing on synonyms, antonyms and other related words supported by metacognitive instruction whilst reading text. They found

vocabulary improved as well as comprehension compared with the control group where vocabulary was taught in the more traditional way of finding definitions and placing words in sentences.

Similarly Nelson, Lincoln, and Stage (2007) found success in their study, which involved explicit instruction of words with more than one meaning. Their research indicated an improvement in vocabulary and reading comprehension, for children whose vocabulary knowledge was poor to begin with.

In research conducted by Beck & McKeown (2007) explicit vocabulary instruction was given to young children from low- income families. The findings suggested some improvement. A second study was conducted with the same group, which involved longer and more in-depth sessions, where the children acted out words and words were revisited and extended on subsequent days. This proved to produce further gains. The study concluded that improvement of vocabulary knowledge is not straightforward or easily attained and that explicit and extensive teaching is required for improvement, especially for children with additional factors such as low SES.

In a study of young adults, with low reading skills Braze, Tabor, Shankweiler & Mencl (2007) found that vocabulary knowledge had a high impact on reading comprehension. Their study supported a hypothesis proposed by Perfetti & Hart (2002, cited in Braze, Tabor, Shankweiler & Mencl 2007), that in knowing a word three components must be present in order to make meaning when reading; what the word looks like, how it is said and what it means.

In a case study at a primary school where literacy levels were low the “Multiple Levels of Text Processing Model” (Munro, 2003) was used to identify areas of literacy knowledge needing explicit teaching. Amongst other areas poor vocabulary knowledge was identified. This was one area that was targeted which led to successfully lifting the students’ literacy levels.

The current research investigates what impact is made on reading comprehension when students of low socioeconomic background are specifically taught to notice vocabulary and build on their knowledge of words. Children from middle primary were chosen to participate rather than younger children used in other studies, (for example Labbo, Love, Ryan, 2007 & Beck, McKeown, 2007) with the view that

decoding skills and concepts about print have progressed to a fair level and that developmentally they are ready to delve into more complex and sophisticated knowledge and understandings of words.

The current research takes Perfetti & Hart's (2002, cited in Braze, Tabor, Shankweiler & Mencl 2007), three components of word knowledge into account in that it uses a strategy which contains each of the components required to build word meaning; what the word looks like, how it is said, what it means. The study is also directed by the "Multiple Levels of Text Processing Model of Reading" (Munro 2003) by focusing on the word level knowledge of text processing.

The strategy is as much an explicit teaching tool, guiding teachers in what they need to teach about vocabulary, as it is an explicit learning tool, guiding students in what they need to learn about vocabulary.

The present study researches the hypothesis that for children of mixed ability in the middle primary years of schooling and from a low SES background the explicit teaching of vocabulary through a strategy (SALSAR) will improve reading comprehension.

METHOD

Design

The study uses a case study O X O design. Improvements in reading comprehension and the generation of synonyms for isolated words are monitored after explicit teaching of vocabulary for children of mixed ability from a middle primary class. The self-efficacy scale (Munro 2006) is also administered prior to and after the intervention period. The study compares two groups of students, a control group which continues with the normal classroom program and an intervention group which is withdrawn for ten forty minutes consecutive sessions.

Participants

All students chosen to participate in the study are currently in the one class. The students are of mixed ability and a mixture of male and female. The students are from low socioeconomic status (SES) which is informed by eligibility for Education Maintenance Allowance and the Australian Early Development Index (2005), which provides analyses of communities data and places the school in a zone described as “most disadvantaged” according to the SEIFA index (Socio Economic Index for Areas) and in the lowest bracket of average scores on the language and cognitive skills domain. Mixed abilities were chosen to determine the effects of the explicit teaching on both children with poor and higher levels of comprehension.

Procedure

In pre and post testing for this study students were assessed using the TORCH Tests of Reading Comprehension assessment tool (ACER 2006). This requires children to read a piece of prose and to complete a cloze activity. The tests selected were non fiction texts for the pre test and a fiction text for the post test. The scores are converted from raw scores to scale scores, allowing for different tests to be used to cater for different grade levels and comparison of scores to be possible. The Synonym Task Test (Munro 2005) was used at both pre and post intervention to determine children’s ability to give synonyms for isolated words. The Self-efficacy Scale (Munro 2006) was also given to determine what impact the intervention had on individual students’ metacognition. The students’ pre test results for comprehension are presented in Table 1. These informed the selection process for the two groups.

Table 1 TORCH PRE-TEST DATA all students

STUDENT	AGE	INTEGR. FUNDING Y/N	TEXT	PRE TEST SCORES			
				RAW SCORE	PERCENTILE RANK	STANINE	TORCH SCALE SCORE
A	108	N	Grasshoppers	14	57	5	37.2
B	105	N	“	12	44	5	33.1
C	116	N	Donna Dingo	5	13	3	29.7
D	109	N	“	10	42	5	39.2
E	117	N	“	12	54	5	42.7
F	117	N	“	4	9	2	27.3
G	111	Y	Grasshoppers	1	1	1	6.5
H	105	N	Grasshoppers	9	28	4	27.7
I	105	N	“	12	44	5	33.1
J	118	N	Donna Dingo	8	29	4	35.7
K	120	N	“	12	54	5	42.7
L	120	N	“	12	54	5	42.7

In analyzing the pre test scores it was decided to include children with critically low scores in the intervention group – therefore students C F & G were included in the intervention group. Because it was decided that this study would include students of mixed abilities not all low scoring students were included in the intervention group. It was thought that richer discussion and ideas would be encouraged with children from higher abilities included and also that observations on the effects of vocabulary knowledge enrichment for children with already higher comprehension skills could be made.

A conscious effort was made to include a similar ratio of Year 3 and 4 students in the two groups, therefore the intervention group included three Year 3 students and four year 4 students compared with the control group, which included two year 3 students and three Year 4 students. The numbers in the two groups were uneven as two students failed to return their consent forms and therefore their data could not be included in the research.

The teaching procedure was to deliver a series of 13 sessions teaching a strategy for developing vocabulary SALSAR. Interruptions to the program meant that only 10 sessions were possible with extra time given to assessing learning. The strategy was created with reference to Dr John Munro’s Sequence for Teaching Vocabulary (2006). The two initial lessons involved teaching the six step strategy (Appendix 1). Each lesson thereafter involved reading text and applying the strategy to key words within

that text. In accordance with the Model of Teaching & Learning - Responsibility of the Teacher (Collins, A., Brown, J.S. & Newman, S.E. 1989), the strategy was modeled and highly supportive to begin with but scaffolding progressively lessened over the consecutive lessons so that children took control of the learning. Children worked as a group, in pairs and individually as they gained in confidence using the strategy. The SALSAR strategy involves the children in exploring vocabulary in a sequence that builds knowledge that can be transferred to thinking about any words they encounter.

S ay the word
A nother word that means the same
L ook for more clues
S entences true or false
A ctions for the word
R e-read the text

The Model of Teaching & Learning - Responsibility of the Student (Collins et al 1989) was also incorporated through the addition of a reflective component to the beginning and end of each session, in which children were asked to articulate what they had learnt and how they would/or did apply this learning to different situations.

Following the teaching both groups were assessed once again to determine changes.

Materials

Different texts were used during the teaching sessions, including fiction and non fiction. The texts were chosen from materials appropriate to middle primary school children. “Read to” and “read together” strategies were used to diminish variance in decoding abilities amongst the group of children. All children could view the text. Posters were also used to provide a visual stimulus for each step of strategy (Appendix 1). The following reading materials were used.

Lessons 1&2	Words in isolation taken from pre test TORCH tests
Lessons 3&4	Using The River (Rigby Literacy Collections)
Lessons 5&6	Shopping (2007 AIM Reading Materials)
Lesson 6	Words in isolation to work on Step 3 “Look for more clues”
Lessons 7&8	Snow (2007 AIM Reading Materials)
Lessons 9&10	A Dog for Tom (2007 AIM Reading Materials)

Results

Assessment data (Appendix 2 Data Table) seems to give some support for the research into the impact of explicit teaching and learning of vocabulary on the reading comprehension of children who took part in the study. However improvements in comprehension were not made by all of the children in the group and so consideration needs to be given to how the intervention impacted on these students' learning as well.

A comparison of average scores for the pre and post scores (Figures 1&2) reveals that the intervention group's average scores increased in the synonyms task by 81% and in the comprehension task by 23%. This brought the group's achievement relatively equal to that of the control group for which the average scores remained relatively unchanged. On the evidence of these figures the hypothesis for the study seems to be supported.

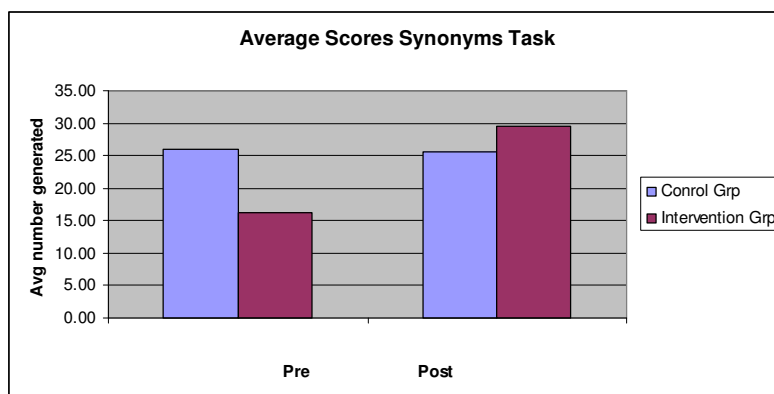


Figure 1 Averages Scores Synonyms Task

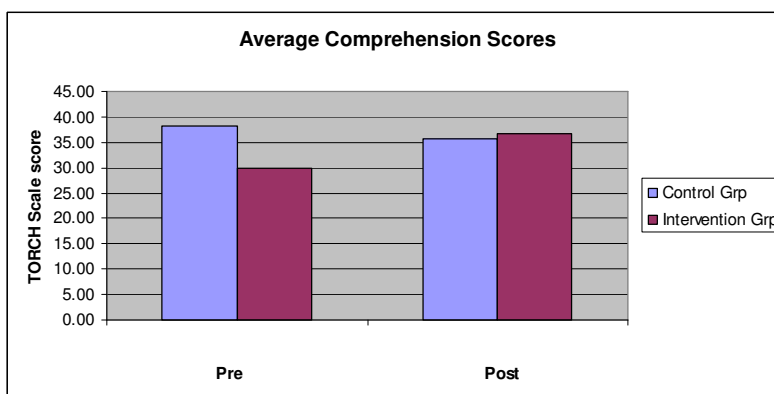


Figure 2 Average Scores Comprehension Task

A comparison of individual comprehension scores for pre and post tests (Appendix 2 & 2A Figure A) for both the intervention and control groups (and considering margin of error) reveals that in the intervention group four children showed improvement in comprehension over the research period (57%), two children made relatively no change (29%) and one child's score regressed (14%). On the other hand, the control group showed that three children made little change (60%) and two children's scores regressed (40%). This also gives support to the importance of explicit teaching and explicit learning of vocabulary.

For students A, D, E comprehension did not improve. This may suggest that explicit teaching of vocabulary is not relevant to children with a higher level of comprehension. Reading comprehension is a complex activity and it is more likely that as ability increases vocabulary knowledge as well as other skills interplay to successfully gain meaning from texts. As for the case study by Munro (2003) other areas of the "Multiple Levels of Text Processing model" need to be assessed to determine further needs for these students.

Pre and post results of the Synonyms Task for both the intervention and control groups (Appendix 2 & 2A, Figure B) reveal that all but one child in the intervention group improved in the number of synonyms generated post intervention, compared with the control group where two students made gains and scores for three students were lower than in the pre test. It should be noted that student L's performance was already high in the pre test.

Individual data for some of the children in the intervention group is worth analysing more closely. Data for Students B, F and G (Figures 3&4) present improvements over the study period. Student B's data shows that for the synonyms task his score almost tripled and his comprehension score also increased. Although it is sceptical to assume this growth is all attributed to the explicit teaching of vocabulary alone (as other areas improved for this child in the session times such as ability to focus on tasks), it is reasonable to suggest that it was a contributing factor.

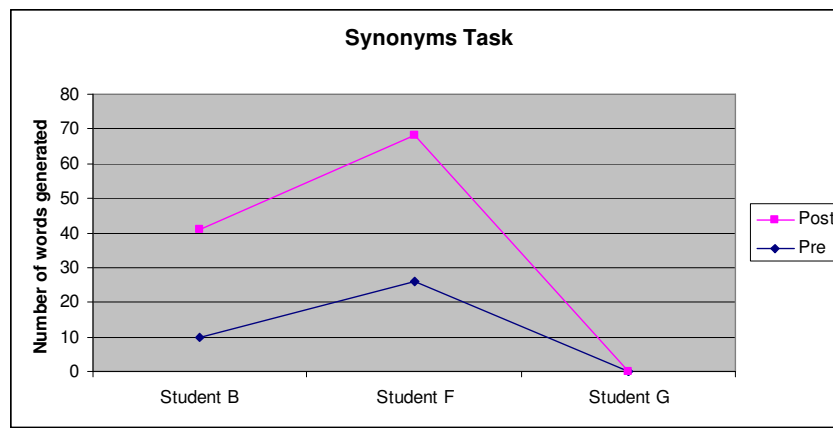


Figure 3 Synonyms task – Students B, F, and G

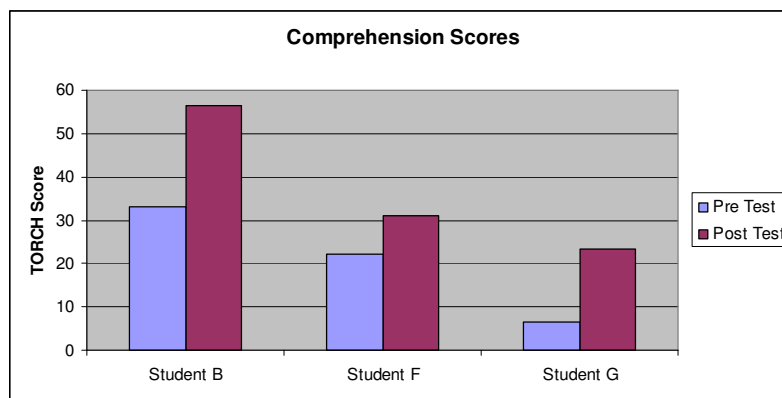


Figure 4 Comprehension scores - Students B, F, and G

For student F the explicit teaching of vocabulary seemed to have an impact on both the number of words generated in the synonyms task and improvement to comprehension. Student F had many misconceptions of words and he often suggested words that were not correct synonyms. This student learned to think more carefully to ensure suggestions were “just the right fit!” This was done initially by saying the same sentence with the suggested synonym and noting if it changed the context of the sentence. Student F’s classroom teacher had been having trouble with him having a reluctant attitude towards changing his ideas and accepting if they weren’t correct. During the course of the sessions, whilst working together in the small group and pair situation he became more open to exploring his ideas further and revising them when necessary.

Student G was not able to generate any synonyms for words in the pre or post tests. During sessions when working with words within text and with the group or with a partner she improved in this area and was able to suggest other words. For this student interaction and a contextual framework are important. Initially this student was unable to gain meaning from simple text at the sentence level. As vocabulary was explored

she was able to answer many more questions related to the text. Scores for the comprehension test suggest that the explicit teaching made an impact for this student.

For Student D (Figure 5) the post test comprehension score was lower whilst the post synonyms task score tripled. For this child the lack of progress does not match the improvement shown in class. Interaction with others and support with the text may be necessary for this child's learning. The post comprehension test text was a longer piece of prose and this may account for some of the regression. It may also suggest lack of transference of knowledge or problems with decoding the text in the post test. The improvement in the word task does not match the lack of improvement in the comprehension task and does not give credence to the hypothesis that increasing vocabulary knowledge will improve comprehension.

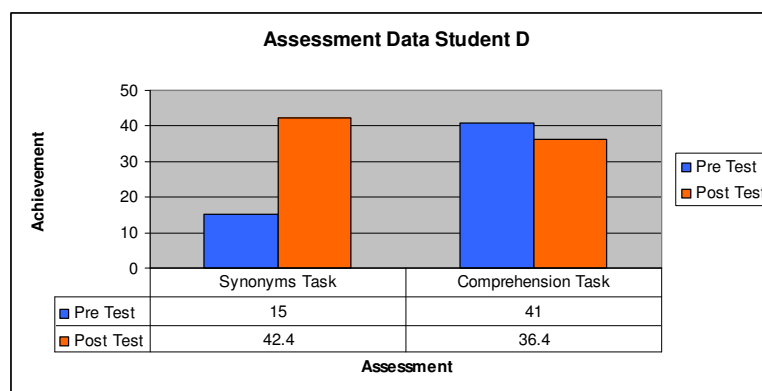


Figure 5 Individual Data – Student D

Discussion

The results of this study offer some support to the hypothesis that for children from a low socioeconomic background at middle primary level, the explicit teaching of vocabulary will improve reading comprehension. Most of the children showed some improvement in the post tests and this was highly evident for the synonyms task. The comparisons that were made with the control group indicate that the intervention made a difference and that the strategy was beneficial to most of the students' learning.

The intervention group's post test average scores increased in both tasks and were more aligned with the control group's which were higher at the beginning of the study.

In observing the two groups performing the synonyms task it was noted that students in the intervention group seemed to stay on task more readily than the control group and attempted most words, whereas most of the students in the control group worked either very slowly or finished very quickly and were not willing to persist with the task. It was decided that extra time be given to the control group to find more synonyms as their initial scores were all below the pre test scores. This did not seem to have much of an affect for some children however, which may suggest that the explicit teaching and learning through the strategy was effective in raising the self efficacy of students.

Students F&G scored the lowest in the comprehension pre test for all students and thus the improvements they made were pleasing. These results follow the trend found in research by Nelson, Lincoln, and Stage (2007), which saw improvement in reading comprehension mostly for children whose vocabulary was poor to begin with.

For student G the synonyms task did not improve in fact this student scored zero for both the pre and the post tests. However during the sessions she did show improvement in her ability to understand words in text and in her interactions with the text. The self efficacy scale for students F and G also changed during the study period. Both had identified two areas before the intervention for which they responded "I know I can't or I think I can't" but in the post review these descriptors were not chosen, indicating a positive shift in their learning.

For student B the explicit teaching seemed to be most beneficial with progress made in both assessment tasks and for student C improvement was less dramatic but positive. Both these students had difficulty suggesting synonyms initially, suggesting rhyming or associated words and they were also the least focused of the group with the ability to concentrate for only short lengths of time. Stress balls were introduced for all students to manipulate during the sessions when they needed to sit and focus and these seemed to work well. Student B particularly enjoyed the “Actions for words” step of SALSAR because he was allowed to move around and for student C “Say the word correctly” took on meaning when she learned to say “electricity” correctly, a word she found difficult, by saying each syllable slowly and then increasing the speed.

For students B & F the number of synonyms generated in the post test was a substantial increase compared with the pre test thus suggesting that vocabulary and comprehension are linked. However Student D’s data seems to discredit the hypothesis as the number of synonyms generated almost tripled but comprehension regressed and similarly student A doubled the number of synonyms generated but comprehension remained relatively unchanged.

Student E’s comprehension also remained unchanged and the number of synonyms generated were also about equal in the pre and post tests. For this child the explicit teaching didn’t seem to make any difference. On the self efficacy scale this student identified learning needs in “understand each sentence”, “remember what happens in the story as you read it” and “read fast enough to keep the ideas in your mind” which may offer an accurate evaluation of other areas in his reading.

As studies by Biemiller and Slonim revealed (2001, cited in Boulware-Gooden, Carreker, Thornhill, and Malatesha, 2007), children of low SES backgrounds have less opportunities to develop extensive vocabularies compared with other children. This seemed to be true for some of the children in the intervention group. Sometimes words that seemed simple proved to be difficult. For example “flow” and “tumbling” in the text, “Using the River”. This has important implications for teachers who may assume that students understand simple words they encounter in their reading when in fact this could be obstructing learning.

This adds emphasis to the point made by Perfetti & Hart (2002, cited in Braze, et al 2007), that having knowledge of a word means knowing three components; how to say the word, how to read the word and what the word means. The SALSAR strategy emphasizes all these components and the students were able to discover some of the aspects that they did not know. For example in the step “Look for more clues” the children used base word, prefixes & suffixes as well as word origin charts to gain broader understandings of word meanings that can be transferred between words.

Student G’s difficulty with generating synonyms for words in isolation for the synonym task may be explained by the study by Boulware-Gooden, et al (2007) that suggested children who were explicitly taught to focus on vocabulary while reading text were able to comprehend texts more successfully than those who were taught to define words in isolation. For this student words in context were easier to define and she also needed the interaction of the group to assist her understandings.

It is interesting to note that for students A, D, E, J, K & L who were all at higher comprehension levels in the pre test the data did not improve. This may indicate that explicit vocabulary instruction is not relevant for children at a higher level of comprehension or that for these children vocabulary and other factors such as inferential knowledge need attention. For example only one of these children correctly answered a question related to the word “triumphantly” which required inferential knowledge as well as understanding of the word.

The limitations of the study are that it only involved twelve children, five of whom were in the control group and that it was conducted over a short time. Thirdly the testing tools only gave a narrow indication of achievement. It could have been beneficial to provide other tools to track improvement over the sessions. For example retelling or paraphrasing accuracy scales or cloze activities.

As explained in the procedure for this research the children were actively involved in reflective learning which was interwoven into each session. This was an important part of the process and in the last session the children reflected on future direction for their learning. Happily their suggestion was that the strategy should be implemented into classroom practice for others to learn and they were eager to play a part in the delivery of this. Thus it is felt the success of the study was seen in other ways not

captured by the data of the testing tools that was apparent in observing the students over the ten lessons as they interacted with each other and progressed in many ways.

The explicit teaching and learning worked effectively through the SALSAR strategy tool. The strategy appealed to the students and although they were able to implement some aspects, each step of the strategy offers broad scope (Appendix 1 Table A) that would need gradual development over time, taking account of the students' needs and stages. Student E questioned how synonyms can be found if you don't know the meaning of the word. This question led to valuable discussion initiated and directed by the students and could further lead to opportunities such as teaching how to source meaning by use of tools such as dictionaries, thesauruses and computer tools and so on. The strategy and lesson model provided a means for students to question and pursue their own ideas but also provided the scaffolding required to "nudge" their learning. The strategy will be shared with other teachers in the school and can be modified for different levels.

The self efficacy scale offered some directions for future teaching and learning which were identified accurately by most of the students for themselves. Student C for example recognized that comprehension is difficult for her as she answered "half and half sure" for all questions related to answering questions about the text. Student G identified "saying words correctly, remembering words, and answering questions about the story" as areas needing development. Others such as student E identified that need to work on "reading fast enough to keep the ideas in my mind".

As suggested by Biemiller and Slonim (2001, cited in Boulware-Gooden et al 2007) extended and explicit teaching is necessary if children with poor vocabulary knowledge after year 3 are going to move forward with reading comprehension. This study addressed the explicit teaching of vocabulary, but it did not take place over an extended time and this would be a good focus for future research. This was also the case for Beck & McKeown (2007) who extended their research after initial success in explicit teaching of vocabulary for children of similar backgrounds to this study and they found greater success was gained. Further research therefore could continue the present study over a longer period.

Other directions for research could be developing self efficacy to improve reading comprehension. Student D for example was the only child whose answers did not

match her learning. She chose the high end descriptors “I think I can/I know I can” for all the statements about her reading. This may suggest that she needs to develop knowledge about herself as a learner and this could help her with moving forward. This student also had the most difficulty working independently as the support and scaffolding diminished and this would also be a valuable area to research. Another area of possible research would be to study the effects of increasing the amount of reading done by children in low SES backgrounds to improve vocabulary knowledge and reading comprehension.

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ELEMENTS OF THE STRATEGY	EXPLANATION
 <p>SAY the word correctly</p>	<p>Look for number of syllables, letter clusters, silent letters, patterns and sounds. Children are directed to notice the way the word looks and to articulate the word correctly. The teacher provides the modelling for this, and explains how this knowledge can be transferred to other words.</p>
 <p>ANOTHER word that means the same</p>	<p>Synonyms – what other words can be used for this word? Finding synonyms and once children are more proficient, antonyms, for words increases the understanding around words and gives children further options for word usage.</p>
 <p>Look for more clues</p>	<p>This step can be powerful in building vocabulary and knowledge that can be transferred to other words once children’s awareness is developed. The teacher directs children to identify base words, affixes morphemes and origins. E.g the base word for jumped is jump – ed is added to change the tense- affixes – bi in bicycle means two – est in longest means most - un in unlike and unkind means not – the aud in the word audible means hear. According to the sentence the group identifies the grammar of the word – is it a noun, verb, adjective etc...</p>
 <p>SENTENCE true or false</p>	<p>This step can be done in a number of ways. Children may be asked to make new sentences to show they can place the word in context. The teacher may form sentences and ask children to identify whether they are true or false according to meaning. For words with multiple meanings the teacher can model sentences to display the meanings.</p>
 <p>ACTION for the word</p>	<p>By physically doing an action related to the word children are able to more easily commit the word to long-term memory. Children are encouraged to be as creative as possible and can work individually, in pairs or groups. This is enjoyable for children and they are encouraged to be as bizarre as they can without getting hurt!</p>
 <p>READ the text again and check for meaning</p>	<p>This step is extremely important as the purpose of focusing on the vocabulary is to increase meaning of the text. Therefore the word is always placed back into the context and meaning is checked. Paraphrasing may be taught.</p>

APPENDIX 1 TABLE A: SALSAR Strategy Scope

SESSION OUTLINES

Session 1

Explaining the strategy: During this session the strategy and the procedure for the next 3 weeks is explained to students.

Suggested script – “Over the next 3 weeks we are going to be working together on our reading. We are going to pay attention to words in the texts we read and build the way we think about words and understand words so that we can understand what we read better. We’re going to use a strategy to help us with this called SALSAR. This is what SALSAR stands for;

S ay the word

A nother word that means the same

L ook for clues

S entences true or false

A ctions for the word

R e-read and check for meaning

“During this lesson and the next lesson I’m going to teach you how the strategy can be used and then after that you’re going to learn to use the strategy in your reading. Do you have any questions so far?”

For the rest of this lesson 5 words will be used to model the first 3 steps of the strategy.

The 5 words are

Bask, notice, chirruping, blurred, alert, physical

(These words were chosen from the passages in the TORCH tests completed by the children in the pre test)

- **Say the word correctly** – talk to children about the importance of pronouncing words correctly for communication and assistance with spelling and reading. Model for children how to find clues for pronunciation for these words. E.g. syllables (chi-rrup-ing), onset & rime (b-ask), letter combinations (ph-physical). Suggest other words with similar patterns. Children repeat the words after the teacher.
- **Another word that means the same** – The words are firstly put into sentences to assist children with meaning. The teacher then models some synonyms for the words. Discussion is led around words that don’t quite fit the meaning and also that don’t fit grammatically. E.g. bask – sunbathe / sunbathed – discussion about tense: chirruping – chirping – discussion would point out these are slightly different and therefore not good substitutions for meaning
- **Look for more clues** – name the purpose of the word in the sentence e.g. noun, verb, adjective etc...charts are introduced showing root words, affixes, onomatopoeic words. E.g. phys – Greek root – nature. Base words and morphemes such as “s” for plurals “ed”, “ing” are discussed.

Reflection: Each session always ends with a reflection on the learning, articulation of self as a learner and suggestions of how to commit new learning to long term memory.

What have you learnt during this lesson? How do you feel about your learning today? How will this help with other reading? How will you remember?

Session 2

Review previous lesson:

What do you remember about what we are going to do in these sessions?

What is the strategy that will help us to do this?

Who can remember any part of the strategy we have talked about so far?

Today we are going to talk about the last three steps of the strategy. Remember our 5 words.

- Sentences for the words- the teacher suggests several new sentences for the words. Children decide if these sentences are true (thumbs up) or false (thumbs down), based on what they know about the meaning. E.g. The snake will bask on a rock when it is cloudy. When I bask in the sun I sit on a chair and read a book. Alternately the teacher may give direct statements of meaning and ask if they are true or false. E.g. bask means lying in the sun. Chirruping is a noise made by animals such as grasshoppers and crickets. Alert means you are ignoring what is happening around you.
- Actions – the teacher talks about how actions can be used to help us to understand and remember words. Some words are easier than others to put into action and for some words we may need to try modeling. E.g. chirruping we can rub our hands together like a grasshopper and make the noise with our mouths. Alert – we can show comparison. E.g. this is what alert looks like/this is what it doesn't look like – our body language would be quite different to when not alert. Sometimes props may be needed e.g. blurred may best be shown using overhead projector or looking through someone else's eyeglasses.
- Reread – the teacher emphasizes the importance of this step as we are trying to improve our understanding of what is read we always go back to the text and reread it. Understanding will then be shown by explaining, paraphrasing the sentence or text.

Reflection: Each session always ends with a reflection on the learning, articulation of self as a learner and suggestions of how to commit new learning to long-term memory.

What have you learnt during this lesson? How will this help with other reading? How will you remember?

SESSIONS 3 – 5 – Support is high. The teacher selects the target words and children work at the whole group level.

ACTIVITY	TASK DESCRIPTION
REVIEW OF PREVIOUS SESSION	Children recall what they learnt from previous session and / or retell the passage from the text read
BEFORE READING	Activating prior knowledge and thinking around vocabulary. The title, subtitle of the book/text is read or a concept for the next part of the text may be discussed if a new text is not being introduced. Words are generated and the teacher records these. These are not predictions but words, synonyms and associated words that the child thinks of about the topic.
TEXT READING	The text or part of the text is read by the teacher or children read together
WORD SELECTION	Teacher suggests the target word or words for today's session
STRATEGY APPLIED	The SALSAR strategy is applied to the target words. Children work together as a group.
AFTER READING	Children are asked to retell or paraphrase the text or part of the text and are encouraged to use words that have been discussed.
REFLECTION	Articulation of self as a learner and suggestions of how to commit new learning to long-term memory. What have you learnt during this lesson? How will this help with other reading? How will you remember?

SESSIONS 6 – 8 – Support is medium. The students select the target words and children work with partner.

ACTIVITY	TASK DESCRIPTION
REVIEW OF PREVIOUS SESSION	Children recall what they learnt from previous session and / or retell the passage from the text read
BEFORE READING	Activating prior knowledge and thinking around vocabulary. The title, subtitle of the book/text is read or a concept for the next part of the text may be discussed if a new text is not being introduced. Words

	are generated and the teacher records these. These are not predictions but words, synonyms and associated words that the child thinks of about the topic.
TEXT READING	The text is read by the teacher or children read together
WORD SELECTION	Students in pairs select the target words and work on these together
STRATEGY APPLIED	The SALSAR strategy is applied to the target words. Pairs share their words and some of the steps when the group reforms.
AFTER READING	Children are asked to retell or paraphrase the text or part of the text and are encouraged to use words that have been discussed.
REFLECTION	Articulation of self as a learner and suggestions of how to commit new learning to long-term memory. What have you learnt during this lesson? How did you work with your partner? How did your partner work with you?

SESSIONS 9 – 11 – Support is low. The individual child selects the target words and works independently with teacher roaming.

ACTIVITY	TASK DESCRIPTION
REVIEW OF PREVIOUS SESSION	Children recall what they learnt from previous session and / or retell the passage from the text read
BEFORE READING	Activating prior knowledge and thinking around vocabulary. The title, subtitle of the book/text is read or a concept for the next part of the text may be discussed if a new text is not being introduced. Words are generated and the teacher records these. These are not predictions but words, synonyms and associated words that the child thinks of about the topic.
TEXT READING	The text is read by the teacher or children read together
WORD SELECTION	Individual children select their own target words or words to work on
STRATEGY APPLIED	The SALSAR strategy is applied to the target words. The teacher observes and provides assistance where necessary.
SHARING	Each child has the opportunity to share one aspect of their use of the strategy.

	Children evaluate each other's thinking and give verbal feedback.
REFLECTION	Each session always ends with a reflection on the learning, articulation of self as a learner and suggestions of how to commit new learning to long-term memory. What have you learnt during this lesson? How did you work on your own? What was easy /What was hard?

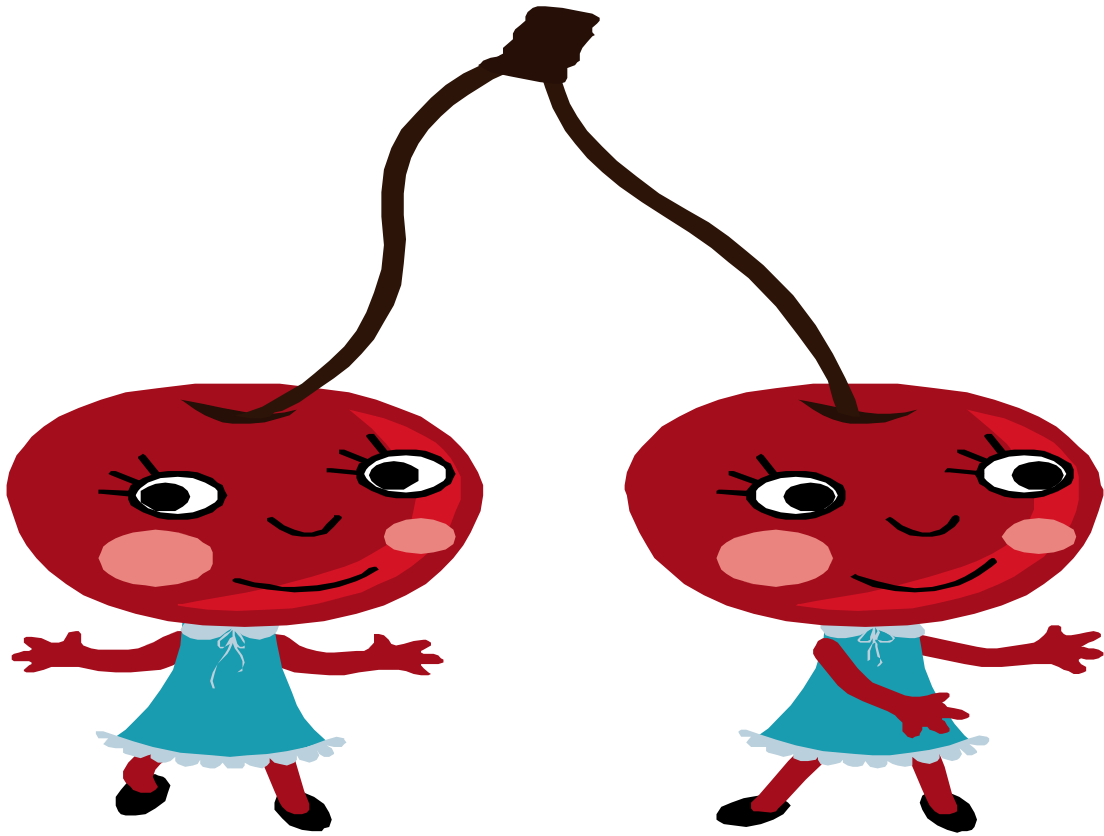
SESSIONS 12 & 13

A text is chosen and children and teacher work together. The text chosen is a challenging text so that the teacher and children can together evaluate how effective the strategy is and whether adjustments need to be made to the process.

ACTIVITY	TASK DESCRIPTION
REVIEW OF PREVIOUS SESSION	Children recall what they learnt from previous session and / or retell the passage from the text read
BEFORE READING	Activating prior knowledge and thinking around vocabulary. The title, subtitle of the book/text is read or a concept for the next part of the text may be discussed if a new text is not being introduced. Words are generated and the teacher records these. These are not predictions but words, synonyms and associated words that the child thinks of about the topic.
TEXT READING	The text is read by the teacher or children read together
WORD SELECTION	Students together suggest the target word or words for today's session
STRATEGY APPLIED	The SALSAR strategy is applied to the target words
REFLECTION	The session ends with a reflection on the strategy and on the learning that has taken place over the study period. How has your learning changed during these lessons? What do you think should happen now as you go back into your classroom? How will you remember what you have learned?



SAY the word correctly



ANOTHER word that means the same



LOOK for more clues



SENTENCES true or false



ACTIONS for this word



RE-READ and check for meaning

S

SAY THE WORD

A

ANOTHER WORD THAT MEANS THE SAME

L

LOOK FOR CLUES

S

SENTENCE TRUE OR FALSE

A

ACTIONS FOR THE WORD

R

REREAD AND CHECK FOR MEANING

APPENDIX 2 DATA TABLE

NAME(GENDER)	T /C GROUP	AGE - MONTHS	EARLIER INTERVENTION	EMA	SYNONYMS PRE	SYNONYMS POST	TORCH RAW PRE	TORCH RAW POST	TORCH SCORE PRE	TORCH SCORE POST
A (F)	1	108	0	1	13	29	14	13	37.2	38.2
B (M)	1	105	0	1	10	31	12	19	33.1	56.5
C (F)	1	116	1	1	20	28	8	8	25.9	29.2
D (F)	1	109	1	1	15	41	16	12	42.4	36.4
E (M)	1	117	1	1	30	35	16	15	42.4	42.3
F (M)	1	117	0	1	26	42	6	9	22.2	31
G (F)	1	99	1	0	0	0	1	5	6.5	23.4
H (M)	2	105	1	0	19	35	9	6	27.7	25.5
I (M)	2	105	1	0	24	16	12	8	33.1	29.2
J (F)	2	118	1	1	18	13	16	12	42.4	36.4
K (F)	2	109	0	0	31	23	16	14	42.4	40.2
L (M)	2	109	0	1	38	41	17	17	46	47.5

KEY

T / C Group – 1 -Teaching Group, 2 - Control Group

Earlier Intervention – 0 – No, 1 - Yes

EMA – 0 –No, 1 - Yes

APPENDIX 2 A

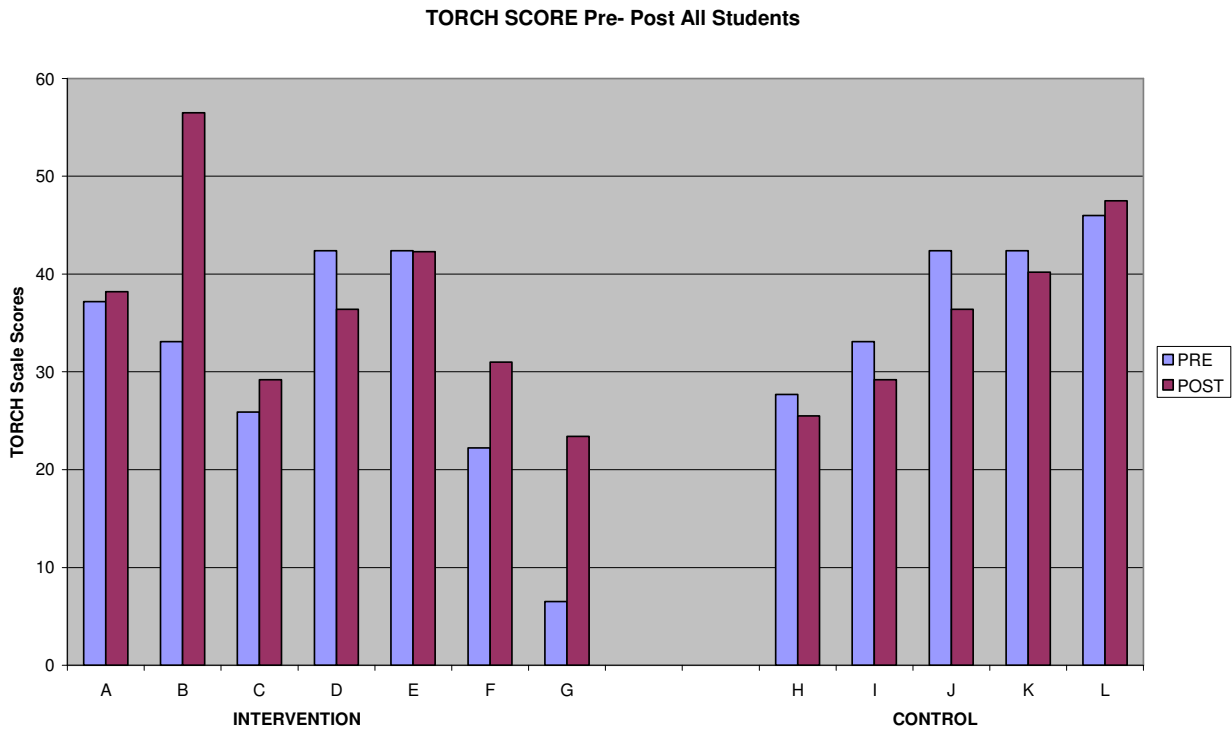


Figure A Comprehension Scores - Individual Students

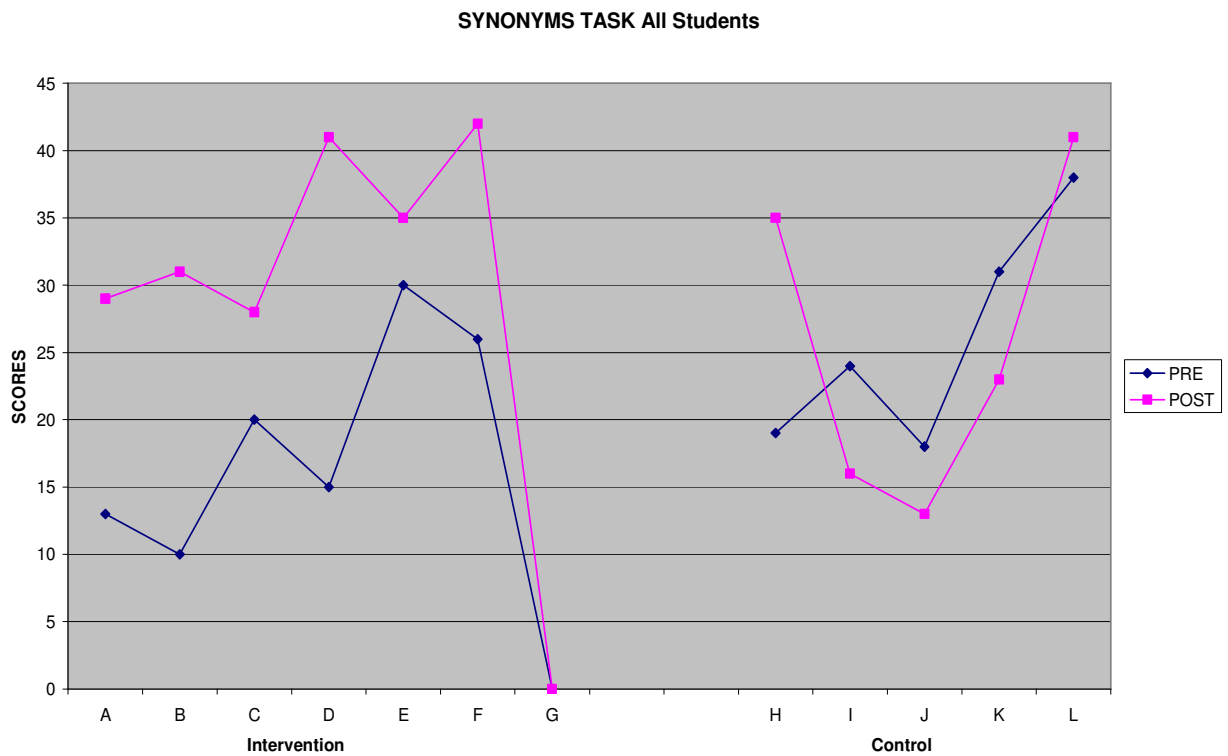


Figure B Synonyms Task Scores – Individual Students