

## **ABSTRACT**

A problem some students with reading difficulties have, is their inability to segment words into onset and rime. This affects their reading of prose and of individual words causing inaccuracy and reduced fluency.

In this study three students were given explicit teaching in twelve dependable rime units to develop their awareness of these units and further enhance their skills at segmenting and blending words, which contain them.

Prose reading was monitored by completing a series of running records, of teacher devised simple texts, that contained examples of the rime units being explicitly taught.

The students participated in ten sessions (inclusive of pre and post-testing) where twelve rimes units were introduced. At the beginning and the end of the project, rime unit knowledge and word reading accuracy were tested. During the sessions, running records were completed and anecdotal notes taken to monitor progress, particularly their participation and enthusiasm.

The Hypothesis tested was that,

*“Explicitly teaching the use of dependable rime units to a group of grade one children who have reading difficulties, improves their ability to accurately decode words in isolation and in reading prose.”*

The findings of my study indicated that the explicit teaching of rime units did lead to an improvement in the students’ ability to decode more words accurately in isolation. There was also an overall increase in their instructional reading levels.

Implications of this study would indicate that explicit teaching is vital for children with reading disabilities. Opportunities for this explicit intervention to occur must become an integral component of any Literacy program. Teaching experiences that benefit all children involved, must be focused and explicit in order to meet the needs of individuals within each classroom.

## INTRODUCTION

While many children appear to learn to read without any major intervention, there are those children to whom the acquisition of reading skills presents many hurdles. Some of these children struggle to read words accurately and automatically after their first year in school. They resort to letter-by-letter decoding when faced with unknown words. Ehri, (1995, 1998) as cited in Stahl and McKenna, refers to this as full alphabetic coding, where children use all the letters and sounds. At this stage, children's reading can still be laboured, relying on sounding out or other, less efficient strategies. The students in my study are unable to use and recognise onset and rime units, although there is evidence to suggest that an awareness of onset and rime develops fairly early. Wray (1994) cites experiments done by Kirtley, Bryant, MacLean & Bradley (1989), where their findings indicate that although, phoneme awareness seems to develop through learning to read, awareness of onset and rime seems to be already present before reading begins. The students I have selected read prose very slowly and often inaccurately. Knowledge of words in isolation is restricted.

Word reading difficulties could be due to any or all of the following. Letter cluster knowledge is poor, therefore segmenting of words is not happening. They are unable to use prior knowledge for analogy. They over use the distinctive visual features of words.

Stahl and Mckenna (2000) suggest that children learn to read by developing a series of successive insights. The original insight in phonological awareness, for example, may be a child's recognition of rhyming (Maclean, Bryant& Bradley, 1987) as cited in Stahl and Mckenna (2000). Once that insight is achieved, phonological awareness develops from an awareness of initial sounds to an awareness of final sounds to an awareness of medial sounds. A key insight is that one can break up an onset and rime. This allows children to use initial sound information in word identification, allowing further development.

Children need to learn to match functional letter clusters with sound patterns in order to become more orthographically skilled. Bryant (1990) as cited in Hempenstall, argues that sensitivity to rhyme makes both a direct and indirect contribution to reading. He says that it helps students to appreciate that words that share common sounds usually also share common letter sequences. It is this sensitivity to common letter sequences that makes a significant contribution to reading strategy development. Rebecca Trieman (1991) as cited in Hempenstall, has suggested another stage in phoneme awareness- the intra-syllabic units of onset and rime. She sees this as a stage between syllable awareness and phoneme awareness in which the children are more sensitive to the onset –rime distinction than the phoneme distinction. Because there is a greater regularity of onset-rimes than over the individual letters that form them (Felton, 1993) words with similar patterns can be read. Richek et al (2002) suggest that people pronounce new words using what they already know about similar words. They refer to this as decoding by analogy.

Most poor readers have not learned to recognise these frequently occurring sound clusters as individual rime units, and need the opportunity to work with these larger units.(Adams 1990 Chard & Osborn 1999 Salinger 2003) However, it should be noted that( Munro,1995 as cited in Hempenstall) has suggested that it would be judicious to ensure that beginners (and disabled readers) have, or develop, a

grounding in grapheme-phoneme relationships, either before (or simultaneous with), such onset-rime emphasis.

The students in this study have some grapheme-phoneme knowledge in place. A strong emphasis on the teaching of sounds and the mapping of sounds has been given in previous instruction, however, they have difficulty segmenting words into onset-rime and then blending the sound sequence into words. My investigation aims to extend earlier research by examining whether explicit teaching of dependable rime units improves the accurate reading of prose and words in isolation.

## **HYPOTHESIS**

Explicitly teaching the use of dependable rime units to a group of grade one children who have reading difficulties, improves their ability to accurately decode words in isolation and in reading prose.

## **METHOD**

### **Design:**

This study uses a case study OXO (assess, teach, assess) design, in which, the gain in accuracy of prose reading and words in isolation, following the explicit teaching of dependable rime units, is monitored.

### **Participants**

The three students selected to participate are grade one children attending a catholic primary school. After consultation with the grade prep/one classroom teacher and the Reading Recovery teacher, two females and one male have been chosen. One of the girls has recently returned from an extended overseas trip of approximately three months. Before leaving she was placed in the highest reading group. She has lost most previous learnt strategies, particularly her ability to read diagraphs and even simple words in isolation. The other two children have similar reading behaviours. They both recognise a reasonable number of high frequency words, but rely heavily on letter-by-letter sounding to attempt most one/two syllable words particularly in isolation. This latter female student has recently developed a real block when reading aloud to a teacher and her self efficacy is being affected. This is the only area where she is struggling as she is competent in all other curriculum areas. There have been difficulties conducting her pre-tests one of which I decided against doing due to her behaviour. More discussion will follow.

Their entry age and pre-test assessment results are shown in Table 1.

	Student A	Student B	Student C
Age	6 yrs 10 months	6 yrs 5 months	7 yrs 9 months
Instructional Reading Level.(PM Benchmark test.)	Level 13	-----	Level 16
Letter Identification	52 of 54	52 of 54	53 of 54
Orthographic Reading Test.	20 out of 84	19 out of 84	24 out of 84
Burt Word Test	24	30	33
Rime Test (Munro)	39 out of 128	74 out of 128	74 out of 128

## **Materials**

Materials used include the following.

Assessment Tools for pre and post testing.

- Clay Letter Identification –Upper and lower case letter name and sound.
- PM Bench mark texts
- Burt Word Test.
- Orthographic Word Test (Munro)
- Rime unit test (Munro)

I used my own teacher devised short texts containing targeted rime unit words. I focused more on the childrens' recognition of the rime unit words rather than on how well they went in the running record generally.

I also used 88 flashcards with rime unit words as an extra post-test activity.

Teaching Session Requirements:

- Teacher prepared passages of prose containing targeted rime units.
- Extra copies of prose for recording purposes.
- Magnetic letters.
- Teacher made flipbooks containing targeted rime units.
- White boards and markers for children.
- Prepared flashcards containing rimes.
- Student exercise books.
- Prepared games: Climb the Ladder. Recognising Rime Unit game (teacher devised). Dice game. One die having onsets on all sides and the other die having the rime. Card games. Concentration /Snap/Fish. Commercial game CHUNKS.

## **Procedure**

Pre-testing before and during session one. This was followed by 8 explicit teaching sessions. During session five testing of the first 6 rime units took place and during sessions 9 and 10, Post-testing occurred involving all rime units taught. Anecdotal records were also kept to assess improvement throughout the sessions. A total of twelve rime units were taught .

Daily running records were conducted containing the previous day's rime units. The students in the study were withdrawn from their classrooms for 10 sessions. The sessions were held during the Literacy Block, over a three week period with an average of 3 to 4 sessions per week lasting for 40 minutes each.

The rime units chosen were determined by the pre-testing and consisted of the units that each of the three children did not know or were unable to say without breaking into sound by sound.

The following rimes were chosen and introduced to the children, two at each session as shown below.

- aw and ell
- ank and ug
- ate and ine
- ail and ice
- ake and est
- ick and eat

Pre-assessment using the Munro Rime Unit Test indicated that the children were more secure with the two letter rime units, although their responses were not given automatically. The only rime known almost automatically was “ay”. Their responses to the three letter rimes were often sounded out letter by letter or by using inappropriate letter clusters.

Each session saw the introduction of two rime units. One was given at the commencement of lesson. The children were shown the rime unit letters and told the matching sound pattern.

The unit was written on the white board and the children were asked to help me to compile a list of other words they know that contain the same rime. These were added to the list.

Children use magnetic letters to add onsets to the rime and make new known words and made up words. Children were questioned about each word, eg, Is this a real word? Students write the words into their exercise book and make up some sentences using the words suggested by the teacher. (2 to 3 chosen words put into one sentence eg raw, paw and jaw.)

Play games to help with consolidation eg, Dice game, Climb the Ladder. New rime unit introduced. Format followed as above.

Children are shown a text and they highlight the rime unit words learnt.(Both rime units integrated into this text.)

Flashcards are shown to each child individually and read while the other children play one of the games.

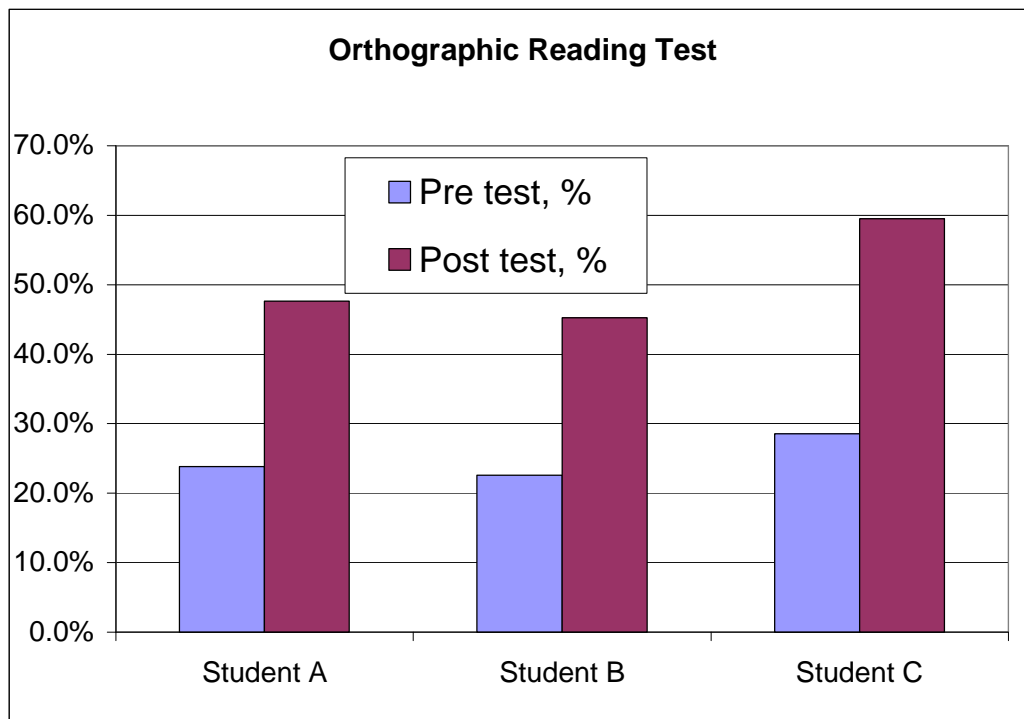
Teacher observes how quickly the child can say each of the rime units on flashcards and takes notes. These words will be read as separate rime units first and then flashcards will be mixed.

The prose text read at the end of the lesson will be used for assessment at the beginning of the next session. It contains both of the rime units learnt the previous day. Running records will be taken.

Using the white boards and magnetic letters, the rime units are placed on the board. Children will choose the correct onset to add to the rime, as I read the prose texts. Concentrate on one of the rime units in the text first, then do the other, finally combining the whole lot. Children really enjoyed this activity and found it quite challenging.

All sessions will follow a similar format except for the game part of the lesson. These will vary.

## RESULTS



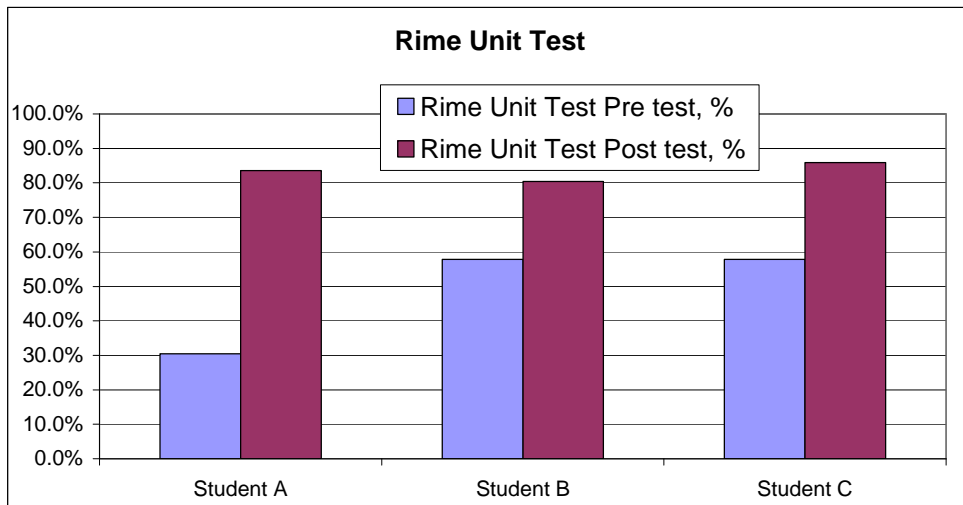
All three students showed an improvement in the Orthographic Reading Test. Their ability to read more words quickly and accurately has increased. Instead of sounding out, letter cluster knowledge can be identified and used to say a word correctly.

Student A had an overall increase of 24%, student B improved by 22% and student C made the greatest gain of 31%. The results suggest that there was some use of analogy made but it is certainly not consistent.

Student A showed a large increase in her knowledge of 4 letter words, increasing from 4 words to 11 correct. Similar increases were found in the 5 and 6 letter words.

Student B showed the largest increase in her ability to say the 5 letter words, going from 2 in the pre-test to 12 correct in the post-test.

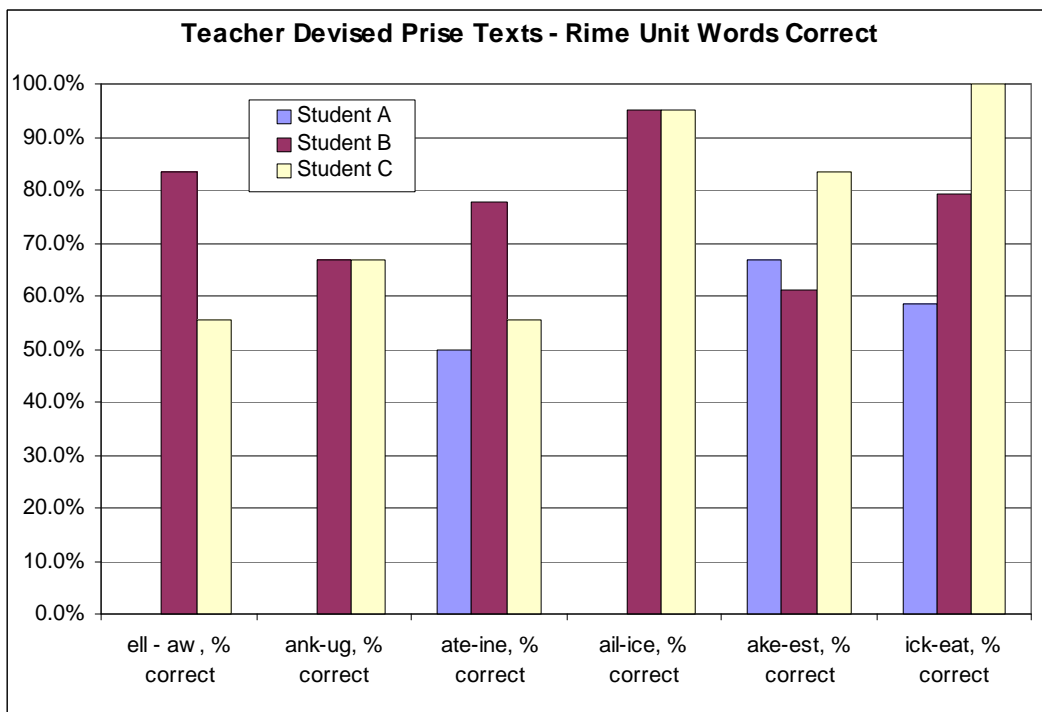
Student C's greatest improvement was in the 4 letter words, making gains from 4 words correct to 12 in the post-test.



All of the students showed impressive gains in their Rime unit post-test. Student A was far better at saying real words, whereas ,earlier she really struggled to get her mouth around the sounds, often putting the sounds in the wrong order, eg, calp for clap.

Student B was very confident when having this post-test. Whereas earlier she found it difficult to even attempt some of the words, this time she was much more confident in her own ability. She still managed to say some words totally incorrectly creating nonsense words.

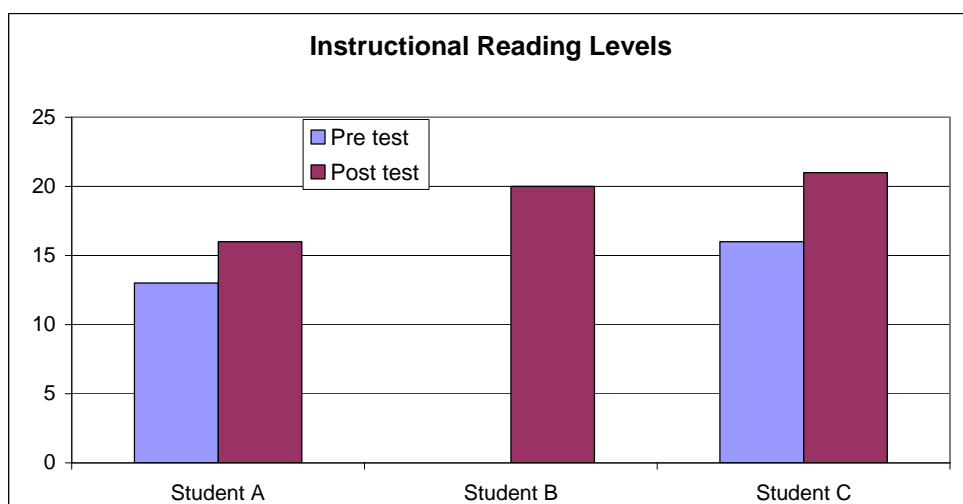
Student C’s most obvious improvement was in the way that he could say the words automatically without reverting to breaking the words up into sound by sound.



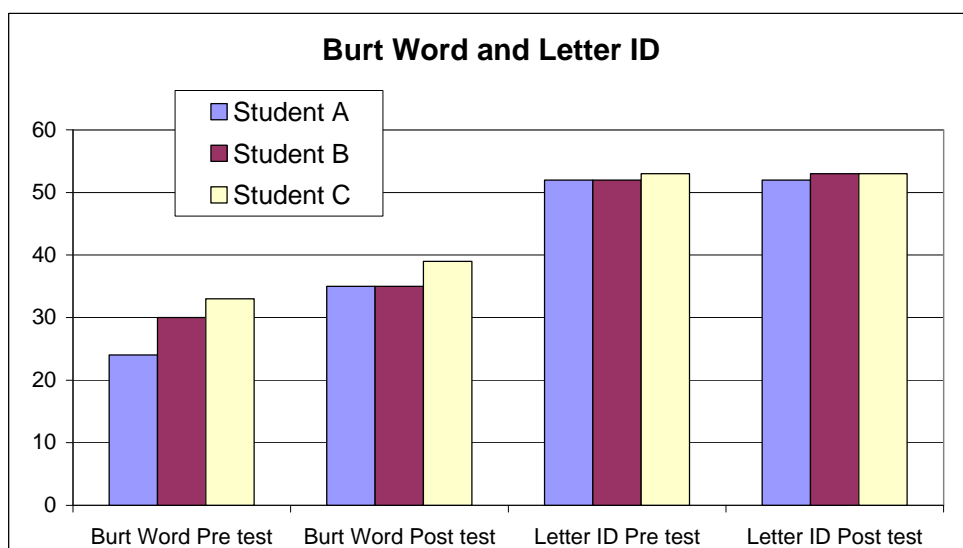
The reading of these prose texts occurred at the beginning of each new session. It gave me an insight into whether they had learnt the previous day’s rimes. The reading was sometimes slow and the instructional level came out hard for some of the



students. I focused more on their ability to recognise and say the rime unit words correctly. Student A was absent for three of the lessons.

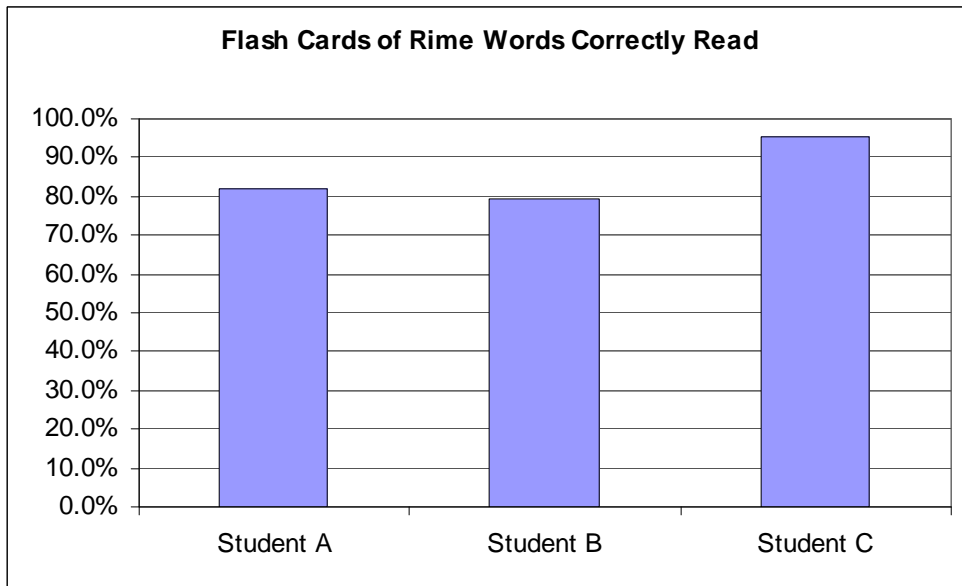


Student A and student B showed an increase in their reading level. Student B does not have a pre-test score indicated because I was unable to get one from her. I will discuss this in more detail in the discussion section of this report.



The Burt word test showed an increase for all children with student A making a gain of 10 words. She attempted the post-test with far more confidence and was able to say the diagraphs of the words more correctly than in earlier attempts.

Letter Id did not really alter as they already had a reasonable score in this test. Also I did not focus on the individual sounds as such, and the confusions that the children brought with them to the project were responsible for some of their words being said incorrectly eg, tup for tap or ben for den.



This was an extra test done at the conclusion of the project. The childrens' results were very pleasing and they all experienced a feeling of success. They enjoyed the activities and games involving the flashcards and participated with confidence and enthusiasm.

## DISCUSSION

My action research project investigated the hypothesis that explicitly teaching dependable rime units improves the participants' ability to accurately decode words in isolation and in prose reading.

The results show overall gains in the students' recognition of the rime unit words and an increase in their word knowledge and reading accuracy.

I felt that my hypothesis was supported more by students A and C. Student B entered the project lacking confidence. Her self-efficacy was very low and her responses during the testing times, demonstrated this greatly. She felt threatened particularly during the pre-tests. Her confidence did increase during the sessions and she participated with great enthusiasm, however, her results during the Orthographic Reading post- test were hindered by feelings of panic. After building what I thought was a good, trusting relationship with her throughout the sessions, the post-testing proved to be a real battle and I had to resort to breaking it up into very short segments. Her responses were often not correct, as she resorted to the distinctive visual features of the words or made up words as she was used to doing before the research project. She appears to get very flustered when faced with the unknown or when she has to take risks.

Implications for the future teaching of this child will need to be considered very sensitively. A lot of work needs to be put in place to develop her self efficacy. Student A missed three of the sessions due to illness. Her results were very pleasing. I feel that she is definitely in the catch up stage having missed three months of school. This explicit teaching gave her a great boost and she enjoyed the opportunity to work in a very small group.

Bryant (1990) suggests that sensitivity to rhyme makes both a direct and indirect contribution to reading. He says that it helps students to appreciate that words that share common sounds usually also share common letter sequences. This suggestion was supported by my hypothesis. The children quickly caught onto the notion of rhyming words during our sessions. They were able to list words and then recognise them in the activities given.

The results also support Rebecca Trieman's (1991), suggestion that another stage in phoneme awareness exists- the intra-syllabic units of onset and rime. She sees this as a stage between syllable awareness and phoneme awareness in which the children are more sensitive to the onset –rime distinction than the phoneme distinction. After being taught explicitly the rime units, the students demonstrated an ability to read the words automatically instead of sounding out letter by letter as they had been doing prior to the teaching sessions. Richek et al (2002) suggest that people pronounce new words using what they already know about similar words. They refer to this as decoding by analogy. I witnessed my children using analogy. I heard them say eg, ice so its mice, when doing their testing. I also saw evidence of this when they came to unknown words when reading text. This use of analogy is by no means established or even consolidated. This use of analogy can be focused upon in both reading and spelling.

Adams 1990 Chard & Osborn 1999 Salinger 2003, say that most poor readers have not learned to recognise these frequently occurring sound clusters as individual rime

units, and need the opportunity to work with these larger units. My study supported this

I can see implications for teaching within the grade one and two classrooms and even during grade Prep. Greater emphasis should be placed on onset and rime and predictable letter clusters as opposed to teaching the children how to stretch out the words sound by sound. Rhyming activities and onset and rime games should be increased and taught explicitly within the Literacy block. Learning centres should provide plenty of opportunity for this focus, using parent helpers and the teacher.

Future research that I would be interested in because of my results would be the following. When do children make the connection between being able to read a word and being able to spell it?

Does analogy used in reading automatically exist in spelling? For example a child may have been taught onset and rime units but be unable to transfer the knowledge across to spelling. If a child can read "all" why can't they spell call or called? I would find this research valuable.

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## APPENDIX 1

The explicit teaching of onset and rime units to three grade one children improves their ability to recognise and use letter cluster patterns in prose and in isolation. As children provide a list of words with the rime unit discussion takes place as to whether the word is real or a pseudo word. Children are taught to recognise which are real.

Teaching procedure for onset and rimes. 40 minutes.

1. Rime unit is introduced by the teacher. For example, these letters together say “aw”. Can you think of any words you know that have that sound in them?
2. Children help teacher to compile a list of words containing that rime.
3. Teacher writes the words on a chart while children begin to use magnetic letters to make the words.
4. Teacher then makes and breaks words changing the onset and children call out the words.
5. Children write the list of words into their exercise book.
6. Together with the teacher, some sentences are produced that contain a few of the rime unit words, eg, raw, paw, jaw. The dog moved the raw meat with its paw and ate it with its strong jaw.
7. Children play with dice game. Two die. One with the rime unit, the other with a selection of onsets. A commercial game such as Clusters or Chunks can be used also. Snap, Memory and Go Fish can be played or Climb The Ladder.
8. A second rime unit is introduced in the same way and steps one to eight followed again.
9. Using the white boards and magnetic letters, the rime units are placed on the board. Children will choose the correct onset to add to the rime, as I read the prose texts. Concentrate on one of the rime units in the text first, then do the other, then combine the whole lot. Children really enjoyed this activity and found it quite challenging.
10. At the end of the session, the children are given a text that contains a mixture of the rime unit words that have been used throughout the session. They read through the text with the teacher and highlight the rime unit words they have learnt today.
11. Flashcards are shown with the words all muddled and children read through them.
12. At the commencement of the next days session each child has a running record taken on the text from the previous day. The other children can sort the flashcards into rime units or play with the Chunks game.

## APPENDIX 2

The flashcards used, were of the words that the children came up with during the lessons, that contained the suggested rime units. These flashcards were used regularly during sessions so I decided to use them for an extra post- test activity. The words were shown to the children individually during post-testing in a mixed order. The following words were used during this assessment.

- “ell” – bell Nell fell tell sell dell well spell swell smell shell
- “ail” - hail tail bail mail sail fail Gail
- “ick”- Mick Rick Nick lick tick sick wick thick chick flick
- slick
- “eat” – feat meat neat heat beat pleat wheat bleat
- “ake” – make take wake fake cake bake hake sake lake stake
- flake brake shake baked
- “aw” – raw paw saw law flaw draw claw thaw straw
- “ine” –dine line wine vine swine spine
- “ug” – mug jug hug dug rug tug lug bug chug thug slug Grug
- plug shrug
- “est” – best test zest west rest lest vest chest

## APPENDIX 3A

### Kate's Date

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. Thankyou. They are mine." When they arrived home Kate said to her date, "This has been a fine evening. Thankyou. I hope we can do it again soon."

### The Bird's Nest

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."

### The Poor Dog

One day while Nell was going to the park she saw a dog run across the road. A fast car hit the dog and it fell. Nell ran home to tell her dad. He came and picked the dog up. He looked at it's paw. He saw that the paw was beginning to swell. The dog did not look very well. Nell's dad took the dog to the vet. The vet said the dog had a broken jaw and a broken paw. Then the vet carried the poor dog and put it on a bed of straw. Nell asked the vet to ring and tell her when the dog was well again. If no-one owned the dog, Nell's mum and dad told her she could keep it for her pet instead of selling it or giving it away.



## APPENDIX 3B

### Keeping Cool in the Heat

Rick and his friend Mick were sitting on a wooden seat eating their meat sandwiches at lunchtime. The heat was starting to make them feel sick. They went to the tuckshop to get an icypole for a treat. Just as Mick was about to lick his icypole the stick fell out onto the ground. Mick caught the icypole in his hands. Rick bent down to pick up the stick and put it in the bin. Mick's icypole began to melt all over his clothes. He knew his mum would be cross, because she liked him to keep his clothes neat. The two boys wanted to beat the heat so they went to sit on a small brick wall under a shady tree. When they were back in their classroom they had a maths test. The teacher gave Rick lots of ticks but she said that Mick was a bad boy because she saw him cheat.

### The Thunderstorm

It was a very nice day but grey clouds were beginning to gather. Gail had been out sailing at the beach. Now she was home and she was having a drink with iceblocks to cool down. Her mother told her to go outside to the mailbox to check for mail. As she was walking it began to rain and hail so she ran back inside. She was all wet. Gail walked into the kitchen and she screamed because she saw two white mice with long tails nibbling some grains of rice. She quickly got a pail and put it over the mice. Later when the hail had stopped and the sun had come out, Gail's mother told her twice to go and get the mail. While she was looking in the mailbox, she saw a lovely, silver snail trail. Gail went back inside thinking that it had been an interesting day.

### The Picnic

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.

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