

*Explicit teaching of two-letter dependable rime units to prep students will improve their decoding of words and text level.*

## **Abstract**

Explicit teaching of ten, two letter dependable rime units to prep students will improve their decoding of words and text level. In this study four prep students were explicitly taught to segment three letter words into onset and rime. Four students were used to act as a control group. Pre and post testing of all students was used to gather evidence of student ability. Anecdotal evidence was gathered through observation of students during lessons. Post test results provided evidence that students who received intensive intervention outperformed the students in the control group. These findings would suggest that students benefited from the sequence of lessons that focused on two letter rime units. This study would suggest that students would benefit from the explicit teaching of rime units in the classroom literacy program.

## **Introduction**

Current research suggests that teachers must use data to inform goals and explicitly target instruction to maximise student learning outcomes in reading.

The ‘multiple levels of text processing’ (MLOTP) model (J. Munro) describes the reading process. We read by processing text at a number of levels.

- word level – we tell ourselves the words and phrases in the text
- sentence level – we work out what the sentence means
- conceptual level – we link the concepts in the text to ideas
- topic level –we link the topic to knowledge we have
- dispositional level –we guess the purposes of the writer

This study looked at prep children’s understanding and ability to work at the word level in the MLOTP model and the impact of targeting teaching to increase decoding with the aim of raising instructional text levels. John Munro states that “The concept of a word, rhyming and onset-rime segmentation are all powerful predictors of later reading ability. Not only does it improve word recognition but also reading comprehension. As well, structured explicit teaching in these areas leads to improvement in reading.” This is also supported by Pullen, Lane, Lloyd and Nowak (2005) who state that “student’s skills in decoding increased with the introduction of instruction incorporating explicit decoding practices.”

Word level processing relates to the child’s understanding and ability to work with letter clusters, rime families, types of written words and word structures. One strategy that readers use when reading at the word level is segmenting words into onset and rime. Fountas and Pinnell (2008) state that “Speakers who can hear the onsets and rimes and can break words apart or blend them using these word parts will have an advantage in reading words or writing them”. Fountas and Pinnell (2001) state that “you can teach students about the building blocks of language by showing them the patterns in words and helping them hear such patterns. Students can analyse words by looking at the *onset* (first part of the word) and the *rime* (last part).”

In this study, targeted teaching focussed on prep children working efficiently with two letter dependable rime units. Lessons involved learning a new rime unit each day and this rime unit was linked to a text. Students learn in different ways and the lessons connected the listening, speaking, reading and writing of the rimes.

My hypothesis is that explicit teaching of two-letter dependable rime units to prep students will improve their decoding of words and text level.

# Method

## Design

This study uses a case study to observe and measure the gain in reading text level following explicit teaching of two letter dependable rime units. The study compares two groups of students - an intervention group and a control group. The students chosen for this study were from the same prep classroom.

## Participants

Students from the same Prep classroom were chosen for this study. They were all in their first year at school and at the time of pre testing, they had been at school for eight months. A larger group of students was initially screened using Running Records to identify reading Text Level and the Burt word recognition test. The eight students for this study were chosen from this group so that there was some balance and similarities between both groups at the beginning of the intervention. No students had received any earlier intervention.

There was an intervention group and a control group with four students in each group. The purpose of the control group was to measure by comparison whether the intervention led to gains in reading text level.

Both groups were a mix of reading ability and most students were from the lower reading scores in the class. Three students were the ‘at risk’ and were not on text (scoring 0 for Text Level on Running Records), three students were just beginning to read (Text Levels 2 and 4) and two students on the way with their reading (Text Levels 6 and 9).

In both groups there were students with limited oral language and from culturally different backgrounds. There were no students with sensory impairment.

*Table 1* shows the demographics of all students. In the intervention group there were three boys and one girl. Three of the students were ESL (English as a Second Language – at least one parent born in another country). They were Croatian, Vietnamese and Mandarin (Chinese).

In The Control Group there were two boys and two girls. The four students were ESL. They were Croatian, Italian and two were Vietnamese. See *Appendix 1* for all student demographics and test results.

*Table 1: All Students – Demographics*

Student	Control = 0 Teaching=1	Age in Months	Gender Male=0 Female=1	Years of Schooling	ESL No=0 Yes=1	EMA No=0 Yes=1	Earlier Intervention No=0 Yes=1	Sensory Impairment No=0 Yes=1
A1	1	77	M	8 months	1	1	0	0
B1	1	76	M	8 months	0	0	0	0
C1	1	78	F	8 months	1	0	0	0
D1	1	71	M	8 months	1	1	0	0
A2	0	73	M	8 months	1	0	0	0
B2	0	73	M	8 months	1	0	0	0
C2	0	80	F	8 months	1	0	0	0
D2	0	75	F	8 months	1	0	0	0

ESL – Mother and/or Father born in another country

EMA – Educational Maintenance Allowance

## Materials

The following pre and post-test materials were used in this study:

Alpha Assess levelled books  
BURT word recognition test  
Rime Unit test – 3 letter words (Dalheim 2004)  
Letter ID (Clay)  
SPAT – Sutherland Phonological Awareness Test

Teaching support materials used included:

Magnetic letters  
Game – Chunks  
Whiteboard and markers  
Flashcards  
Paper, pencils, textas

Reading Texts:

*The Cat in the Hat* – Dr Seuss  
*Pat the Cat's Big Book* – Colin and Jacqui Hawkins  
*Zug the Bug's Big Book* – Colin and Jacqui Hawkins  
*Kitty Cat* - PM  
*Happy Birthday* - Dragonflies  
*Sam's Race* - PM  
*Kitty Cat and the Bird* - PM  
*Balloons Go Pop* - PM  
*Mosquito* - The Book Bank  
*What's in the Tin?* - Dragonflies  
*The Lucky Dip* - PM  
*Mother hippopotamus Goes Shopping* - Foundations  
*The Holidays* - Little Red Readers

## Procedure

The pre tests were individually administered to all students to ascertain their current level of understanding. The pre tests were administered in the week before the intervention. The ten lessons took place over two weeks. The post tests were administered in the week following the intervention. The same tests were administered to both the intervention and the control groups. The pre test data provided scores which were used as the benchmark for comparison with the post test data. The data was analysed and comparisons were made between the groups and individual students.

The tests were:

- Alpha Assess levelled books (Instructional Text Level using Running Records)
- BURT word recognition test
- Rime Unit test – 3 letter words (Dalheim 2004)
- Letter ID (Clay)
- SPAT – Sutherland Phonological Awareness Test

The Intervention students were withdrawn from the class group each morning during literacy lessons. The sequence of ten lessons was conducted on consecutive days, with the same teacher and at the same time over a two week period. Each lesson was 30 minutes duration and targeted a new two letter rime unit. A total of ten rime units were taught. The lessons revised existing knowledge and challenged the students with new knowledge.

The students in the control group received normal classroom instruction.

The Intervention Group received lessons which contained the following steps:

Tuning in - getting knowledge ready:

- The students consolidated and revised the previous rime units taught.
- Read a familiar book from last lesson.
- Read own sentence book
- Revised rime units already taught

Rhyming activities:

- Listened for and said rhyming words.
- Did oral activities where students said real and nonsense words.

Focus:

- Teacher introduced new rime unit
- Read text containing rime unit
- Brainstormed words
- Manipulated three letter words using magnetic letters and broke them into onset and rime
- Said words in a sentence

Activity:

- Composed sentences with the rime units
- Students choose a sentence and it was written into a sentence book and then they illustrated the sentence.
- Students wrote words

Reflection on learning:

- Students told or demonstrated what they had learnt in the lesson and said how they could use this new learning back in the classroom.

The sequence of lessons is contained in *Appendix 2*

# Results

Table 2 Test Results for All Students

Student	Control = 0 Teaching=1	Text level PRE	Text level POST	BURT PRE	BURT POST	RIME (3 letter) PRE	RIME (3 letter) POST	Letter ID PRE	Letter ID POST	SPAT PRE	SPAT POST
A1	1	0	3	8	14	1	13	47	52	14	26
B1	1	2	4	10	13	7	18	46	50	21	43
C1	1	4	8	22	25	7	22	54	54	14	28
D1	1	6	10	27	30	12	22	49	53	31	36
A2	0	0	1	5	6	0	0	50	52	12	17
B2	0	0	0	11	13	0	0	45	38	3	5
C2	0	2	2	19	20	18	16	50	53	25	32
D2	0	9	10	31	30	10	12	54	54	12	15

Table 2 shows all pre and post test data for all students in both the intervention and control group. Students in the intervention group showed greater improvement than students in the control group. In the control group there were 3 instances where students scored lower on the post test - student B2 on Letter ID, student C2 on Rime and student D2 on BURT. Student B2 showed no improvement in Text level, Rime and dropped in Letter ID.

The results and comparisons for each test and all participants can be seen in the following graphs.

## Text Level

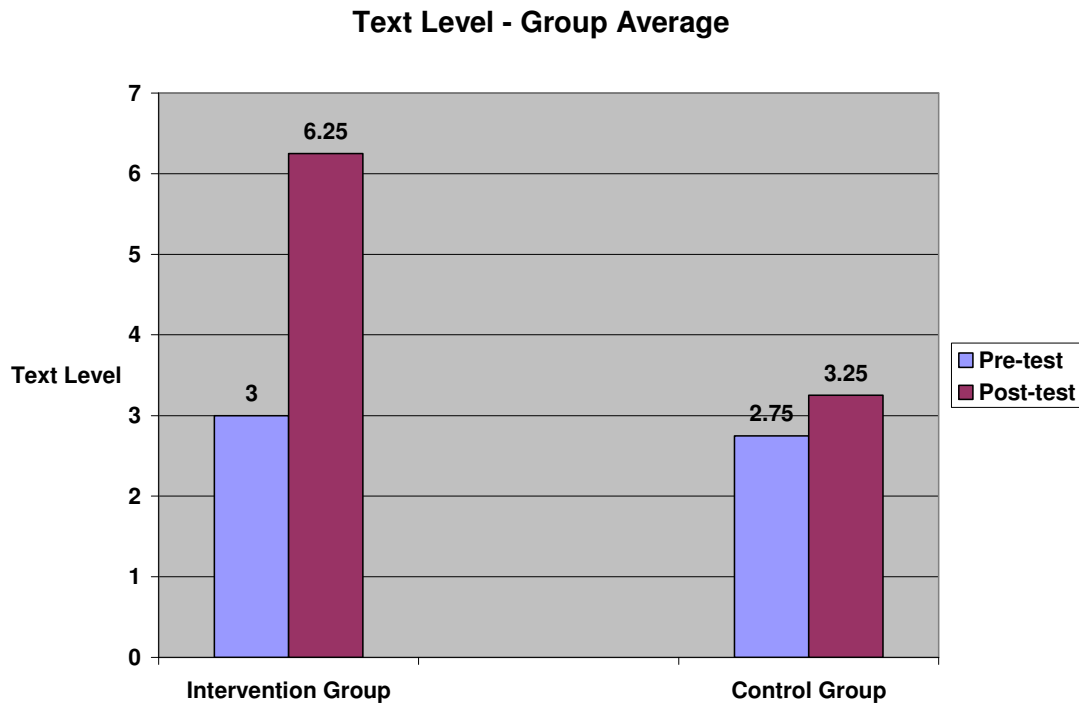


Figure 1

Figure 1 compares the average Text Level for pre and post tests for all students. The Intervention group had a pre test average of 3 and a post test average of 6.25. This was an average gain of 3.25. The Control group had a pre test average of 2.75 and a post test average of 3.25. This was an average gain of 0.5.

### Text Level - Individual Scores

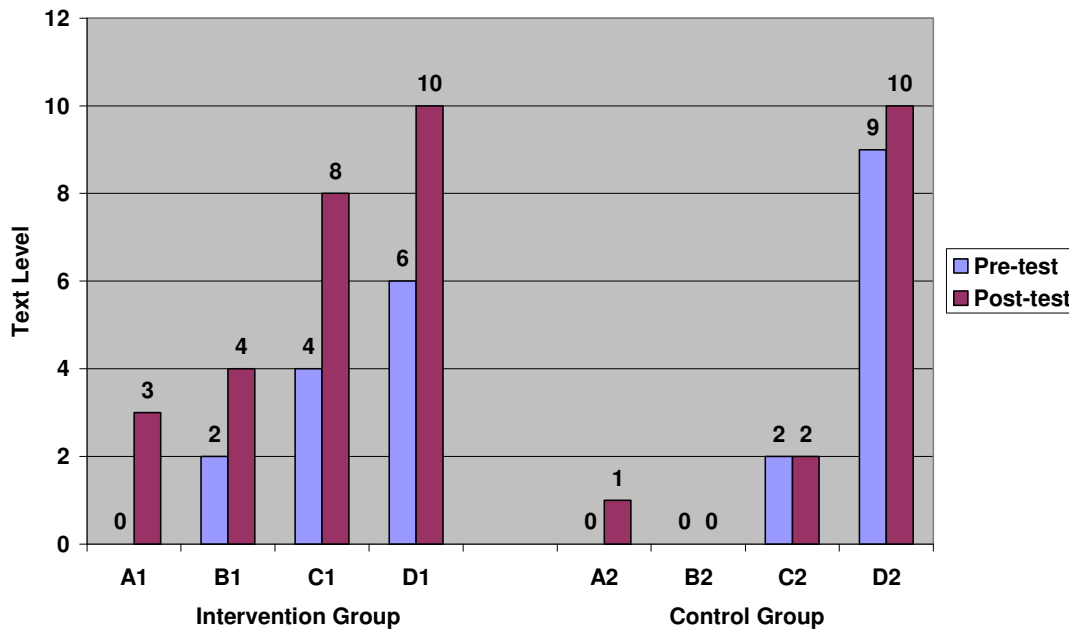


Figure 2

Figure 2 shows the individual Text Level scores for pre and post tests of students in both the Intervention group and the Control group. All four students in the Intervention group made gains with students C1 and D1 making the greatest gain. Two students in the control group made small gains and students B2 and C2 showed no gain.

#### Intervention Group

Student A1 scored 0 on the pre test compared with 3 on the post test. This was an increase of 3. Student B1 scored 2 on the pre test compared with 4 on the post test. This was an increase of 2. Student C1 scored 4 on the pre test compared with 8 on the post test. This was an increase of 4. Student D1 scored 6 on the pre test compared with 10 on the post test. This was an increase of 4.

#### Control Group

Student A2 scored 0 on the pre test compared with 1 on the post test. This was an increase of 1. Student B2 scored 0 on the pre test compared with 0 on the post test. There was no change. Student C2 scored 2 on the pre test compared with 2 on the post test. There was no change. Student D2 scored 9 on the pre test compared with 10 on the post test. This was an increase of 1.

The results demonstrate that the Intervention Group has made greater gains in reading Text Level than the Control Group. These results provide evidence that as a result of the intervention, students reading accuracy improved. This is demonstrated in text level scores.

# Burt

## BURT - Group Average

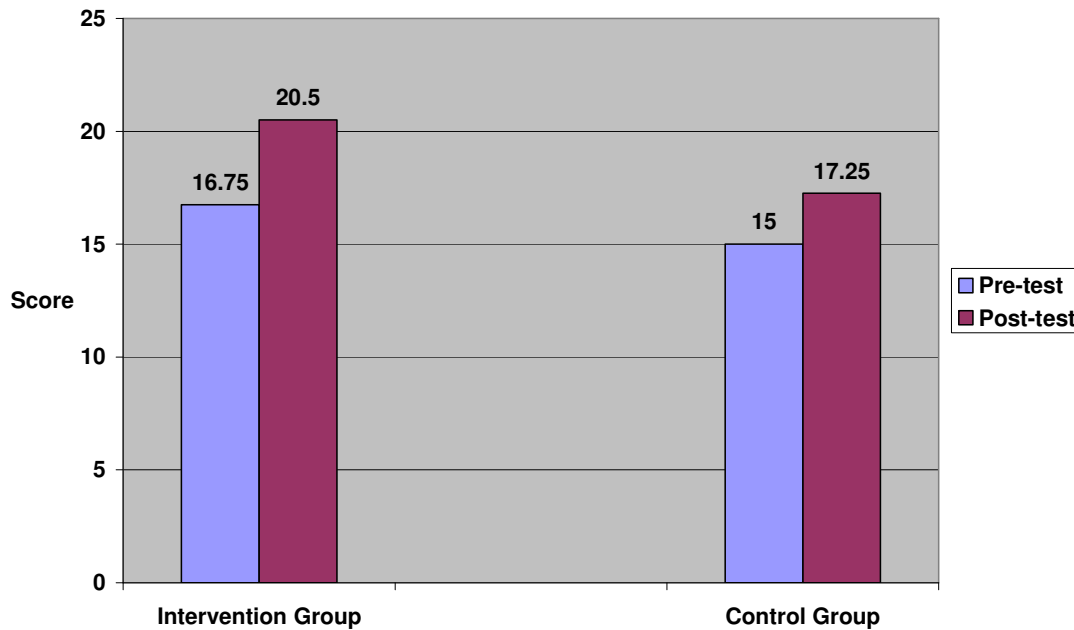


Figure 3

Figure 3 shows the average BURT scores for pre and post tests of both the Intervention group and the Control group. The Intervention group had a pre test average of 16.75 and a post test average of 20.5. This was an average gain of 3.75. The Control group had a pre test average of 15 and a post test average of 17.25. This was an average gain of 2.25.

## BURT - Individual Scores

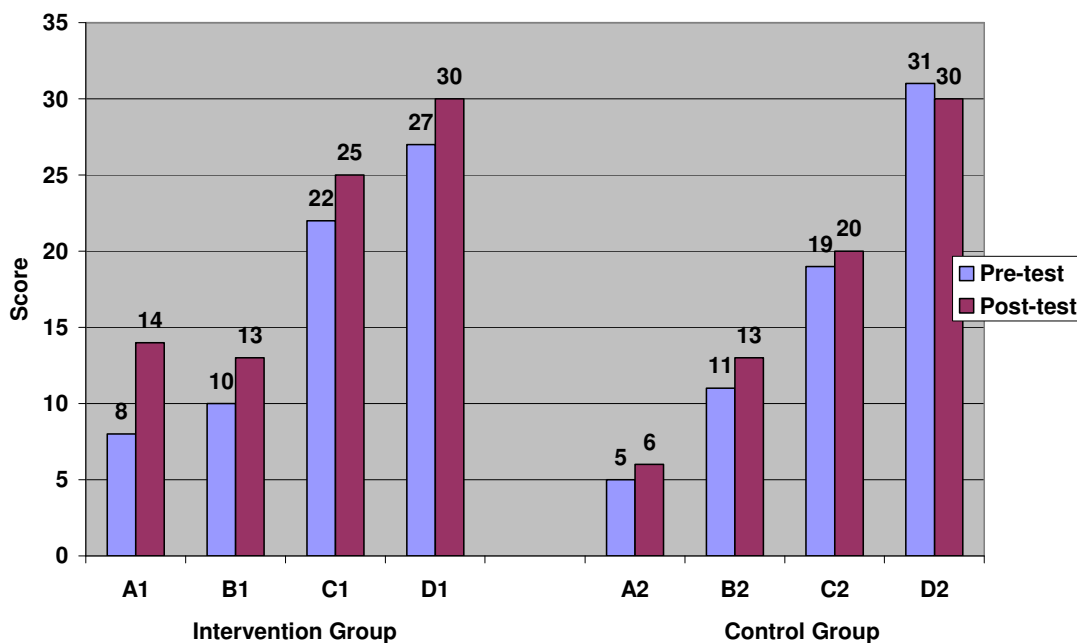


Figure 4

Figure 4 shows the results of all students in the Intervention group and the Control group for the Burt test. All students in the Intervention group made gains while the control group made small gains. Student D2's score decreased by 1.

Intervention Group

Student A1 scored 8 on the pre test compared with 14 on the post test. This was an increase of 6.  
 Student B1 scored 10 on the pre test compared with 13 on the post test. This was an increase of 3.  
 Student C1 scored 22 on the pre test compared with 25 on the post test. This was an increase of 3.  
 Student D1 scored 27 on the pre test compared with 30 on the post test. This was an increase of 3.

Control Group

Student A2 scored 5 on the pre test compared with 6 on the post test. This was an increase of 1.  
 Student B2 scored 11 on the pre test compared with 13 on the post test. This was an increase of 2.  
 Student C2 scored 19 on the pre test compared with 20 on the post test. This was an increase of 1.  
 Student D2 scored 31 on the pre test compared with 30 on the post test. This was decrease of 1.

The results demonstrate that the Intervention Group has made greater gains in BURT word reading scores than the Control Group. These results provide evidence that as a result of the intervention, students improved in their ability to decode words in isolation. This is demonstrated in the BURT word reading scores.

**Letter ID**

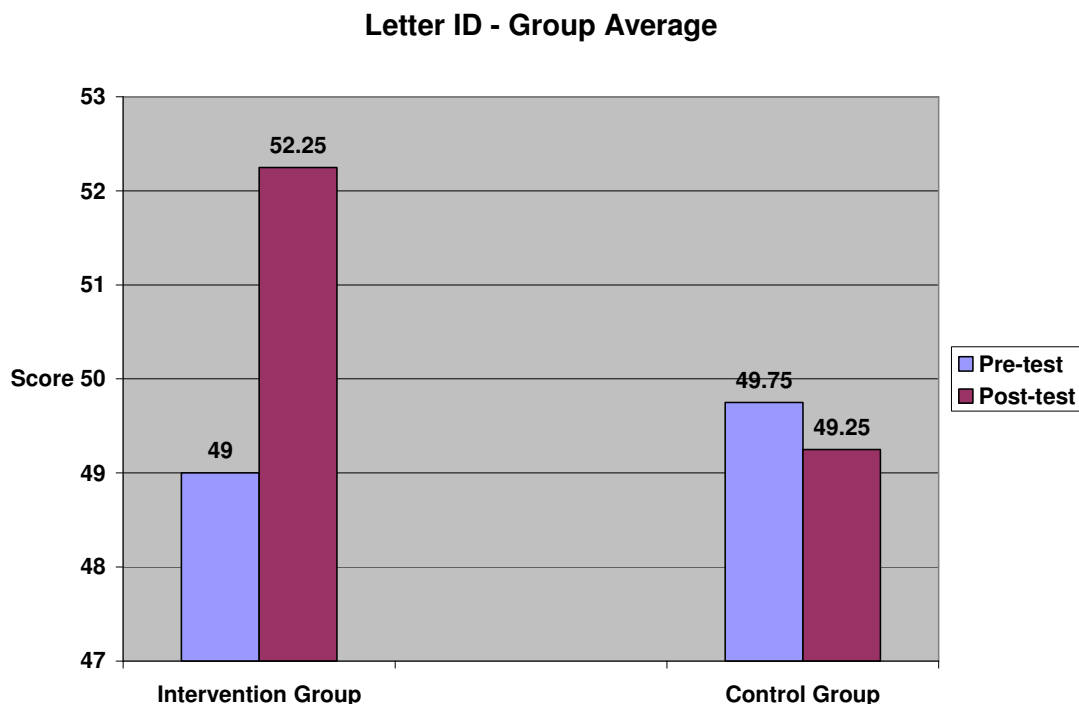


Figure 5

Figure 5 shows the average Letter ID scores for pre and post tests of both the Intervention group and the Control group. The Intervention group had a pre test average score of 49 and a post test average score of 52.25. This was an average gain of 3.25. The Control group had a pre test average of 49.75 and a post test average of 49.25. This was a drop in average of 0.5.



### Letter ID - Individual Scores

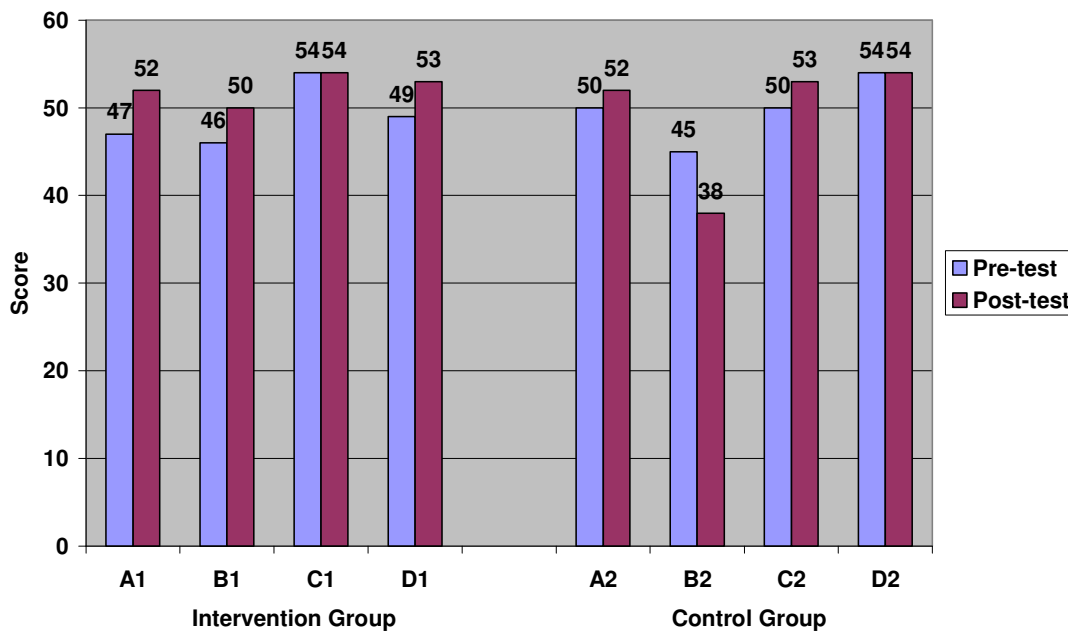


Figure 6

Figure 6 shows the results of all students in the Intervention group and the Control group for the Letter ID test. In the Intervention group, one student had achieved the maximum score on the pre test while the other students results showed that they made gains. In the Control group one student had achieved the maximum score on the pre test, two students made small gains and student B2's score decreased.

#### Intervention Group

Student A1 scored 47 on the pre test compared with 52 on the post test. This was an increase of 5. Student B1 scored 46 on the pre test compared with 50 on the post test. This was an increase of 4. Student C1 scored 54 on the pre test and 54 on the post test. The score remained the same. This was the maximum score.

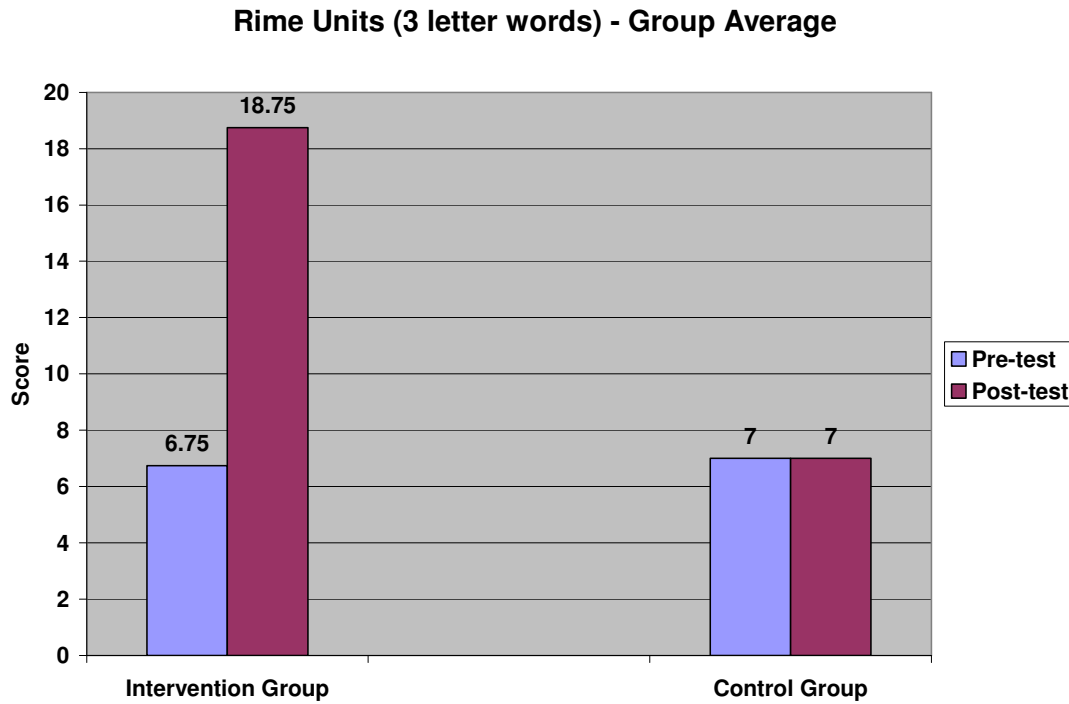
Student D1 scored 49 on the pre test compared with 53 on the post test. This was an increase of 4.

#### Control Group

Student A2 scored 50 on the pre test compared with 52 on the post test. This was an increase of 2. Student B2 scored 45 on the pre test compared with 38 on the post test. This was a decrease of 7. Student C2 scored 50 on the pre test compared with 53 on the post test. This was an increase of 3. Student D2 scored 54 on the pre test and 54 on the post test. The score remained the same. This was the maximum score.

The results demonstrate that the Intervention Group has made greater gains in Letter ID scores than the Control Group. These results show that as a result of the intervention students who had the intervention improved in their ability to identify letters.

## Rime



*Figure 7*

*Figure 7* shows the average Rime Units (3 letter words) score for pre and post tests of both the Intervention group and the Control group. The Intervention group had a pre test average score of 6.75 and a post test average of 18.75. This was an average gain of 12 words. The Control group had a pre test average of 7 and a post test average of 7. The average remained the same at 7.

### Rime Units (3 letter words) - Individual Scores

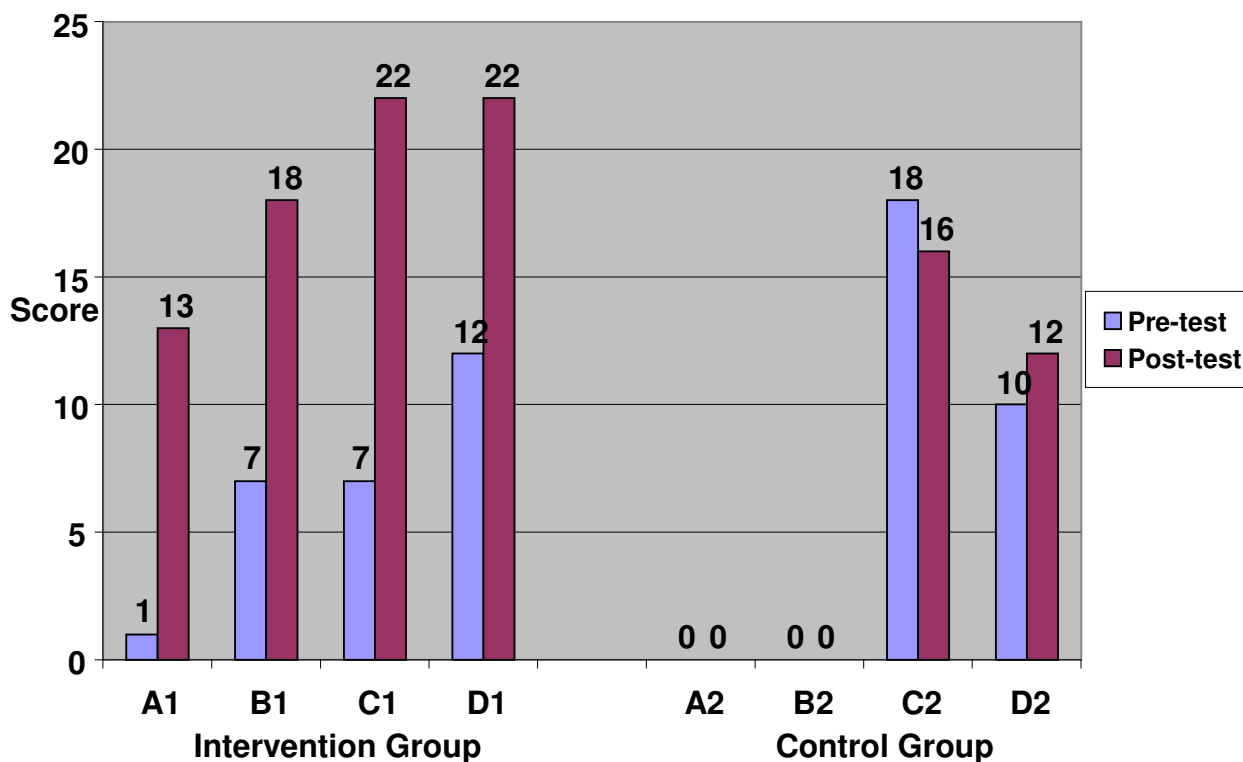


Figure 8

Figure 8 shows the results of all students in the Intervention group and the Control group for the Rime units (3 letter words) test. All students in the Intervention group made large gains. In the Control Group one student made a small gain, two students showed no change and one student's score decreased.

#### Intervention Group

Student A1 scored 1 on the pre test compared with 13 on the post test. This was an increase of 12. Student B1 scored 7 on the pre test compared with 18 on the post test. This was an increase of 11. Student C1 scored 7 on the pre test compared with 22 on the post test. This was an increase of 15. Student D1 scored 12 on the pre test compared with 22 on the post test. This was an increase of 10.

#### Control Group

Student A2 scored 0 on the pre test compared with 0 on the post test. This was no change. Student B2 scored 0 on the pre test compared with 0 on the post test. This was no change. Student C2 scored 18 on the pre test compared with 16 on the post test. This was a decrease of 2. Student D2 scored 10 on the pre test compared with 12 on the post test. This was an increase of 2.

The results demonstrate that the Intervention Group has made greater gains in Rime unit scores than the Control Group. These results give evidence that as a result of the intervention students improved in their ability to read 3 letter rime unit words in isolation. This is demonstrated in the Rime Unit scores.

Appendix 3 shows the scores for all the Rime units. It shows individual scores, group averages, level of accuracy and the rime units tested (12 rime units tested with two examples for each unit). Ten rime units were taught and the Rime Units test contained twelve rime units. These were 3 letter words containing 1 letter onset and 2 letter rime. The two that were not taught were *ab* and *it*. The pre test average level of accuracy was 28% for the intervention group and 29.15% for the control group. The post test average level of accuracy was 78% for the intervention group and 29.15% for the control group. This was a great increase for the intervention group and supports the hypothesis that teaching rime units improves a students decoding of words. The average score for the control group remained the same.

The lowest score was *ab* and this was a rime unit not taught. The control group results showed that most scores stayed the same with others increasing slightly or decreasing slightly. These fluctuating scores would indicate that the rime unit was not consolidated.

## SPAT

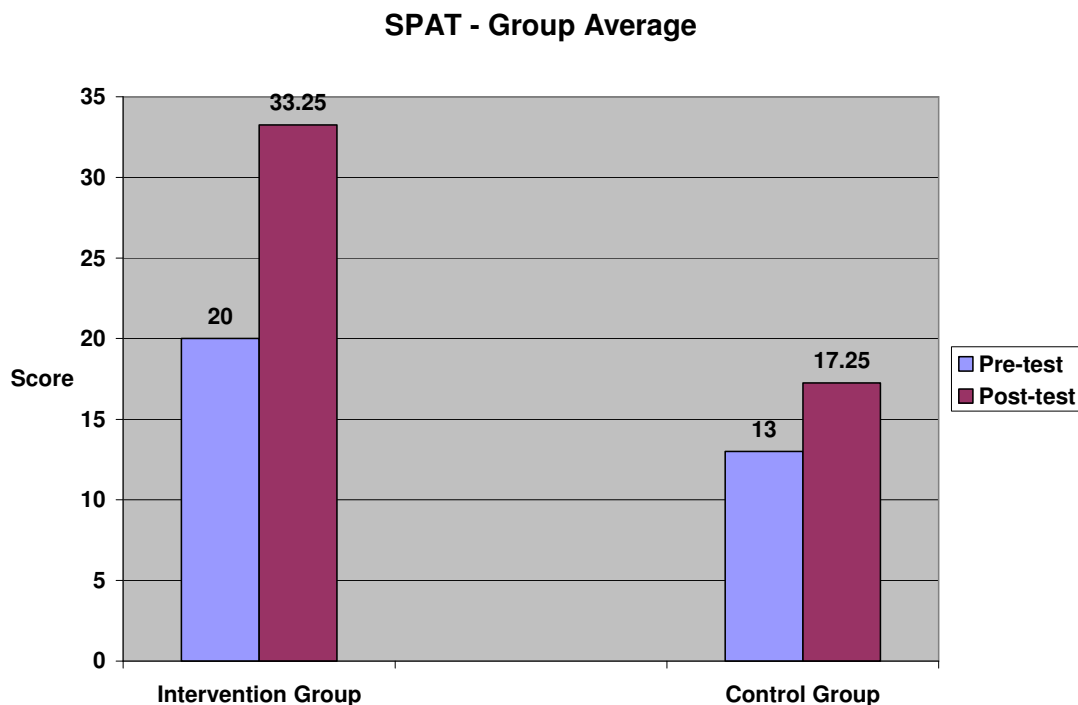


Figure 9

Figure 9 shows the average SPAT scores for pre and post tests of both the Intervention group and the Control group. The Intervention group had a pre test average of 20 and a post test average of 33.25. This was an average gain of 13.25. The Control group had a pre test average of 13 and a post test average 17.25. This was an average gain of 4.25.

### SPAT - Individual Scores

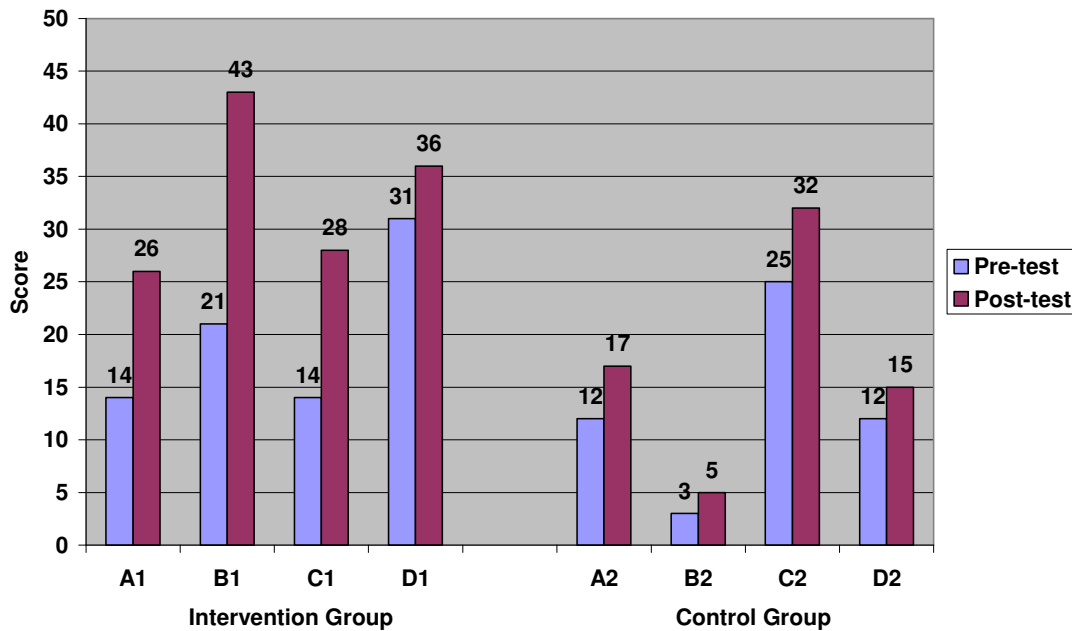


Figure 10

Figure 10 shows the results of all students in the Intervention group and the Control group for the SPAT test. All students in the Intervention group made large gains while the control group made small gains.

#### Intervention Group

Student A1 scored 14 on the pre test compared with 26 on the post test. This was an increase of 12. Student B1 scored 21 on the pre test compared with 43 on the post test. This was an increase of 22. Student C1 scored 14 on the pre test compared with 28 on the post test. This was an increase of 14. Student D1 scored 31 on the pre test compared with 36 on the post test. This was an increase of 5.

#### Control Group

Student A2 scored 0 on the pre test compared with 0 on the post test. This was no change. Student B2 scored 0 on the pre test compared with 0 on the post test. This was no change. Student C2 scored 18 on the pre test compared with 16 on the post test. This was a decrease of 2. Student D2 scored 10 on the pre test compared with 12 on the post test. This was an increase of 2.

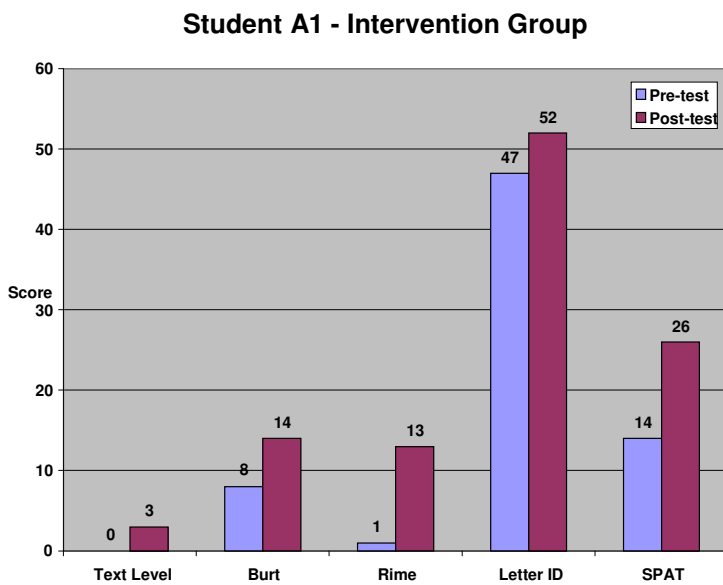
The results demonstrate that the Intervention Group has made greater gains in SPAT scores than the Control Group. These results give evidence that as a result of the intervention students improved in their phonological awareness. This was demonstrated in the SPAT scores.

Table 3 SPAT (Sutherland Phonological Awareness Test) – Pre & Post test All Students

		Syllabic & Subsyllabic Level				Phonemic Level (CVC)				Phonemic Level (Blends)			Grapheme-Phoneme Correspondences		Total /58	
		1. Syllables /4	2. Rhyme detection /4	3. Rhyme production /4	4. Onset identification /4	5. Final phoneme identification /4	6. CVC segmentation /4	7. CVC blending /4	8. Onset deletion /4	9. CVC segmentation /4	10. Blends: Delete 1 <sup>st</sup> phoneme /4	11 Blends: Delete 2 <sup>nd</sup> phoneme /4	12. Non-word reading /7	13. Non-word spelling /7		
<b>Intervention Group</b>	Pre-test															
	A1	0	2	3	4	0	1	4	0	0	0	0	0	0	0	14
	B1	4	3	2	4	2	2	1	0	3	0	0	0	0	0	21
	C1	3	2	0	4	4	0	0	0	0	0	0	1	0	14	
	D1	4	4	0	4	4	3	4	4	0	2	0	0	2	31	
	Average	2.75	2.75	1.25	4	2.5	1.5	2.25	1	0.75	0.5	0	0.25	0.5	20	
	Level group Average	10.75				7.25				1.25			0.75		20	
	Post-test															
	A1	1	4	4	4	4	3	4	0	0	0	0	1	1	26	
	B1	3	4	4	4	4	3	4	4	1	4	2	2	4	43	
	C1	4	4	4	4	4	3	4	0	0	0	0	1	0	28	
D1	4	3	0	4	4	4	4	4	1	2	0	3	3	36		
Average	3	3.75	3	4	4	3.25	4	2	0.5	1.5	0.5	1.75	2	33.25		
Level group - Average	13.75				13.25				2.5			3.75		33.25		
<b>Control Group</b>	Pre-test															
	A2	3	3	0	1	2	0	3	0	0	0	0	0	0	12	
	B2	1	2	0	0	0	0	0	0	0	0	0	0	0	3	
	C2	3	3	0	4	4	3	4	1	0	0	0	1	2	25	
	D2	3	2	0	3	3	0	0	0	0	0	0	0	1	12	
	Average	2.5	2.5	0	2	2.25	0.75	1.75	0.5	0	0	0	0.5	1	13	
	Level group -Average	7				5				0			1		13	
	Post-test															
	A2	3	4	0	4	3	0	3	0	0	0	0	0	0	17	
	B2	3	1	0	1	0	0	0	0	0	0	0	0	0	5	
	C2	4	4	2	4	4	3	4	1	0	0	0	2	3	32	
D2	3	3	0	4	4	0	1	0	0	0	0	0	0	15		
Average	3.25	3	0.5	3.25	2.75	0.75	2	0.25	0	0	0	0.5	0.75	17.25		
Level group -Average	10				5.75				0			1.25		17.25		

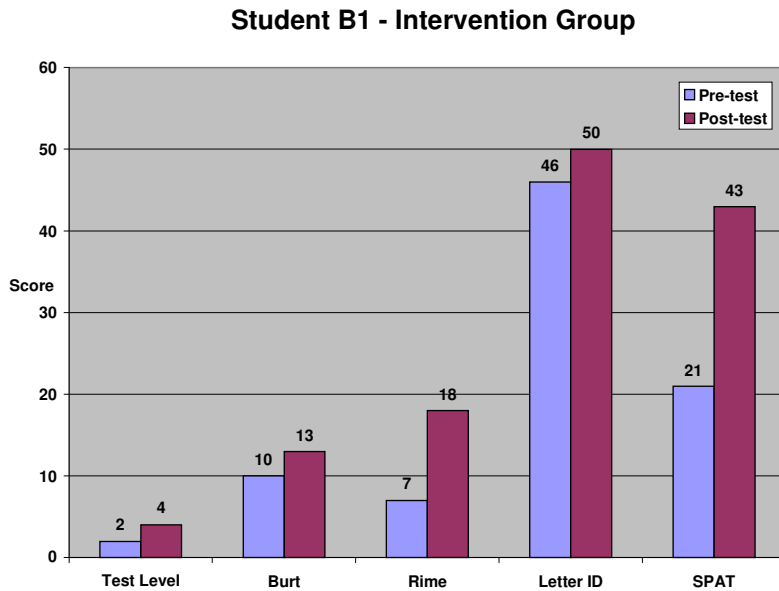
Table 3 shows all SPAT scores. The table shows the individual scores for each item, individual averages and group averages for different levels. The Intervention Group showed growth at all levels. Strong growth was demonstrated by all four students in the Phonemic Level – CVC (Items 5-8). The group average on the pre test was 7.25/16 and on the post test it was 13.25/16. The Control Group showed some growth in all levels except Phonemic Level (Blends).

## Intervention Group – Individual Progress



*Figure 11*

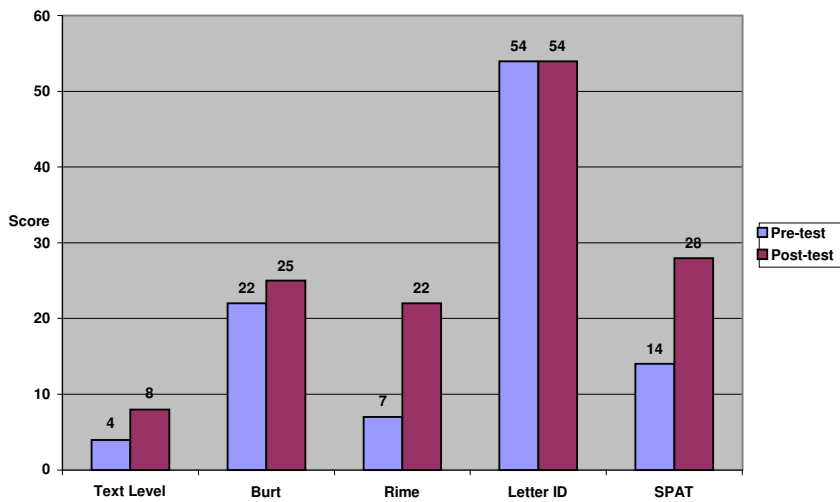
*Figure 11* shows all pre and post test results for Student A1. Growth was evident in all post test results with strong gains in Text Level, Rime units and SPAT scores.



*Figure 12*

*Figure 12* shows all pre and post test results for Student B1. Growth was evident in all post test results with strong gains in Text Level, Rime and SPAT scores.

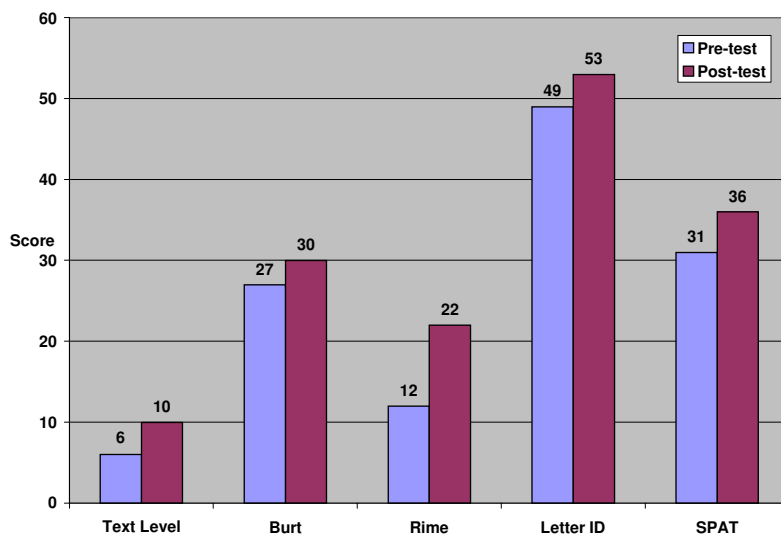
**Student C1 – Intervention Group**



*Figure 13*

*Figure 13* shows all pre and post test results for Student C1. Growth was evident in all post test results with strong gains in Text Level, Rime units and SPAT scores.

**Student D1 - Intervention Group**

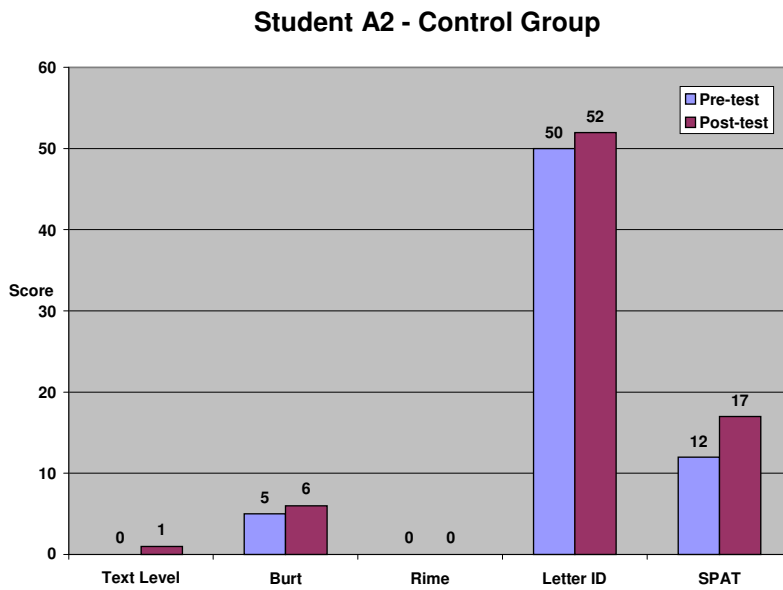


*Figure 14*

*Figure 14* shows all pre and post test results for Student D1. Growth was evident in all post test results with strong gains in Text Level and Rime scores.

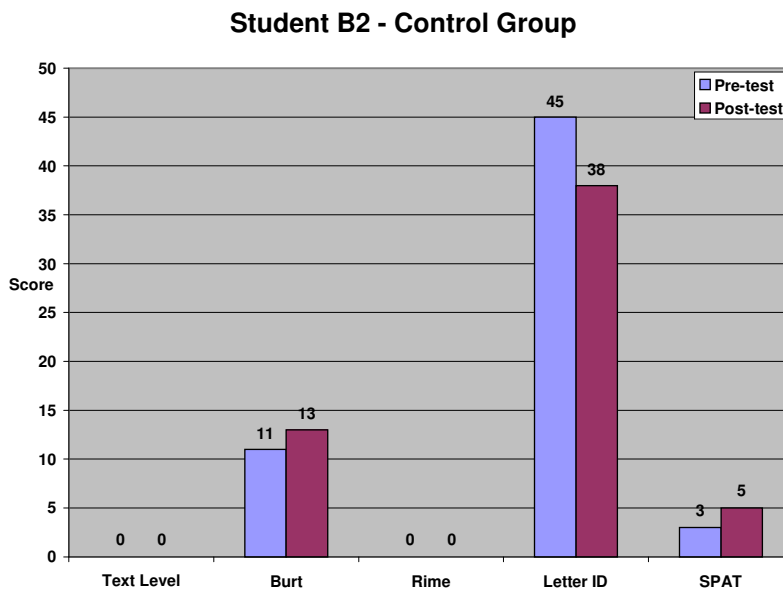


## Control Group – Individual Progress



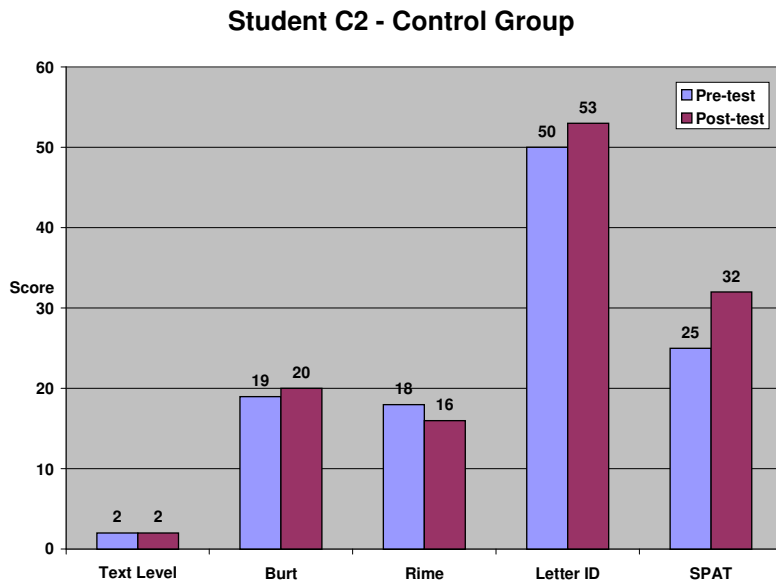
*Figure 15*

*Figure 15* shows all pre and post test results for Student A2. Post test results showed no improvement in Rime scores. There was a small improvement in Text Level, Burt, Letter ID and SPAT scores.



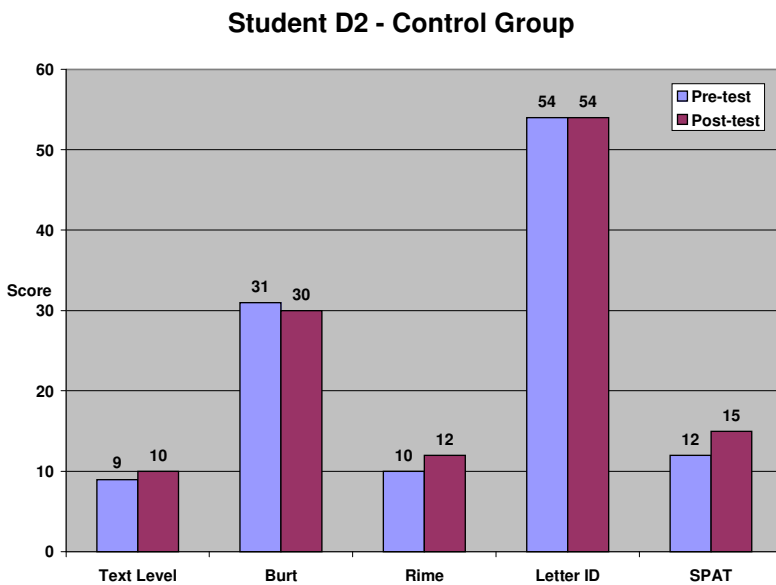
*Figure 16*

*Figure 16* shows all pre and post test results for Student B2. Post test results showed no improvement in Text Level and Rime scores and there was a small improvement in Burt and SPAT scores. Letter ID decreased in score.



*Figure 17*

*Figure 17* show all pre and post test results for Student C2. Post test results show there was no improvement in Text Level. There was some improvement in Burt, Letter ID and SPAT scores. The Rime score decreased slightly.



*Figure 18*

*Figure 18* shows all pre and post test results for Student D2. In post test results there was a small improvement in Text Level, Rime and SPAT scores. Letter ID was the maximum score and Burt decreased slightly.

## Discussion

The purpose of this study was to measure improvement in word decoding and text level after an intervention involving explicit teaching and practise working with two letter rime units. All students in the intervention group demonstrated great improvement.

Student A1 scored 1/24 on the rime units pre test and 13/24 on the post test. This showed great growth in word decoding. In the pre test, the student sounded out words using individual letters and then said any word e.g. *l.i.p / eat* for lip. The post test showed the student sounding out some words by individual letters and also saying the onset and the rime for some words (e.g. *h.o.p/hop, h.it/hit*). Student B1 also said the onset and rime for some words in the post test. These actions demonstrated some knowledge and use of rime units and provide evidence that teaching rime units enabled the students to decode words in isolation.

The pre and post test contained 12 rime units – ten were the focus of targeted teaching, however (*ab* and *it*) were not taught. All intervention students were able to transfer their understanding and ability to use onset and rime to new situations however the control group did not demonstrate this transfer of understanding and skill. All of the intervention students improved on their ability to use onset and rime to problem solve *it* words and the control group showed no change in their ability to use onset and rime to problem solve *it* words. Student C1 showed improvement with *ab* words, student B1 remained the same and students A1 and D1 couldn't identify them.

Fountas and Pinnell (2008) state that “Once children understand that there are patterns in one-syllable words and learn how to look for them, they will quickly discover more for themselves. Poor readers, on the other hand, may not be pattern seekers.”

Two students in the intervention group didn't know *aw* and one student didn't know *ay*. These two rimes were the last to be taught. Perhaps they were more difficult because the individual letter sounds didn't make the same sound in these rimes. They were also the last rimes to be taught so there wasn't as much revision of these units.

SPAT post test showed great growth at the phonemic level (CVC) for intervention students. This was with final phoneme identification (item 5), CVC segmentation (item 6) and CVC blending (item 7). Student C1 demonstrated strong gains in blending (item 7). The student scored 0/4 on the pre test and showed no understanding of blending and didn't attempt two of the words. On the post test the student scored 4/4 and answered confidently. This growth would appear to have been because the intervention focused on segmenting three letter words into onset and rime and blending them. Two students in the control group showed only slight growth. Intervention students A1, B1 and C1 made growth in rhyme production (item 3). Student D1 showed no growth in rhyme production. The student could detect rhymes and was able to do the practice example with *at* words (one of the rimes taught), but didn't transfer the knowledge from rimes taught to other words.

All students in the intervention group showed great improvement in their instructional text level. Students showed progression in the skills they used on text and appeared to have transferred new knowledge gained from the intervention. The transferring of this new knowledge was evident with student B1 (pre test - level 2, post test – level 4). On the pre test running records, the student didn't attempt some words and used the illustrations for information to substitute a word that maintained the meaning. The student attempted to segment a word using the picture for information and not the word - *b.all/ball* for presents. There were no self corrections.

On the post test running record, Student B1 was still substituting words that maintained meaning but self corrected using the visual information of the word – *at/for* then *for*. *At* was a rime that had

been taught so perhaps the student noticed the error by listening to what was said and checking what the word looked like. The student also demonstrated an awareness of how words work and began segmenting words into two parts - *b.ig/big*, *b.ut/but*, *l.ong/long*. It would appear that the student transferred knowledge of segmenting words into onset and rime to text reading. Munro (1998) states “skilled readers are seen as having access to a phonemic awareness knowledge that comprises representations of individual sounds and sound combinations at the sub-word and word levels.”

Pre and post test scores highlighted individual student improvement in decoding ‘words in isolation’ and raised instructional text level however scores didn’t reflect student behaviours.

Behaviours that were observed and recorded during post testing showed great growth in learning even though the score increase was slight.

The following were examples:

- Student A1 demonstrated gains that were not reflected in scores but evident in the test. An example was on the SPAT test (non-word spelling- item 13). The pre test score was 0/7 and the post test score was 1/7. In the pre test the student wrote two letters for all words and there was very little phonetic correspondence. In the post test the student knew the two letter word. For the rest of the words, the student heard and recorded the beginning and final sounds as well as a few medial sounds. The student also repeated the word quietly a few times while trying to isolate the sounds. This was a great improvement in phonetic knowledge but it wasn’t reflected in the score.
- Student D1 also demonstrated gains on the SPAT post test (non-word reading – item 12), the student scored 0/7 on the pre-test. The student used initial letters to predict words (DVF). The score for the post test was 3/7. The student correctly read three words and sounded out the others. Attempts with other words were very close and there were attempts to chunk letters.
- The answers some students gave in the rime pre test showed that they had some confusion with vowel sounds. An example was student C1. This student scored 7/24 on the rime pre test and used DVF (first and last letters) to predict words. There were seven answers that showed confusion with vowels. On the post test, the student scored 22/24 and confidently read the words. The only confusion was tub/tab. This would indicate that the student improved in knowledge with vowel sounds as well as with the rimes being taught.
- In the Burt word reading test student B1 scored 10 on the pre test and 13 on the post test. The gain was small but the student’s actions demonstrated how what was learnt in the intervention lessons was transferred to decoding words in isolation. Pre test results showed that letters were sounded out individually and then student used DVF (Distinctive Visual Features) to guess a word (e.g. *t.h.a.t/tat* for that). On the post test the student used onset and rime for some words (*d.ay/day* for day).

The control group received normal classroom teaching for literacy and small growth was seen in many areas. Some growth in these students would be expected because daily literacy lessons happened over the study period.

Most of the students in this study were ESL and this didn’t seem to be a factor that influenced level of growth. Another noticeable factor was the gain in confidence of the intervention students.

Across all the intervention students there is evidence that teaching rime units has impacted on each students learning in both word decoding and text level. All text levels increased and there was also

great growth in Rime and SPAT scores. This supports the hypothesis that the explicit teaching of ten, two letter dependable rime units to prep students will improve their decoding of words and text level.

This study has shown the importance of teaching rime units. It has shown that the prep students in the study managed working with three letter words that contained two letter rimes.

The test results give the prep teacher a point to continue teaching from. It would be important for all students in the class to learn rime units and have daily revision of them. This study measured short term gains of students. I would hope that students who received the intervention would continue being active learners and self instruct and self extend. It would be a valuable follow up to this study to assess all students in the future and compare the intervention group to the control group.

There was growth in word decoding alongside growth in text level and there was evidence of some students transferring this knowledge. Part of each lesson involved making a connection between the rime unit being taught and a text containing the rime unit. Do rime units need to be linked to a text? A further study might be conducted to see if linking rime units to a text made a greater difference than teaching rime units in isolation.

Students received the same intervention for the same amount of time and the control group received the same amount of classroom instruction - but the results varied. This was because students progress at different stages and bring individual understandings. Fountas & Pinnell discuss the challenge for classroom teachers. Students bring... "individual understanding with them when they read. Each of them built a unique processing system over time, taking different paths to common outcomes. Of course, they develop effective strategic actions in different ways, at different times, with differentiated teaching. ....Your challenge is to differentiate your instruction so that all your students become accomplished readers."

## References

- Fountas, I. & Pinnell, G.S. (2001). *Guiding Readers and Writers: Grades 3-6*: Heinemann 369-373
- Fountas, I. & Pinnell, G.S. (2008). *When Readers Struggle Teaching That Works: K-3*: Heinemann
- Munro, J. (2010). *Literacy Intervention course Notes*. Melbourne University
- Munro, J. (1998). Phonological and phonemic awareness: Their impact on learning to read prose and to spell. *Australian Journal of Learning Disabilities*, 3, 2, 15-21.
- Munro, John. *Phonological knowledge: how it is learnt and teaching activities*
- Pullen, P.C., Lane, H.B., Lloyd, J.W., Nowak, R. (2005) Effects of explicit instruction on decoding of struggling first Grade Students: A Data-Based Case Study. *Education and Treatment of Children*, Feb, 2005, Vol.28, No.1., 63-76