

“Explicit teaching of onset and rime units to grade 1 students will increase their reading ability”

A Literacy Intervention Strategies Action Research Project

Abstract

The Multiple Levels of Text Processing (MLOPT) Model (Munro, 2008) describes the reading process as hierarchal in nature, functioning (with increased complexity) at the word, sentence, topic/conceptual, dispositional and metacognitive levels. Good readers can operate at many levels simultaneously, but struggling readers can display inefficiencies at the lowest levels. They often find it difficult to recognize and manipulate sounds in words or even in letter clusters. Because of this inability, they struggle to make analogies between known and unknown words. Stahl & McKenna (2000) noted that phonological awareness is needed for the student to begin making sense of the principle that letters map into sounds in written words, or the alphabetic principle. Stahl and McKenna conclude that a key insight in developing early reading abilities is that one can break up an onset and a rime.

In support of the above ideas, the following hypothesis was tested:

.....“That explicitly teaching of onset and rime units to grade 1 students will increase their reading ability”.....

The participants in this investigation included twelve Grade 1 students, who were identified as having reading difficulties by their classroom teachers. Six of these students were placed in the Intervention group, and the other six utilised as a control group.

Prior to the intervention, all twelve students were assessed individually using the Rime Unit test (Munro, J.), Phonological Knowledge tests and the Reading Instructional Level determined using a Running Record. Teaching sessions were conducted during the reading hour each morning for two weeks. The duration of each session was approximately 45 minutes. Each session introduced two new Rime Units in word lists and prose. A variety of games were designed to consolidate their learning and were used to conclude each session.

All twelve students were assessed individually, after the intervention, using the same Rime Unit test (Munro, J.), Phonological Knowledge tests and the Reading Instructional Level determined using a Running Record.

The results suggested that the use of onset/rime teaching strategies is of value for readers who struggle with word decoding. The Reading Instructional Level of each group improved, but the improvements were greater in the Intervention group. There is an apparent improvement in the reading levels of the intervention group in comparison to the control group through the explicit teaching of onset/rime. The research also suggests that using onset/rime strategies may have some impact on decoding larger words where blending phonemically may become more difficult. This would be an idea that could be further researched.

Introduction

“Students who fail to make progress in literacy during the first two years of school rarely catch up with their peers.” (Crevola and Hill 2002)

The above quote highlights the problems faced by children who fail to develop effective reading ability in their formative years – once they fall behind, the good readers begin to move forward away from them at an ever increasing pace. The poor reader becomes disheartened and may never catch up in their literacy skills. Understanding how we begin to read provides clues to assist us in teaching young children to become confident readers.

The foundations for our ability to read are found in oral language. As an infant, we begin by hearing sounds, associating them with actions, people and ideas. We store these sounds as a vocabulary, learning to group them into words, and later into word sequences that allow us to more fully express our ideas and needs. In fact it has been proposed that children need a verbal language before they are able to produce written language. (Gov.S.A. 2008)

So before we have even attempted to read, we have already gained some phonological awareness. This phonological awareness can be thought of as knowledge of the sound properties of language. Munro (2009) defines phonological knowledge as knowledge of sound patterns, reflected in how well students pronounce words, rhyme them and manipulate multi-sound patterns. In order to read words, a child needs to be aware of the individual sounds and sound units that make up a word. Phonological awareness can be evidenced in the ability to count, isolate, remove, recombine and manipulate phonological units (Reynolds 1998). These units make up a hierarchy that includes sentences, words, syllables, onset rimes and phonemes.

Many studies have investigated the impact of phonological knowledge on early reading ability. Research by Stanovich (1993-94) suggests that it is a better predictor of early reading acquisition than measuring vocabulary knowledge, listening comprehension or I.Q. Torgesen, Wagner, Rashotte et al. (1998) state that the inability of students to process the phonological features of language is the most common cause of reading difficulties. Phonological awareness is needed for the student to begin making sense of the principle that letters map into sounds in written words, or the alphabetic principle (Stahl & McKenna, 2000).

Another aspect of oral language development is phonemic awareness. This is the awareness of the smaller units of speech sounds in words (phonemes). It is a knowledge of individual words and syllables as distinct units that can be analysed and manipulated. With phonemic awareness, readers are able to develop phonic knowledge because they are able to identify the individual sounds in syllables and words. Readers are able to map individual sounds to a letter or letters and then can map a letter or letters to their corresponding sounds. Both phonological and phonemic awareness contribute to successful reading and writing by supporting the development of phonic knowledge (Munro 2009). Phonic knowledge is the understanding of the patterns that occur in the English language. Phonic knowledge consists of two elements. One is knowledge of the relationship between letters and sounds and the other is the ability to combine the sounds represented by these letters into words.

Phoneme awareness in words is a critical factor in learning to read. Until beginning readers can segment spoken words into phonemes, they will be unable to match letters in printed words to their corresponding sounds. The problem is, that if students attempt to break words back to constituent letter sounds, it can become difficult for them as each word needs to be analysed on a “letter by letter” basis. It is easier and more efficient if the reader is made aware of the onset and rime patterns that make up words.

Ehri and Robbins (1992) state, "Reading CVC words by analogy requires readers to segment and blend only two constituents, the onset of the new word with the rime of the known word, whereas reading words phonemically requires segmenting and blending three phonemic units. " They suggest that onset rime units are more easily distinguished by children than phonemic units. It is further supported by Vacca, Vacca and Gove (1995) who stated..."Phonics instruction needs to include the teaching of onset and rimes. Instead of teaching phonics rules, teach children to use onset and rimes. We can safely conclude that phonics information is much easier for young readers to acquire where phonograms are taught than when a one-on-one blending process is taught..."

Onsets and rimes are the components of a syllable. The "onset" comes before the first vowel, and the "rime" is the part from the first vowel onwards. Children who experience difficulty processing text at the word level may not have learned common letter clusters as individual rime units (Adams 1990) and may lack the ability to segment words into onsets and rimes effectively (Juel & Minden-Cupp 1999). Using the knowledge of onset and rime, a child with knowledge of one word could, by analogy, work out how to read other words. For example, by knowing "cat", a child may be able to read "sat", "mat" and "pat". At a more advanced level, a child could read "free" because they knew words like "from" and "bee".

Stahl and McKenna (2000) conclude that a key insight in developing early reading abilities is that one can break up an onset and a rime. The concept of onset and rime provides an approach to assist poor readers to recognise and use frequently occurring letter clusters to *chunk* or decode. Stahl and McKenna conclude that phonological awareness is necessary for word recognition and word recognition is necessary for word decoding.

In support of the above ideas, I propose to test the following hypothesis:

.....**"That explicitly teaching of onset and rime units to grade 1 students will increase their reading ability"**.....

Method

This investigation uses XOX (assess, teach, assess) format to test the prediction that explicit teaching of dependable rime units in words is used to increase phonological knowledge in Grade 1 students experiencing reading difficulties.

Participants

The participants in this investigation included twelve Grade 1 students, who were identified as having reading difficulties by their classroom teachers. The student's literacy results over the past year of schooling indicated that they were experiencing various reading difficulties. Six of these students were placed in the Intervention group, and the other six utilised as a control group.

Procedure

Pre-Assessment:

Twelve Grade 1 students, 6 from each of the two Grade 1 classes, who displayed reading difficulties, were chosen to be part of the study. Six students from one of the classes received the intervention, whilst the six students from the other class were considered the 'control' group. The control group was deliberately chosen from the other class to avoid the possibility of the intervention teaching being overheard by the children thus influencing their post-testing results. Both groups were of similar ages and their level of ability was matched as closely as possible.

All twelve students were assessed individually using the Rime Unit test (Munro, J.), Phonological Knowledge tests and the Reading Instructional Level determined using a Running Record. The tests were administered in a quiet room, where noise level and distractions were kept to a minimum.

Teaching Sessions:

The teaching sessions were conducted during the reading hour each morning for two weeks. The duration of each session was approximately 45 minutes. The sessions took place as a small group in the classroom.

Each session introduced two new Rime Units in word lists and prose; the Rime Units were selected from the analysis of the pre-tests which identified the rime units most children experienced difficulty with. A variety of games were designed to consolidate their learning and were used to conclude each session.

Post Assessment

All twelve students were assessed individually, post intervention, using the same Rime Unit test (Munro, J.), Phonological Knowledge tests and the Reading Instructional Level determined using a Running Record. The tests were once again administered in a quiet room, free from distractions.

Pre –Intervention test results for all students

INTERVENTION GROUP

Table 1: *Reading Instructional Level - Intervention Group (Pre-assessment)*

Participants	Age in Months	Reading Instructional Level
Student A	77 months	11
Student B	78 months	7
Student C	75 months	10
Student D	80 months	11
Student E	71 months	10
Student F	79 months	11

Table 2: *Rime Unit Test – Intervention Group (Pre-assessment)*

Rime Unit Test (Munro, J.)					
	3 letter words	4 letter words	5 letter words	Total	Level of Accuracy
Student A	20 / 24	39 / 72	6 / 32	65 / 128	50%
Student B	20 / 24	36 / 72	14 / 32	70 / 128	54%
Student C	18 / 24	44 / 72	19 / 32	81 / 128	63%
Student D	21 / 24	41 / 72	14 / 32	76 / 128	59%
Student E	20 / 24	32 / 72	9 / 32	61 / 128	47%
Student F	23 / 24	37 / 72	9 / 32	69 / 128	54%

Table 3: *Phonological Knowledge Test – Intervention Group (Pre-assessment)*

Assessing Phonological Knowledge (Munro, J.)				
	Segmenting words into onset/rime and sounds		Letter-Sound Decoding	
Student A	18 / 21	86%	9 / 12	75%
Student B	14 / 21	67%	9 / 12	75%
Student C	19 / 21	90%	11 / 12	92%
Student D	13 / 21	62%	9 / 12	75%
Student E	17 / 21	81%	6 / 12	50%
Student F	15 / 21	71%	7 / 12	58%

CONTROL GROUP

Table 4: *Reading Instructional Level - Control Group (Pre-assessment).*

Participants	Age in Months	Reading Instructional Level
Student G	83 months	11
Student H	78 months	10
Student I	75 months	10
Student J	81 months	7
Student K	74 months	11
Student L	77 months	7

Table 5: *Rime Unit Test – Control Group (Pre-assessment)*

Rime Unit Test (Munro, J.)					
	3 letter words	4 letter words	5 letter words	Total	Level of Accuracy
Student G	17 / 24	35 / 72	9 / 32	61 / 128	47%
Student H	16 / 24	42 / 72	10 / 32	68 / 128	53%
Student I	20 / 24	34 / 72	16 / 32	70 / 128	54%
Student J	11 / 24	10 / 72	1 / 32	22 / 128	17%
Student K	17 / 24	37 / 72	10 / 32	64 / 128	50%
Student L	5 / 24	6 / 72	1 / 32	12 / 128	9%

Table 6: *Phonological Knowledge Test – Control Group (Pre-assessment)*

Assessing Phonological Knowledge (Munro, J.)				
	Segmenting words into onset/rime and sounds		Letter-Sound Decoding	
Student G	17 / 21	81%	9 / 12	75%
Student H	19 / 21	90%	10 / 12	83%
Student I	16 / 21	76%	9 / 12	75%
Student J	4 / 21	19%	1 / 12	8%
Student K	14 / 21	67%	7 / 12	58%
Student L	5 / 21	24%	3 / 12	25%

Average Reading Instructional Level of Intervention Group – Pre Intervention 10

Average Reading Instructional Level of Control Group – Pre Intervention 9

Resources used for Assessment include:

- PM Benchmark Kit (Nelson. 2000)
- Rime Unit Test (Munro, J.)
- Assessing and teaching Phonological Knowledge Kit (Munro, J.)
- Anecdotal Observations and Discussion Notes

Materials for Teaching include:

- Teaching Outline for Ten Sessions (Appendix 1)
- Teacher-devised prose containing rime units (Appendix 2)
- Pen for recording observations
- Onset and Rime Towers
- Onset and Rime Dice Cubes
- Onset and Rime Flip Books
- Rime Time Game
- Chunking tiles
- Rime Cards for Tic Tac Toe
- Rime Bingo
- Making and Breaking Game Boards
- Snap Cards
- Phonics Cubes (Smart Kids 2007)

RESULTS

(see Appendix 3)

INTERVENTION GROUP

Table 7: *Reading Instructional Level - Intervention Group (Post-assessment)*

Participants	Age in Months	Reading Instructional Level
Student A	77 months	12
Student B	78 months	9
Student C	75 months	12
Student D	80 months	13
Student E	71 months	12
Student F	79 months	13

Table 8: *Rime Unit Test – Intervention Group (Post-assessment)*

Rime Unit Test (Munro, J.)					
	3 letter words	4 letter words	5 letter words	Total	Level of Accuracy
Student A	21 / 24	52 / 72	18 / 32	91 / 128	71.1%
Student B	26 / 24	38 / 72	15 / 32	79 / 128	61.7%
Student C	20 / 24	49 / 72	21 / 32	90 / 128	70.3%
Student D	24 / 24	56 / 72	21 / 32	101 / 128	78.9%
Student E	22 / 24	47 / 72	12 / 32	81 / 128	63.3%
Student F	18 / 24	37 / 72	19 / 32	74 / 128	57.8%

Table 9: *Phonological Knowledge Test – Intervention Group (Post-assessment)*

Assessing Phonological Knowledge (Munro, J.)				
	Segmenting words into onset/rime and sounds		Letter-Sound Decoding	
Student A	20 / 21	95%	11 / 12	92%
Student B	17 / 21	85%	10 / 12	83%
Student C	19 / 21	90%	12 / 12	100%
Student D	16 / 21	76%	10 / 12	83%
Student E	18 / 21	86%	8 / 12	67%
Student F	18 / 21	86%	9 / 12	85%

The above results (tables 7-9) are the raw scores for the intervention group, tested in exactly the same manner as in the pre-intervention testing. In all tests, there are significant increases in the results for all students.

CONTROL GROUP

Table 10: *Reading Instructional Level - Control Group (Post-assessment).*

Participants	Age in Months	Reading Instructional Level
Student G	83 months	12
Student H	78 months	7
Student I	75 months	10
Student J	81 months	12
Student K	74 months	12
Student L	77 months	9

Table 11: *Rime Unit Test – Control Group (Post-assessment)*

Rime Unit Test (Munro, J.)					
	3 letter words	4 letter words	5 letter words	Total	Level of Accuracy
Student G	20 / 24	36 / 72	11 / 32	67 / 128	52%
Student H	20 / 24	48 / 72	12 / 32	80 / 128	63%
Student I	20 / 24	36 / 72	20 / 32	76 / 128	59%
Student J	12 / 24	10 / 72	4 / 32	36 / 128	28%
Student K	14 / 24	35 / 72	11 / 32	60 / 128	47%
Student L	3 / 24	3 / 72	0 / 32	6 / 128	5%

Table 12: *Phonological Knowledge Test – Control Group (Post-assessment)*

Assessing Phonological Knowledge (Munro, J.)				
	Segmenting words into onset/rime and sounds		Letter-Sound Decoding	
Student G	18 / 21	86%	10 / 12	83%
Student H	19 / 21	90%	11 / 12	92%
Student I	17 / 21	81%	10 / 12	83%
Student J	7 / 21	33%	7 / 12	58%
Student K	15 / 21	71%	9 / 12	75%
Student L	7 / 21	33%	7 / 12	58%

The above results (tables 10-12) are the raw scores for the control group, tested in exactly the same manner as in the pre-intervention testing. In all tests, there are some increases in the results for the majority of the students.

Intervention Group – Rime Unit Assessment

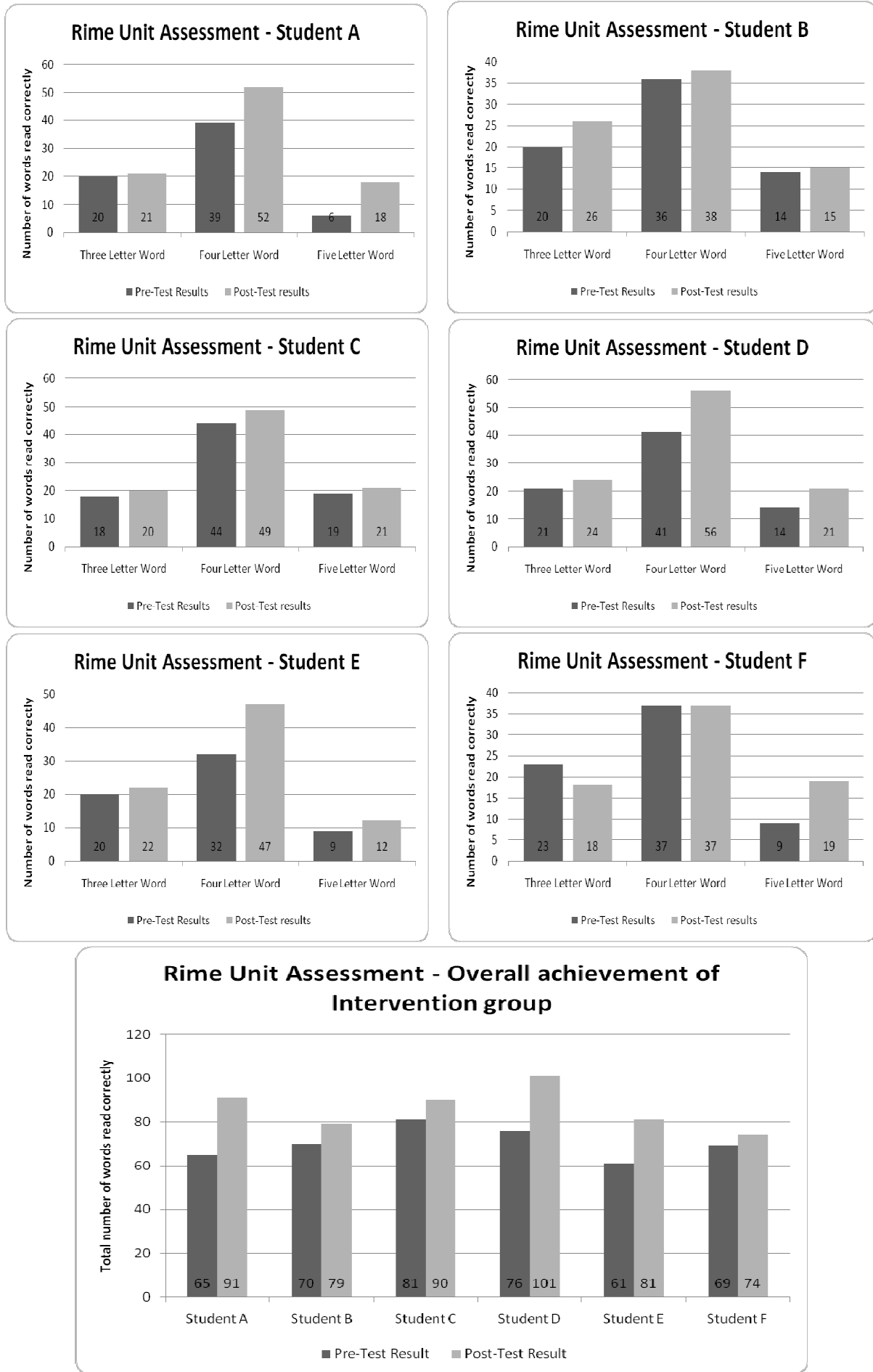


Figure 1 Results of the Rime Unit Assessment comparing the pre and post intervention results for the Intervention group

Control Group – Rime Unit Assessment

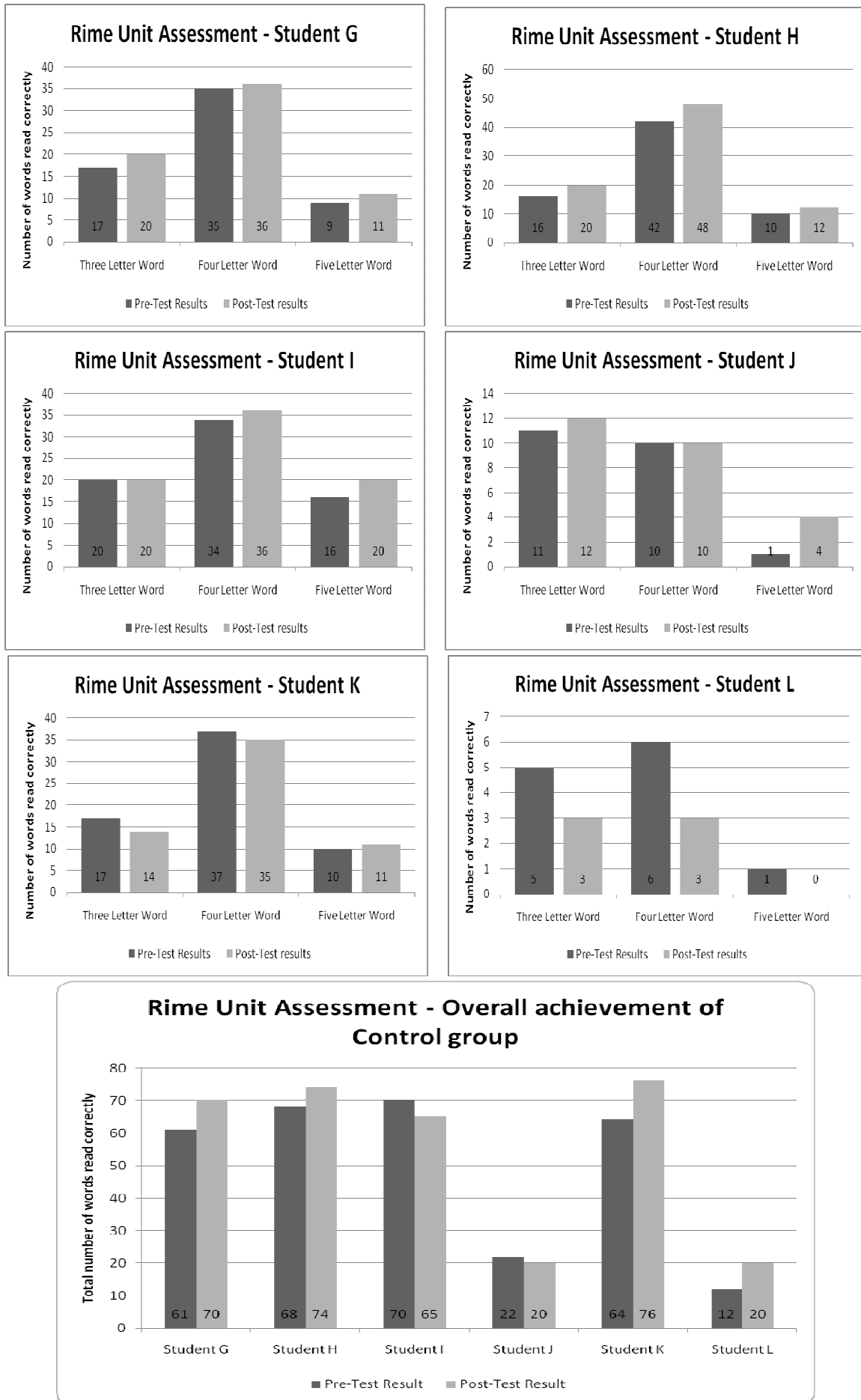


Figure 2 Results of the Rime Unit Assessment comparing the pre and post intervention results for the Control group

An examination of the charts in Figures 1 & 2 provides some interesting results. In figure 1, the results for the Intervention group Rime Unit test show an improvement in all students. In fact the average increase in accuracy in reading words correctly was 12.5%. There was a 10% increase in accuracy for 3 letter words, a 23% increase in accuracy for 4 letter words and a 50% increase in accuracy for 5 letter words. This increase in accuracy with longer words may come from an increase in confidence in dealing with increasing complexity, as the students become more comfortable with using the techniques.

In comparison, the students in the control group improved, but to a lesser extent. Overall there was a 4.5% increase in overall accuracy in the Rime Unit test. They improved (on average) 4% in 3 letter words, 2.7% in four letter words and 6.3% for 5 letter words. It should be noted however, that after speaking with the teacher from whose class students J and L were studied, it was discovered that both students were hesitant and lacked confidence when placed in unfamiliar situations, which may help to explain their low scores in these tests and the skewing of average scores for the control group. In fact, as will be seen in the phonological knowledge tests, they did perform somewhat better, perhaps as they gained some level of comfort with the testing situation.

As far as confirming the initial prediction however, the results of these tests are very positive.

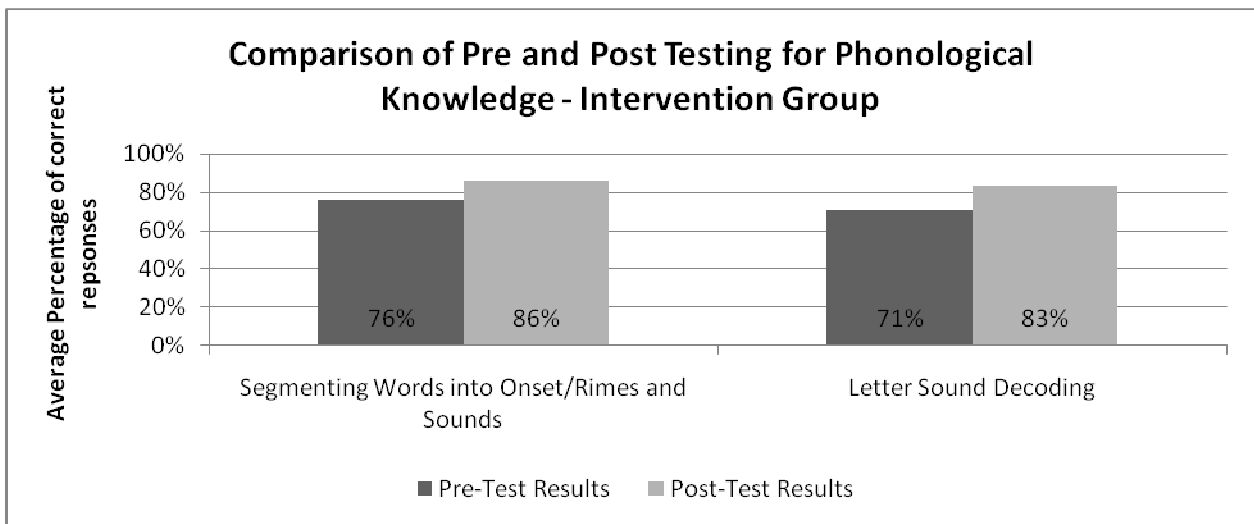


Figure 3 Phonological Knowledge tests - Average results Pre and Post – Intervention Group

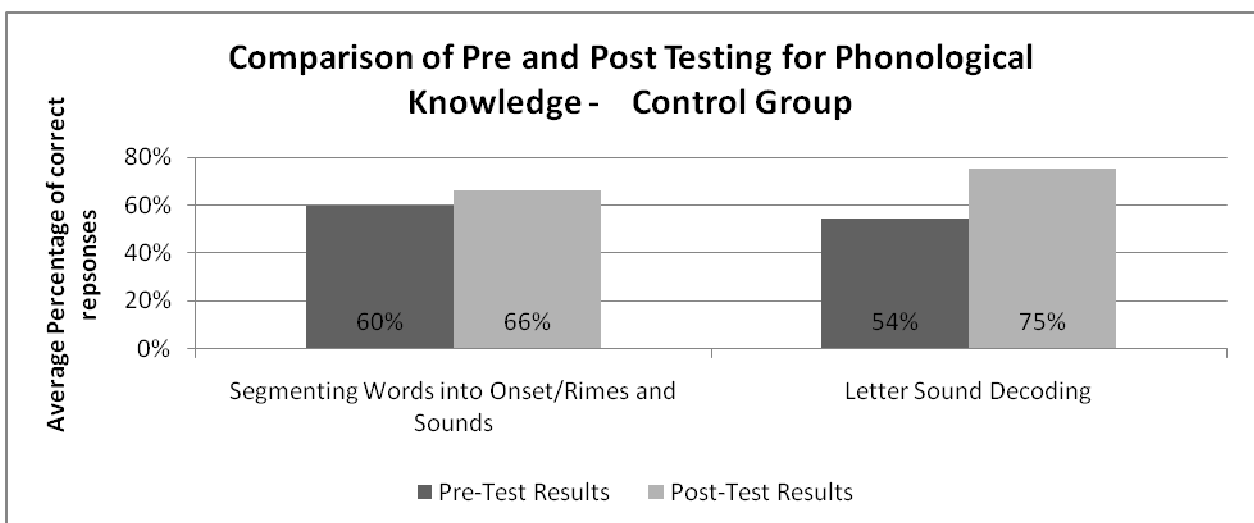


Figure 4 Phonological Knowledge tests - Average results Pre and Post – Control Group

Figures 3 & 4 show comparisons of the average results for the Phonological Knowledge tests. The intervention group made an improvement of 10% in their “Segmenting words into Onset/Rimes and Sounds” test, and a 12% improvement in Letter Sound Decoding. In comparison, the control group improved 6% in Segmenting and 21% in Letter Decoding. This anomalous result may be explained by the fact that students J and L were at this stage becoming more comfortable with the testing situation and were more compliant in their approach.

Once again, the results for the intervention group showed an improvement above that of the control group, offering further confirmation that the use of the onset/rime approach is effective with these groups of readers.

Average Reading Instructional Level of Intervention Group – Pre Intervention	10
Average Reading Instructional Level of Control Group – Pre Intervention	9
Average Reading Instructional Level of Intervention Group – Post Intervention	12
Average Reading Instructional Level of Control Group – Post Intervention	10

Finally, the Reading Instructional levels for the Intervention group has (on average) increased from a score of 10 to a score of 12. In comparison the Control group improved from 9 to 10. It would seem reasonable to argue that the intervention appears to have assisted the Intervention group in improving their reading level, through the use of onset/rime based teaching sessions.

Discussion

The Multiple Levels of Text Processing (MLOPT) Model (Munro, 2008) describes the reading process as hierarchal in nature, functioning (with increased complexity) at the word, sentence, topic/conceptual, dispositional and metacognitive levels. Good readers can operate at many levels simultaneously, but struggling readers can display inefficiencies at the lowest levels. They often find it difficult to recognize and manipulate sounds in words or even in letter clusters. Because of this inability, they struggle to make analogies between known and unknown words.

As discussed in the introduction, phonological and phonemic awareness (phonic knowledge) are vital skills in learning to read (Munro 2008). Stahl & McKenna (2000) noted that phonological awareness is needed for the student to begin making sense of the principle that letters map into sounds in written words, or the alphabetic principle. Stahl and McKenna conclude that a key insight in developing early reading abilities is that one can break up an onset and a rime.

The results suggested that the use of onset/rime teaching strategies is of value for readers who struggle with word decoding. The research also suggests that using onset/rime strategies may have the most impact on decoding larger words where blending phonemically may become more difficult. This would be an idea that could be further researched.

It is hoped that, as the vocabulary of dependable rimes increases for these students, these strategies become more automatic for them and they can progress towards learning sentence strategies as per the MLOPT model (Munro 2008).

Success in this study should be measured by improvements in the reading ability of the intervention group, relative to the control group. The study conducted on 12 year one students has, I believe, supported the prediction outlined in the introduction. The Reading Instructional Level of each group improved, but the improvements were greater in the Intervention group. There is an apparent improvement in the reading levels of the intervention group in comparison to the control group through the explicit teaching of onset/rime.

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Appendix 1

Teaching Outline for Ten Sessions			
Session	Rime Units	Text	Activity
1	an / it	"Kit and Jan"	<u>Onset and Rime Towers</u> In pairs, children take turns to flip over a rime block and try to make a word on the tower by matching it to one of the onsets on each floor of the building. First to make a complete tower wins.
2	aw / ab	"The Hungry Cat"	<u>Onset and Rime Dice Cubes</u> Children sit in a circle and take turns at rolling the cubes to make aw and ab words.
3	ap / ick	"The Little Pig's Adventure"	<u>Onset and Rime Flip Books</u> Children flip onset and rimes until a match is made. Children are encouraged to see how many words they can make using either the same rime unit or the same onset.
4	ug / ank	"The Picnic"	<u>Rime Time</u> Children roll a die to see how many spaces to move forward. They say the rime that they land on and three other words with the same rime. First player to reach the 'finish' space wins.
5	ill / ask	"The Chilly Day"	<u>Chunks</u> Children take turns to turn over a white rime tile and a green onset tile. If a real word is made using the two tiles then they may keep the pair. First to make five words wins.
6	eat / ain	"Stop the Heatwave!"	<u>Tic Tac Toe</u> Children take turns in pointing to the cards. What ever card they land on will have a rime. Child needs to say three words with that rime.
7	ail / unk	"Billy the Punk"	<u>Rime Bingo</u> Each player receives a game board with nine rime unit blocks. Teacher holds up pictures and if the matching rime is on their game board, they may place a counter over their square.
8	ight / aim	"Night Fright"	<u>Making and Breaking</u> Children sit in a circle and take a game board each. Red onset squares are placed face down in the centre and in turns, children take a square and try to make a word on their game board by matching it up with a rime. First to fill their board wins.
9	ake / esk	"The Bird's Nest"	<u>Snap</u> In pairs children are given a set of cards with different riming words. A child 'snaps' when two cards with the same rime pattern are put down on the pile. Winner is the person with the most cards at the end.
10	ate / ine	"Kate's Date"	<u>Phonics Cubes</u> 'Children take turns to roll both the 'blend' cube and 'rime' cube and try to make a word. If unsuccessful player one loses control and player two rolls the die. First to make 10 wins.

Appendix 2

Teaching Onset and Rime Texts

Session 1

Text: Kit and Jan (an / it)

One day Jan and Kit had a plan. They wanted to see if they could spit into a pan. Jan thought that it was a bit of a silly plan. Kit said, "Come on! See if you can do it with me". They asked some friends to play with them. They split into two teams. The team colours were tan and blue. Jan said, "My team will win. I had bran this morning and bran makes you fit and strong." Kit thought that his team would win because he knew that his team was very fit. Jan fell over and slit her knee. It was very sore. "It's okay" said Jan. "It only hurts a little bit". Tan team won. "That was fun!" said Jan and Kit.

Key words:

Can	Bran	Bit	Spit	Split
Tan	plan	Fit	slit	
pan		Kit		

Readability for 100 words: 10.5 sentences, 109 syllables = Approx: grade 1 level

Session 2

Text: The Hungry Cat (ab / aw)

Meg the cat was hungry. Her owners had gone to work in a cab. Although she looked in every room, there was no food left out for her.

Meg saw the fish tank and said to herself, "I will have a raw fish for my dinner". She jumped onto the shelf. Meg carefully put her paw into the water. She tried very hard to grab a fish that was swimming by.

All of a sudden, a crab, at the bottom of the tank bit her paw with his claw.

"Ouch that hurt", said Meg pulling her paw out of the tank. "I will just have to stay hungry", she cried.

Key words:

cab	grab	saw	claw
	crab	raw	
		paw	

Readability for 100 words: 10 sentences 116 syllables = Approx: grade 1 level

Session 3

Text: The Little Pig's Adventure (ap / ick)

The little pig put on his cap. He put the map into his bag and went outside. "Be careful not to step in a trap", said his mother. As he was walking down the road he felt a bit sick. "I think I need a drink of water", said the pig. He had a drink of water from the tap. Lick, lick, lick! Now he felt better. He passed a brick house and decided to pick some flowers for his mum. "Maybe I could play a funny trick on my mum", the little pig thought. "If I wrap the flowers in pretty paper I could leave them on the doorstep for her." He picked five flowers and took them home to surprise his mum. What a busy day!

Key words:

Lick	Brick	Map	Trap
Pick	Trick	Cap	wrap
sick		tap	

Readability for 100 words: 13 sentences, 116 syllables = Approx: grade 1 level

Session 4

Text: The Picnic (ug / ank)

One sunny day, Hank and his family went to have a picnic in the countryside. They set out their picnic rug and Hank had a drink of lemonade from the plastic jug. His mum and dad had a mug of coffee and then sat down to relax. Soon Hank heard a noise coming from across the river. He looked and saw his friend Frank with his family. The families met on the bridge and Frank's family came to join Hank and his parents. Everyone had a lovely picnic. They played Tug of War and they had to yank the rope really hard to be the winners. They drank lots of lemonade and the two boys dug a really big hole. Inside the hole they found an old dog bone. It stank! The boys decided to play pirates. They made each other walk the plank. When it was time to go, everyone thanked each other for the great day.

Key words:

rug	hank	frank	thanked
Jug	yank	drank	
mug		Stank	
tug		Plank	
dug			

Readability for 100 words: 9 sentences, 9 syllables = Approx: grade 1 level

Session 5

Text: The Chilly Day (ill / ask)

It was a Saturday. The cold wind blew down the hill. There was a chill in the air. The man put on his coat and he went to the shop to buy a drill. The bill for the drill was ten dollars. He gave the shop keeper the money and she put it in the till. His task for the day was to fix the back door of his house. The man put the mask over his face to protect his eyes. "Whirr!" went the drill. "I've finished my task now", said the man. "I think I will have a cup of tea in a drink flask now. I don't want to spill it on the floor. That would not thrill my wife at all", he said.

Key words:

Hill	Drill	Thrill	Mask	flask
Bill	Chill		task	
till	spill			

Readability for 100 words: 10 sentences, 108 syllables = Approx: grade 2 level

Session 6

Text: Stop the Heatwave! (eat / ain)

Sam was a girl who lived on a wheat farm. During the summer there was a heatwave and Sam didn't like the heat. Each day Sam had to get the train into town to go to school. She sat on her seat in the hot train. At school, Sam was top of her class. All the children called her the brain. At the end of every week the class had a test. Some tried to cheat in the test, just to beat Sam, but she still won. Every day for lunch she ate her meat roll and for a treat she ate a jam bun. She would sit in her seat, looking very neat and she didn't say a word. One day Sam stood up in class and began to shout. "I can't stand this heat! I wish it would rain!" Just then it did start to rain. The whole class went out into the main street and stood in the rain. From now on Sam was called the girl who shouts at the rain.

Key words:

Heat	wheat	rain	brain
seat	treat		train
meat	cheat		main
neat			
beat			

Readability for 100 words: 9 sentences, 112 syllables = Approx: grade 2 level

Session 7

Text: Billy the Punk (ail / unk)

Billy the Punk was a cool kid. His hair looked like a lion's tail. He could sleep on the top bunk and not fall off. He could follow a trail that was made by a snail. He wouldn't squash the snail. He would pick it up and put it on the trunk of a tree. He could eat a big chunk of spinach all at once. His favourite story was about a pirate whose ship had sunk and he lost his trunk of treasure. The pirate had to go to jail for being a thief. Billy the Punk made a poster and used a hammer and nail to put it on the tree trunk. "Wanted!" said the poster. "One mean pirate".

Key words:

Jail	Trail	Punk	Trunk
Nail	snail	Bunk	chunk
tail		sunk	

Readability for 100 words: 10 sentences, 114 syllables = Approx: grade 2 level

Session 8

Text: The Night Game (ight / aim)

It was late at night. The moon was very bright in the sky. Ben and Nick decided to play a scary game outside. Ben got a torch from inside so that they could see with the torch light. Nick did the same thing. The boys crept around the house. Ben saw a bright flame near the frame of the new garage. "I wonder what it could be?" said Ben to Nick. "Let's see!" said Nick. "Not me!" said Ben. "I think I can hear Mum calling my name". Ben went inside. He didn't want to get a fright. Nick crept towards the frame but the light was gone. "Yeoww' howled two cats as they started to fight. "Shoot!" said Nick. It was time to go inside. It wasn't much fun all alone.

Key words:

Fight	Fright	Game	Flame
Light	Bright	Same	frame
night		Name	

Readability for 100 words: 13 sentences, 111 syllables = Approx: grade 1 level

Session 9

Text: The Bird's Nest (ake / est)

Jake's mum told him to go to the bedroom and wake his little sister. Mum gave her some cake and a drink, then they went out into the backyard. Jake had a job to do. He was to rake up the messy leaves into a pile. While he was doing it a fly began to pester him. It flew at his face again and again. It was starting to make him angry. "You are a big pest," shouted Jake. Meanwhile his sister climbed a tree and she saw a nest with three speckled eggs in it. She was very excited and as she rushed down to tell Jake, she tore her vest on a branch. She started to cry. Mum said they should all go inside to have a rest. They ate some cake and Jake said, "That's the best cake you have ever baked mum."

Key words:

Jake	baked	pest
wake		Nest
cake		Vest
rake		rest
		best

Readability for 100 words: 9 sentences, 114 syllables = Approx: grade 2 level

Session 10

Text: Kate's Date (ate / ine)

Kate was going out on a date. She got dressed quickly and went outside to sit under her favourite, pine tree near the old gate. She could see a magpie sitting on the clothesline. Soon her date came and because they were late they had to hurry. They went to dine at a fancy restaurant. Kate ate a big plate of pasta and she drank a lovely glass of wine. They finished their meal and as they were leaving, the waiter came up to them and said to the man, "Excuse me mate. Did your friend leave her gloves behind?" Kate answered, "Oh yes. Thank you. They are mine." When they arrived home Kate said to her date, "This has been a fine evening. Thank you. I hope we can do it again soon."

Key words:

ate	Kate	pine	clothesline
	date	dine	
	gate	wine	
	late	mine	
		fine	

Readability for 100 words: 8 sentences, 104 syllables = Approx: grade 2 level

Appendix 3

Raw Scores Data Entry Sheet

Name	Control = 0 Teaching=1	Age in MONTHS	Gender 0=Male 1=Female	Years of Schooling	ESL No=0 Yes=1	Attendance No. of sessions	Letter Sound Decoding	Letter Sound Decoding	Segmenting words into onset /Rime	Segmenting words into onset /Rime	RIME Units Test	RIME Units Test	Reading Instructional Level	Reading Instructional Level
							PRE	POST	PRE	POST	PRE	POST	PRE	POST
A	1	77	0	1	0	10	9	11	18	20	65	91	11	12
B	1	78	1	1	0	10	9	10	14	17	70	79	7	9
C	1	75	1	1	0	10	11	12	19	19	81	90	10	12
D	1	80	0	1	0	10	8	10	13	16	76	101	11	13
E	1	71	1	1	0	10	6	8	17	18	61	81	10	12
F	1	79	0	1	0	10	7	9	15	18	69	74	11	13
G	0	83	0	1	0	0	9	10	17	18	61	67	11	12
H	0	78	0	1	0	0	10	11	19	19	68	80	7	7
I	0	75	0	1	0	0	9	10	16	17	70	76	10	10
J	0	81	0	1	0	0	1	7	4	7	22	36	10	12
K	0	74	0	1	0	0	7	9	14	15	64	60	11	12
L	0	77	0	1	0	0	3	7	5	7	12	6	7	9

Pre – Scores from testing prior to Teaching Intervention sessions

Post – Scores from testing after the completion of Teaching Intervention sessions