Explicitly teaching year 5/6 students to expand their vocabulary will improve their comprehension of fiction and non fiction text.

Abstract

The hypothesis being tested in this study examines the idea that explicitly teaching year 5/6 students to expand their vocabulary will improve their comprehension of fiction and non fiction text. Students will be taught to expand their vocabulary though the teaching of synonyms.

The participants in this study are twenty two students; Six Year 5 students and sixteen Year 6 students, chosen at random from within two Grade 5/6 classes. Of those students, two students had had prior literacy intervention through Reading Recovery and ERIK when in junior grades. The students were taken from within two separate classes, one group of eleven students making up the Intervention group, and the other forming a Control Group. The Intervention group were taught within the whole class setting to use synonyms through oral language and in fiction and non fiction texts.

The results suggest that those students who entered the study with higher mean scores for synonyms and comprehension continued to do well in targeted intervention in the whole class setting. However, those students who had a lower mean entry score showed less progress and require further intervention. The overall data comparison of the Intervention group showed considerable growth on the Synonym Task (Munro 2005) however this was not reflected in the reading comprehension task.   In completing the research task it would be beneficial in replicating the project to examine the oral language skills of the students at entry and exit points of the project as an indicator of student progress in relation to reading comprehension.

Introduction

Many children in the upper primary years experience difficulties in reading comprehension. They are often able to decode words accurately but are unable to gain understanding from what they read and fail to interpret inferential ideas. Some of the children who are part of the present study struggle with reading comprehension, and it could be suggested that their vocabulary bank is limited and this has a direct impact on their ability to understand and draw meaning from what they read. Recent research in this area has highlighted the importance of oral vocabulary in reading comprehension. (Biemiller & Boote, 2006; Ouellette, 2006; Ricketts, Nation, & Bishop, 2007; in Beers and Ouelette (2009) Current research evaluates the role of oral vocabulary in both word reading and reading comprehension in different age groups. It highlights that oral vocabulary is a most significant predictor of reading comprehension. This has been supported by intervention studies showing the importance of vocabulary knowledge for reading comprehension (Beck, McKeown, &, Kucan, 2002; Biemiller & Boote, 2006; Biemiller & Boote, 2006; in Beers and Ouelette , 2009) If students do not have a broad vocabulary bank to draw upon, this is going to be an impediment to ones level of comprehension as text levels develop in complexity and ideas, and irregular word reading becomes more apparent.

Karen J. Kindle (2009) in her article published in *The Reading Teacher*, 63(3), pp202-211, discusses vocabulary development in the primary classroom and appropriate approaches to this. She outlines students grasping of words as fitting within three instructional Tiers (Beck, McKeown, & Kucan, 2002) Tier 1 words are acquired in everyday language experiences; Tier 3 words are found in academic language and are typically taught within a context; however Tier 2 words are "high frequency words of mature language users" (Beck et al., 2002) and can have a powerful effect of verbal functioning and reading comprehension. Tier 2 words are less common in everyday spoken language however appearing regularly in written texts.

Kindle suggests that the most effective way to increase students' vocabulary is to expose them to a wide range of Tier 2 words through teacher mediation of words in a given context. Newton, Padak, &, Rasinski (2008) in Kindle (2009) support this by adding that Students need conceptual knowledge to make connections between new

words, their prior experiences, and previously learned words and concepts. Teaching words and definitions in isolation does not provide the student with the context or mechanics for its placement within text, thus not necessarily aiding the students' comprehension of the written form.

Another layer of complexity beyond developing synonyms in connection to oral language is that of teaching students how to develop their 'meaning making motors' Munro (2006).   Students need explicit teaching of how to work out an unknown word by looking at what they already know. For example, contextual clues, synonyms, word building and word origins give enormous insight into word meaning in a particular context, combined with visualisation, rereading and paraphrasing strategies. Munro describes this bringing together of all known strategies as a 'meaning making motor'. To be able to equip students with automatised use of such mentioned strategies is to establish efficient reading strategies at the word level.

The study intends to highlight that if students are explicitly taught synonyms, they will gain more from text, regardless of where their beginning point was in pre-testing. The present investigation aims to allow grade 5 & 6 students opportunities for oral synonym vocabulary development as well as through synonyms development and application in the reading context. By teaching synonyms in a context and challenging the students' to activate their meaning making motor; drawing on conceptual links and the prior knowledge of the students, it is intended that growth in their reading comprehension and overall vocabulary will be evident. It is intended that students will learn strategies to assist them when confronted with unknown words when reading fiction and non-fiction texts.

Method

Design: The study uses a case study OXO design, in which the gain in literal comprehension following explicit teaching of synonyms and word meanings is monitored for Grade 5/6 students.

Participants: The control and teaching groups each consist of 3 grade five students and 8 grade 6 students. The groups have been selected randomly, reflecting the range of abilities found in a composite year 5/6 classroom.

No students in the study have received LNSLN funding, Educational Maintenance Allowance or speak English as a Second Language. Students **F** and **I** have received earlier intervention with Reading Recovery and ERIK (orthographic pathway). Student **W** is a new student to the school.

Summary data describing entry level characteristics for the control group are shown in the table below.

TABLE 1: ENTRY LEVEL CHARACTERISTICS
Intervention Group

Name	Age (In months)	Pre test Synonyms	Pre test Torch	Prior Intervention
D	140	68/300 22%	16/24 67%	N
E	144	78/300 26%	18/24 75%	N
F	141	44/300 15%	16/24 67%	Y
G	141	71/300 24%	15/24 63%	N
H	145	87/300 29%	10/24 42%	N
I	141	33/300 11%	9/20 45%	Y
K	135	72/300 24%	16/20 67%	N
L	124	46/300 15%	16/20 67%	N
P	136	89/300 30%	18/24 75%	N
S	142	39/300 13%	16/24 67%	N
W	135	79/300 26%	19/24 79%	N

TABLE 2: ENTRY LEVEL CHARACTERISTICS
Control Group

Name	Age (In months)	Pre test Synonyms	Pre test Torch	Prior Intervention
Y	142	52/300 17%	20/24 83%	N
Z	135	52/300 17%	19/24 79%	N
CC	135	132/300 44%	21/24 88%	N
EE	134	59/300 20%	6/24 25%	N
FF	126	60/300 20%	15/24 63%	N
KK	133	63/300 21%	14/24 58%	N
MM	125	39/300 13%	9/24 38%	N
NN	124	75/300 25%	15/20 75%	N
OO	125	95/300 32%	17/24 72%	N
TT	130	61/300 20%	15/20 75%	N
UU	126	62/300 21%	18/20 90%	N

Materials:

Materials used included the following:

TORCH Test (1987)

Synonym Task: Munro 2005

Readings from 2009 NAPLAN Year 5 testing booklet: Backyard Birds (non-fiction) and; Little Hao and the Golden Kites (fiction)

Paper, pencil, interactive whiteboard & whiteboard

Students own choice of reading materials

Procedure

The students were assessed on their ability to give synonyms for a set of words (Synonym Task: Munro 2005). This task bought into focus the entry level vocabulary skills of the students. Students also completed the TORCH test (1987) to gain insight into the students reading comprehension.

The students were divided into 2 groups. A group of 11 students (D, E, F, G, H, I, J, K, L, P & S) who would receive intervention with explicit teaching of synonyms and word meanings for nine 35-40 minute sessions (see Appendix 1) and a group of 11 Students (Y, Z, CC, EE, FF, KK, MM, NN, OO TT & UU) who would act as a control group with no intervention.

Upon the completion of the intervention, both the Intervention Group and the Control Group were once again assessed using the Synonym Task (Munro 2005) and the **Torch test**. The 22 participants were from two different grade 5/6 classes (11 from each). The whole class, from which the Intervention Group came, despite completing the teaching sessions, did not participate in the study because of difficulty in getting permission notices returned.

The 22 participants were administered the pre and post tests within their respective whole class settings. For the teaching sessions, the 11 intervention students were taught within their classroom setting as a part of a whole class. The teaching sessions were not held at the same time each day. Each teaching session was of 35-40 minutes duration. The sessions were led by the researcher, however the classroom teacher was present as a team teacher throughout the intervention, as this was agreed to be an important way to ensure the learning was reinforced incidentally and informally throughout the school day. The researcher felt that not being the classroom teacher was sometimes a disadvantage in terms of accessing the students. The teaching sessions involved explicit teaching, clarifying, revising, text reading, teacher modelling, and student practice, reflection on learning and taking responsibility for learning. The format of the sessions was based on Munro's model for modifying instruction in the classroom.

Each session began revising orally what had been done previously in order to gauge student levels of understanding and to allow oral practice, giving emphasis to the target words and their synonyms. The learning outcome of each session was clearly explained to the participants. Reading the text and noting target words each

session led to the participants practising to identify synonyms. Completing activities where they were required to use the target words and synonyms in another context allowed the participants to apply their knowledge in more than one context. An important part of the session was to encourage participants to verbalise what they had learnt and explain how they perceived the use of synonyms impacted on their reading.

Results

<u>Intervention Group</u>

In the pre-test of Synonyms (Munro 2005) all students in the Intervention Group scored between 11% and 29%, and in the post-test of the Synonyms (Munro 2005) the variation between students was raised to become 11% to 40%. Whilst the percentage scores at the lowest end of the Intervention Group were not raised, the top end was increased following the targeted intervention.

In the TORCH Test (1987) pre-test all students in the Intervention group scored between 37% and 79%. However, in the TORCH Test (1987) post-test the variation between students expanded somewhat to become 33% to 83%.

Following the targeted intervention it would appear that across both measurement tools; Synonym Task (Munro 2005) and TORCH Test (1987); the gap between competency levels in fact widened, with the bottom end of students not actually following the knowledge increase of the higher end. Therefore the lower achieving students may in fact benefit from more intense targeted intervention, whilst those students who are more able, continue to do well in the whole class teaching situations.

<u>Control Group</u>

The Control Group at pre-testing of the Synonyms task (Munro 2005) began with a higher entry mean score, and therefore at the completion of the study, concluded with a higher mean score, as well as reflecting greater growth in synonym understandings. Both the Intervention and Control groups began with the same mean score in the pre-test of the TORCH Test (1987). However in post-testing, the Intervention Group decreased by 5.5% and the Control Group increased slightly by 2.5%. This is contrary to the prediction of the research being undertaken.

The improvement rates of both groups in the Synonym task (Munro 2005) do support the prediction of this study. The improvement rates of both groups in the TORCH

Test (1987) do not support the prediction of this study. From the Intervention group only students K & S demonstrated in the pre and post testing of both Synonym Task (Munro 2005) and TORCH Test (1987) a learning trend that supports the hypothesis being tested. Other students, such as F, D, E & W performed well in pre and post testing of the Synonyms task (Munro 2005) but not so well in the TORCH Test (1987). Students H, I, and L performed well in pre and post testing of TORCH Test (1987) but not so well in the Synonym Task (Munro 2005). Students P & G made progress on neither test.

The tables below show the group trends for the pre and post testing of the Synonym Task (Munro 2005) and TORCH Test (1987).

SYNONYM TASK
The words on the Synonym task (Munro 2005) were not taught to the participants.

Table 3: Group Trends: Synonym Task (Munro 2005)

	Intervention Group		Control Group	
	Pre Test Mean Scores & %	Post Test Mean Scores & %	Pre Test Mean Scores & %	Post Test Mean Scores & %
Synonym Task	59/300 19.5%	74/300 24.6%	68/300 22.5%	86/300 29%

This table represents that the average mean score increased in the Intervention Group by 15 marks; and in the Control Group the average mean score increased by 18 marks. Therefore, the percentage gains were seen as an increase of 5.1% in the Intervention Group, and an increase of 6.5% in the Control Group. It is worth noting as a point of interest that the Control Group began on higher pre test scores.
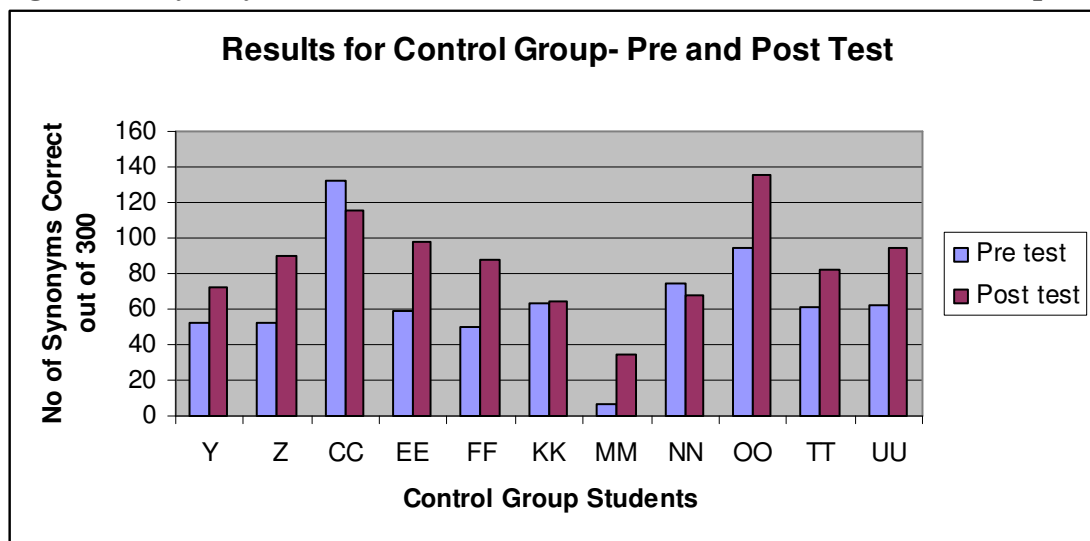
Figure 1:   Synonym Task (Munro 2005): Individual Results: Intervention Group
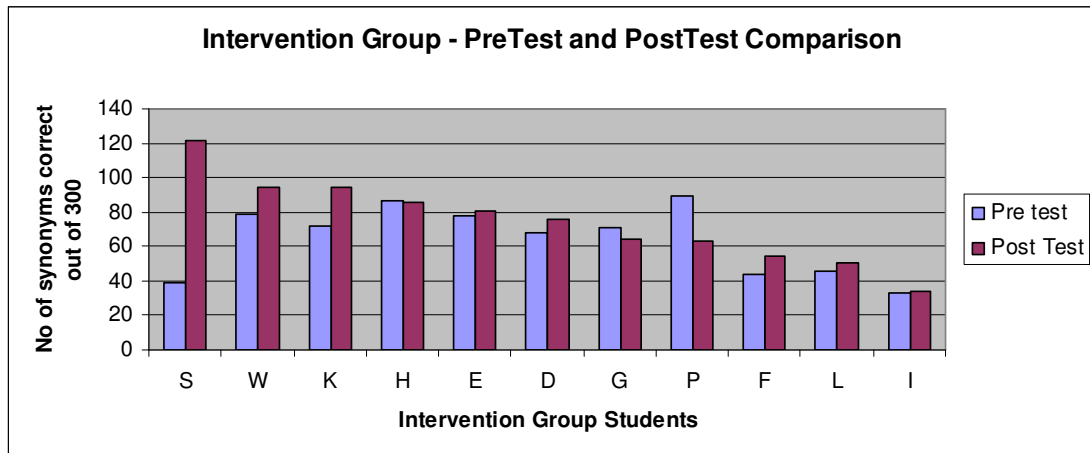
Intervention Group - PreTest and PostTest Comparison

The Synonym task (Munro 2005) group trends showed variations within the Intervention Group. Students F, K, D, S, W showed the greatest growth, while students I, L, E & H were similar in demonstrating little or minimal improvement and students P& G scored lower in the post-test than the pre-test.

Figure 2:   Synonym Task (Munro 2005): Individual Results: Control Group

Results for Control Group- Pre and Post Test

The Synonym Task (Munro 2005) group trends showed variations within the Control Group. Students Y, Z, EE, FF, MM, OO, TT & UU showed the greatest growth, while student KK was similar in demonstrating minimal improvement and students CC & NN scored lower in the post-test than the pre-test.
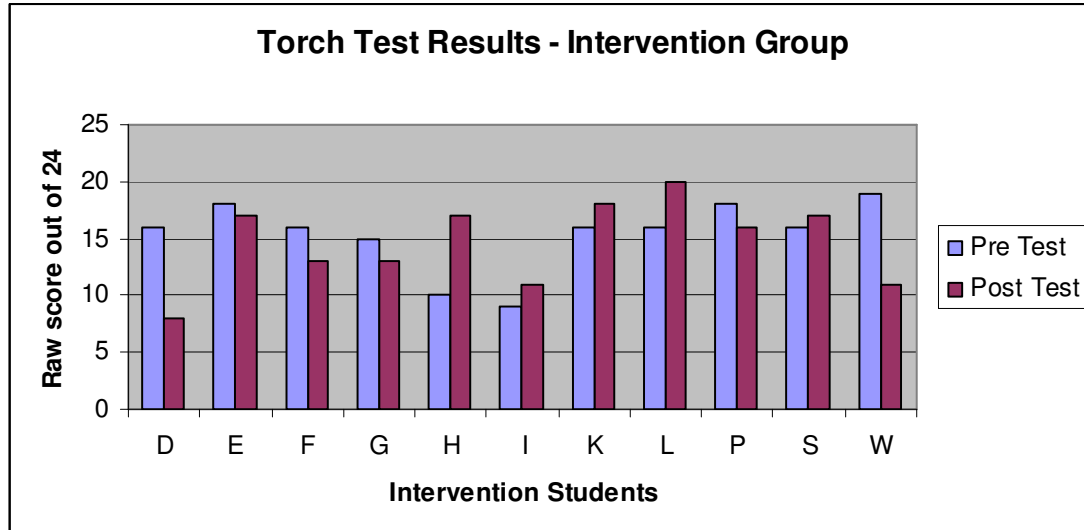
TORCH TEST

Students had previously sat the TORCH Test (1987) as a part of the routine pre and post testing each school year at the school.

Table 4:   TORCH Test (1987): Group Trends

|	Intervention Group		Control Group	
	Pre Test Mean Scores & %	Post Test Mean Scores & %	Pre Test Mean Scores & %	Post Test Mean Scores & %
Torch Test	16/24 66.5%	15/24 61%	16/24 66.5%	17/24 69%

This table represents that the average mean score remained almost identical in the Intervention Group and the Control Group. Therefore, the percentage movement that were seen in both cases was minimal. It is again worth noting that the entry level mean and percentage scores were identical for the two groups leading into the study.

Figure 3:   TORCH Test (1987): Individual Results: Intervention Group

The TORCH Test (1987) group trends showed significant variations within the Intervention Group. Students H, I, K, L & S showed the greatest growth, while student E had a score that demonstrated a slight decline and students D, F, G, P & W scored lower comparatively. The results for the TORCH Test (1987) were startling in their contrasts, in that H increased from the pre-test score by 29%, however students D and W decreased their scores by 34% and 33% respectively.

Figure 4:   Torch Test (1987): Individual Results: Control Group
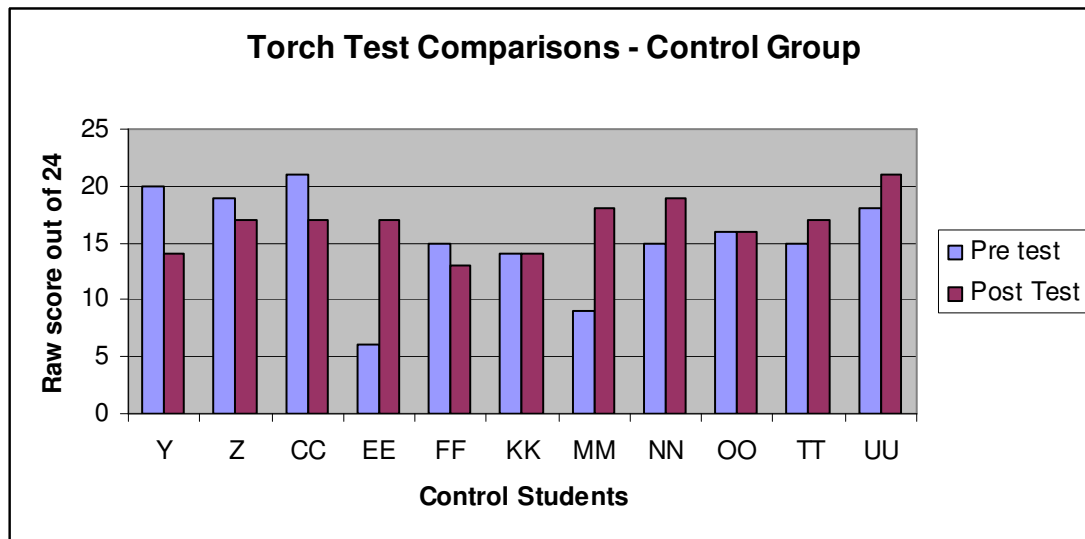
The TORCH Test (1987) group trends showed significant variations within the Control Group. Students EE & MM showed greatest growth of up to 46%, while students NN, TT & UU had scores that demonstrated an increase of up to 20%, students KK & OO scored the same in both tests, students Z, CC & FF scored showing a 16% decline between tests and finally student Z showed a decline of 25%. The results for the TORCH Test (1987) were startling in their contrasts.

Discussion

In reflecting on the results of this study there is only limited support for the hypothesis and the research, which suggests that teaching students the synonym strategy to use when reading, improves their comprehension. Some students improved in the use of synonyms and some students demonstrated some gains in reading comprehension. However, with the exception of two students, most students didn't improve in both facets. The intervention would need to take place over an extended period of time to bring about significant change however the data collected indicates that the trends are positive. Students in the Control Group began the study with the same mean TORCH Test (1987) score; however their entry level Synonym Task (Munro 2005) results suggest that they had more confidence with their vocabulary, as shown in Tables 3 & 4.

Students' use of synonyms during post-testing did not always reflect their use during teaching sessions. It would be reasonable to suggest that the students in the Intervention Group benefited from the oral discussion and brainstorming of words and

discussion about the fiction and non-fiction texts that took place during the teaching sessions, but discussion was not a part of the testing situation. It may also reflect a lack of confidence and poor self-efficacy that arose once the scaffolding of the teacher or peer was removed totally for the purpose of post testing.

The Synonym Task (Munro 2005) and TORCH Test (1987) does not allow for words to be placed in a context via a sentence in order to implement ones' meaning making motor (Munro 2006). Once a word is treated in isolation it can become a guessing game of the intended meaning. This was quite the contrary to what the students had experienced in the classroom setting. As discussed in Beers and Ouelette (2009) if students individually do not have a broad range of vocabulary to draw upon, this can be an impediment to ones level of comprehension particularly in the testing scenario. In planning and implementing the intervention process, this was an aspect the researcher was keen to develop; opportunities for discussion, 'playing around with words', exploring multi-meaning words etc. Anecdotal notes suggest that the students were all actively participating during these times. However the measuring tools used, didn't in fact support this approach of the intervention. In completing this type of study again, it would be interesting to select alternative tools in order to gauge the success of the intervention through oral use of synonyms as well as in reading comprehension. It would be a point of interest to note whether oral synonym development reflected growth in reading comprehension in a setting such as this as suggested by Beers and Ouelette (2009) A test such as Sentence Memory for Sentence Task (Munro 2005) may be appropriate to use to ascertain such information. The TORCH Test (1987) used a fiction text. In further study to use both fiction and non-fiction texts in pre and post testing, would provide interesting comparisons.

There are a number of factors that would need to be addressed if repeating this study or continuing teaching sessions with these students. Through out the nine sessions students were not formally introduced or exposed to a thesaurus. It would be a recommendation if teaching the Intervention Group further, that the thesauras be introduced. For those children who didn't progress on either the Synonyms Test (Munro 2005) or the TORCH Test (1987) (Students P & G) it would be recommended to work further on oral language development and possibly consider re-testing the Synonym Test (Munro 2005), this time putting the test words in the context of a

sentence. Newton, Padak and Rasinski (2008) support this in their research which found that teaching students words and definitions in isolation doesn't provide a context or a placement for aiding comprehension.

Teaching synonyms was successful as a stand alone strategy. However, once applied to a fiction or non-fiction text under test conditions, the strategy failed to assist the reader to have greater comprehension (Table 4). Ongoing monitoring of all the students was taking place throughout the teaching period by the researcher and also the co-teacher (class teacher) and all students appeared engaged and actively involved in whole class, small group and partnered activities. It would be interesting to study further the students' pre and post test oral language development (Sentence Memory for Sentence Task, Munro 2005) and monitor this for growth relating to synonyms and reading comprehension rates.

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Appendices

Appendix 1: Teaching Sequence

Session	Session Outline
Session 1	**What are synonyms? How do they differ from adjectives, antonyms etc.** **Why do we need to know about synonyms?** **Model synonyms through paraphrasing, visualising, rereading, context, word knowlege**
Session 2	**Students write: What is a synonym?** **Introduce focus words for day: highlight, opinion, equal, listen, fierce** **Pair up & brainstorm synonyms for each word** **Pairs decide on 1 synonym for each & fill in Bingo sheet** **Ask another pair to complete their game** **Reflect**
Session 3	**Oral recap on learning so far….** **Refer to focus words from session 2 Students use these words orally** **Use focus words in a sentence sequence. Does yesterdays synonym selected for Bingo work? Is it a synonym? Share examples** **What has just taken place, why have we done this? Testing our selection**
Session 4	**Looking at students Synonyms from home reading** **Contextual clues help us to predict and prepare our vocab for types of word meanings we may come across.** **Focus on student examples Drawing on student input in giving contextual clues**
Session 5	**Focus on synonyms in text** **(2009 NAPLAN booklet -Year 5: Birds in City Environments** **Whole class Shared reading: focussing on class negotiated synonyms** **Tchr model oral questioning and re-phrasing using new word. Asking oneself: Does it work? Does it sound right?**
Session 6	**Focus on synonyms in text** **(2009 NAPLAN booklet -Year 5: Birds in City Environments Continued** **Whole class Shared reading: focussing on class negotiated synonyms** **Tchr model oral questioning and re-phrasing using new word. Asking oneself: Does it work? Does it sound right?**
Session 7	**Focus on synonyms in text**

	(2009 NAPLAN booklet -Year 5: **Little Hao & the Golden Kites)** • **Partnered / Paired Shared reading: focussing on negotiated synonyms** • **Students engage in questioning and re-phrasing using new word/s. Asking oneself: Does it work? Does it sound right?** • **Class debrief describing how they are experiencing using the strategy**
Session 8	• **Focus on synonyms in text** **(2009 NAPLAN booklet -Year 5:** **Little Hao & the Golden Kites)** • **Partnered / Paired Shared reading: focussing on negotiated synonyms** • **Students engage in questioning and re-phrasing using new word/s. asking oneself: Does it work? Does it sound right?** • **Class debrief describing how they are experiencing using the strategy**
Session 9	• **Focus on synonyms in text** • **Independent reading: self monitoring synonyms in student selected text** • **Students engage in independently questioning and re-phrasing using new word/s. Asking oneself: Does it work? Does it sound right?** • **Class debrief describing how they experienced using the strategy independently**

Appendix 2

Alpha Code	Intervention=1 Control=0	Age in MONTHS	Gender 0=Male 1=Female	Years of Schooling	Earlier Intevention No=0 RR=1 Bridges=2 ERIK=3…	Attendance No. of sessions	TORCH raw PRE	TORCH raw POST	TORCH Score PRE	TORCH score POST	Synonym Raw PRE	Synonym Raw POST	Synonym Score PRE	Synonym Score POST
D	1	140	0	7	0	100%	16	8	67%	33%	68	76	22%	25%
E	1	144	1	7	0	100%	18	17	75%	71%	78	81	26%	27%
F	1	141	1	7	1,3	100%	16	13	67%	54%	44	54	14%	18%
G	1	141	0	7	0	100%	15	13	62.50%	54%	71	64	23%	21%
H	1	145	1	7	0	89%	10	17	42%	71%	87	86	29%	28%
I	1	141	0	6	1,3	89%	9	11	37.50%	46%	33	34	11%	11%
K	1	135	0	6	0	100%	16	18	67%	75%	72	94	23%	31%
L	1	124	1	6	0	100%	16	20	67%	83%	46	51	15%	17%
P	1	136	0	7	0	100%	18	16	75%	67%	89	63	29%	21%
S	1	142	0	7	0	100%	16	17	67%	71%	39	122	13%	40%
W	1	135	0	6	0	100%	19	11	79%	46%	79	94	26%	31%
Y	0	142	0	7	0		20	14	83%	58%	52	72	17%	23%
Z	0	135	1	7	0		19	17	79%	71%	52	90	17%	30%
CC	0	135	0	7	0		21	17	87.50%	71%	132	116	44%	39%
EE	0	134	1	7	0		6	17	25%	71%	59	98	20%	32%
FF	0	126	0	7	0		15	13	62.50%	54%	50	88	16%	28%
KK	0	133	0	7	0		14	14	58%	58%	63	64	29%	29%
MM	0	125	1	7	0		9	18	37.50%	75%	7	34	3%	11%
NN	0	124	0	6	0		15	19	62.50%	79%	75	68	25%	22%
OO	0	125	0	7	0		16	16	67%	67%	95	136	31%	45%
TT	0	130	1	6	0		15	17	62.50%	71%	61	82	20%	27%
UU	0	126	1	6	0		18	21	75%	87.50%	62	94	20%	31%