

## ACTION RESEARCH PROJECT

### ABSTRACT

It has been widely reported that a problem for many children who have limited consonant and vowel knowledge, is that they have difficulty in decoding unknown words within text that they are exposed to in their classrooms.

Few studies have targeted teaching segmenting and blending through the identification of simple rime units which in turn increases the success a child has in this area of Phonemic Awareness.

In this present study three students in Year One who have reading difficulties were exposed to explicit teaching of eight two letter rime units from the thirty seven dependable rimes. The teaching consolidated the children's prior knowledge and targeted their developing awareness of rime units and their ability to blend and segment words containing these.

Word reading accuracy was tested before and after the action research project. After the initial testing a series of lessons was developed which were appropriate to the group of children. Students were withdrawn from their classrooms in a group for eight 30 minute lessons over a two week period. The eight two letter rime units were taught intensively over this period and a further assessment was carried out at the conclusion of the teaching period.

The findings indicated that explicit small group teaching improved the students reading of 3 letter words with a two letter rime unit. The number of correct responses improved for all children. The time it took to decode words was also improved. Accelerated automaticity had an effect on the self efficacy of students. This aspect was not set out to be measured however it was apparent through facial expressions and the comments and eagerness of students to participate in lessons.

The hypothesis tested was

***Explicit teaching of segmenting and blending through the identification of simple rime units to children with limited consonant and vowel knowledge, increases the success a child has in decoding unknown words within text.***

Implications for wider teaching are discussed.

## **INTRODUCTION**

Phonological awareness influences reading ability. Helping children to recognise rime in unfamiliar words helps with successful reading of prose and therefore comprehension. Few early intervention programs target teaching of dependable rime. “If beginning readers have difficulty perceiving the sounds in spoken words—if they cannot “hear” the /at/ sound in fat and cat and perceive that the difference lies in the first sound—they will have difficulty decoding or sounding out new words. In turn, developing reading fluency will be difficult resulting in poor comprehension, limited learning and little enjoyment.” (G.Reid Lyon 1998)

Some students who grasp the single sounds in their first year of school may not continue to make the gains necessary to decode new words in their second year of schooling. It seems that these children are often slow to read words in their text and therefore they are not able to read fluently.

Sensitivity to what the child needs to know and the way in which this knowledge is acquired will ensure successful progress in reading claims Professor Bridie Raban 2000. The children need to understand the concept and how it may help them and only then can they apply it for themselves.

The students in this study have some phonological awareness however they are unable to use it efficiently. The students are not able to make use of the onset and rime in words they encounter. Instruction in onset and rime may be the most effective strategy for these children. Poor readers have not learned to recognise frequently occurring letter-clusters as individual rime units (Adams, 1990) and rarely chunk words into onsets and rimes (Juel & Minden –Cupp, 1999).

Research shows that activities designed to enhance phonemic awareness “accelerate reading and spelling acquisition among beginners and result in significant recovery among children with reading difficulties” (Adams, Marilyn Jager, 1991)

This study was designed to assess the gains made if explicit instruction in rime knowledge could be transferred to word and text reading. It appears that readers use analogy to transfer knowledge from the known to the unknown. For the students in this

research project, the skills need to be taught explicitly as implicit teaching does not appear to have helped. Gaskins 1996 states that “we cannot assume that these children will acquire any necessary skill for reading unless they are directly taught that skill or knowledge and receive sufficient opportunities to practice it” (Gaskins, et al., 1996) The benefit students receive from explicit instruction must be followed up with many opportunities to reinforce what has been learnt. Children need practise to verbalise their new knowledge.

A way to improve segmenting and blending is through the use of the natural sound unit which is the rime. Bruck & Treiman, 1992, argue that onset and rime instruction might be most effective for children with some decoding skill and some degree of phonological awareness while sequential letter-by-letter decoding might be more effective for children with less early literacy knowledge. Goswami 1995 states that the teaching of dependable rime units leads to an improvement in reading ability when children are able to use analogy to read and write new words. It is essential that children learn rime and have the opportunity to practise it within their prose reading. Lyon states that “If beginning readers read the words in a laborious, inefficient manner, they cannot remember what they read, much less relate the ideas to their background knowledge. Thus, the ultimate goal of reading instruction –for children to understand and enjoy what they read—will not be achieved.”

The present study aims to further explore previous research where once some vowel and consonant knowledge is secured, knowledge of rimes may be exactly what helps children chunk and decode unknown words. At this time it is difficult to know which instructional unit is best for a particular group of children. The action research project may help to understand the ways in which some children learn best.

Hypothesis

***For children with limited consonant and vowel knowledge, teaching segmenting and blending through the identification of simple rime units increases the success a child has in decoding unknown words.***

## **METHOD**

### Design

The Action Research uses a case study OXO (observe-teach-observe) design, in which the gains made by a group of three students in Grade One were monitored in the area of rime instruction. This has become evident as an area which is causing reading difficulties for these children. Children were given specific instruction in rime and gains were measured.

### Participants

Children were selected from Grade One classes at a Victorian Catholic Primary School. Two boys, one on Reading Recovery, the other not. The girl has been on Reading Recovery and was referred on for further intervention. Each child was identified by their class teacher as having poor information processing skills at the word level. Information regarding the children is included in Table 1.

TABLE 1

	Student 1	Student 2	Student 3
Age	7 years	7 years 5 months	7 years 8 months
Instructional Reading Level	Level 10	Level 8	Level 13
Letter Identification	54	54	49
Burt Word Test	17	14	26
Rime Test—Tchr devised	11/33	1/33	20/33

## Materials

Materials used include the following

Word Reading Test -- Teacher designed Appendix 1

Children read a list of words based on two letter dependable rimes with known, unknown and pseudowords. The words are all CVC or CCVC. This was used as a Pre test and Post Test.

Rime Reading Test -- Teacher designed Appendix 2

Children read from a list of two letter rimes. This was used to determine which rimes the children knew, which they attempted slowly and those they did not know. The rimes to be taught were determined as a result of the administration of this test together with the word reading test in appendix 1.

Flash cards were made for this activity.

Magnetic letters and whiteboards

Flashcards with rimes and words --- identification at the beginning of each session.

Clay Letter Identification Test

Burt Word Reading Test

Reading Accuracy—PM Benchmark Kits 1 & 2, Reading texts –ClasS materials.

Let's Spell! Flip books (Smart Kids)

Word Family Books, Level 1 Galaxy Books.

Word Book Level 1 Galaxy Books

Word Family Books Sunshine Books (at, op, ay, it, ot)

Rhymes For Word Families Sunshine Books (ap, aw)

Blueprint For Literacy Success—poems

## Phonological Teaching Tasks

The phonological teaching tasks used included

- segmenting words into onset and rime
- blending onset and rime into a word on the whiteboards
- identifying onsets and rimes in new words
- using rime to create new words—both real and invented
- identifying onset and rime using picture cues
- identifying onset and rime without picture cues
- reading text which includes rimes taught.

## Procedure

Sessions were held 10 times. These included the pre-testing and post-testing sessions. The sessions were held over 10 consecutive school days allowing for weekends and holidays. Each were of 30 minutes duration. The three children formed a group for instruction and were withdrawn from the classroom. Testing was administered individually.

The tasks were administered to the children in the following order

- revision of taught rimes
- introduction of new rimes
- read each word in segments
- blend onset and rime
- reading of words containing onset and rime
- focus on features of rime
- writing/making words with new rimes
- make up new rime words
- articulate what was learnt

During each session, use of flashcards, magnetic letters, chalk on blackboards, worksheets, stories and poems will be used to add interest and some variety to the activities chosen.

More detail of the lessons is shown in Appendix 3.

Session 1	Pre Test
Session 2-3	Teaching sessions for rime units
Session 4	Review of rimes taught and further rime units
Session 5-6	Teaching sessions for rime units
Session 7	Review of all rimes taught
Session 8	Post Test

## **RESULTS**

The results are shown in the table below for the Orthographic reading test which was teacher designed and administered prior to teaching.

	Student 1	Student 2	Student 3
Score	8	4	6
Total Words read	37	37	37

It was interesting to note that student 1 who had a lower reading level of text, was more successful when reading rime units in isolation. The two letter rime units were focussed on for this initial test.

Once the rimes were chosen from the 37 dependable rime test, a further look at the two letter rime units was undertaken to see which ones were not known by most children. The results are shown below.

	Student 1	Student 2	Student 3
Score	11	1	20
Total words read	33	6	33

There was no consistency with what children knew. If they knew the rime unit in one word, they were not able to make the analogy between it and another word in the list. Eg. if 'ban' was known at the beginning of the test, it was not apparent that 'fan' would be correct further in the test.

These children need to be taught explicitly how to make the connections from a word they know to a new word. The teaching endeavoured to help children to make this analogy for themselves.

After the first review test,

Map c	Map c	Map c
Cap c	Cap ic	Cap c
Tat ic	Tat ic	Tat c
Fat c	Fat c	Fat c
Cat c	Cat c	Cat c
Tap c	Tap ic pat	Tap c
Nap c	Nap c	Nap c
Mat ic	Mat c	Mat c
Lap c	Lap c	Lap c
Hat c	Hat c	Hat c
Gap c	Gap c	Gap c
Rat c	Rat c	Rat c
Zap c	Zap ic zab	Zap c
That ic	That ic	That c
Student 1 12/14	Student 2 9/14	Student 3 14/14

- C denotes a correct response
- Ic denotes no response at all
- Ic word denotes incorrect response and word supplied

Each further test was conducted in a similar manner, the results are set out below

Test 4 6/8	Test 4 5/8	Test 4 8/8
Test 3 8/8	Test 3 6/9	Test 3 8/8
Test 2 9/9	Test 2 2/9	Test 2 8/9
Student 1	Student 2	Student 3

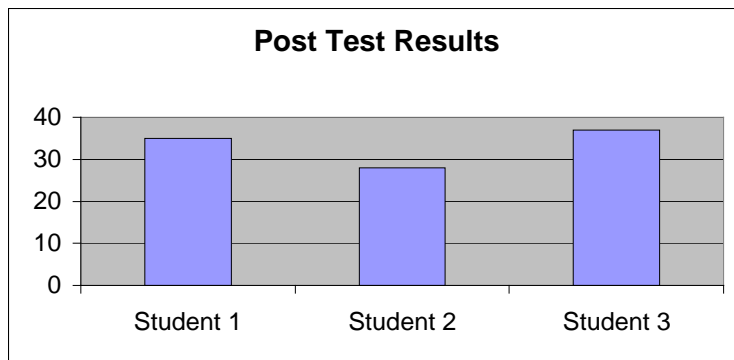
Student 2 found test 2 to be very difficult, the medial vowel sound was not recognized. At times the last letter of the word before was transposed into the word she was decoding or the last letter was read at the beginning of the word. Student 3 had much success with the words in this session, he was able to read fast and fluently. Analogy was made with other words that he knew and he was able to add a letter to the end of 'win' to make



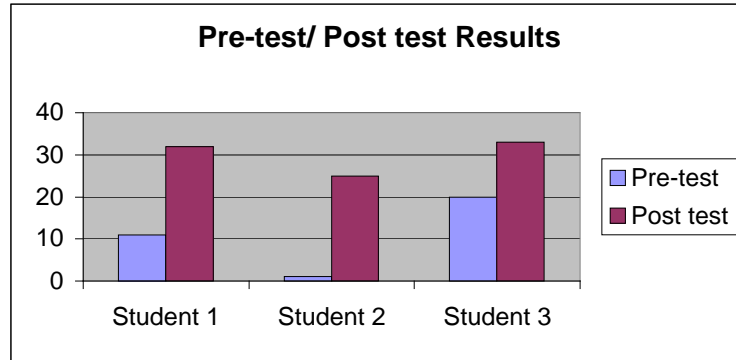
‘wind’. Prior to test 4, children were asked to complete a matching activity which targeted the visual aspect of these rimes. Students 1 and 3 found this required much concentration, student 2 found the task to be easy, yet she has experienced the most difficulty with her reading.

The final test administered to the students reviewed each word covered during the lessons. The test was administered individually. Words on flashcards were shown to the children to give an oral response. The results follow:

	Student 1	Student 2	Student 3
Words correct	35	28	37
Total words	37	37	37



Student 1 read 24 of the words with automaticity, 11 were read slower. He was able to segment the 11 words which caused him some difficulty, into onset and rime. The only difficulty he had was when a word had a blend as the onset. Although these words were thought of by the children in their lessons, the teaching did not address explicit teaching of initial blends. Student 2 read 20 of the 28 correct words with automaticity, 8 were read more slowly. At point of difficulty, student 2 reverted to decoding using the individual letter unit, not the rime. This child required further explicit teaching for this to occur automatically. Student 3 read all words fluently.



Results on the above chart show the improvement of the 3 children over the course of the intervention. Results are out of a possible 33. Student 2 was unable to read all words on the list given to her. The test had to be discontinued as I felt that she was uncomfortable with the inadequacy displayed.

Trends for the group indicate that all students benefited from the explicit, small group teaching of the monosyllabic rime units. The success they achieved during each lesson helped to build on their self-efficacy. Children were able to articulate that they were learning to read many new words in a new manner. Much oral practise was important, copying the teacher initially and practising on their own.

The data supports my hypothesis that explicit small group teaching of rime units improves a students accuracy at reading rime words at the word level.

## **DISCUSSION**

The action research project examined how to help students develop their knowledge of two letter dependable rime units and how we can use these to blend and segment words when we read and write.

The data gained generally showed that students reading improved when monosyllabic words with a two letter dependable rime unit were taught in a small group setting. The ability to ensure that children were focussed was critical. Student 1 has a hearing loss, within the classroom situation it may be more difficult for this child to attend to lessons. Student 2 has been recommended for programs from the Catholic Education Office to enhance various aspects of her phonological awareness. Student 3 has severe health problems which require hospitalisation from time to time and also ADHD. These students bring many other issues to class with them and at a given time they may not be ready to

learn. In the small group situation I was able to encourage these children when they were not attentive.

Self efficacy also has an impact on their learning. From the onset, it was important to engage and encourage each child with their individual efforts. Student 1 needed much positive reinforcement to continue each day at making an attempt. Enjoyment, motivation, and interest are essential for effective word solving.(Pinnell & Fountas 1998)

Upon comparison of the scores for pre-test and post-test, it is apparent that there are increases in accuracy in all of the rime units taught.

During lessons, children were able to orally provide a new pseudoword to our making and breaking sessions. Student 3 was able to also add an ending to some words. Although children could make up a word, they were not always aware that the word was in fact 'invented'. I endeavoured to point out when a word was indeed a pseudoword.

During lessons, once a rime was identified, children were able to read the next few words with the similar rime unit, fluently. At other times it was necessary to mix the words up so that children attended to the visual aspects of the words. Students 1 and 3 were able to do this well. Student 2 found it to be more difficult when playing a game and finding it necessary to check the medial vowel particularly. This was interesting to note as the same student was easily able to match words in groups as being the same so her attention to the visual would have been better I would have thought.

For student 1 the intervention may have heightened his awareness of rime units within words rather than looking at individual letters in a word. Student 3 was well able to do this, student 2 could do so with magnetic letters on a whiteboard when physically moving them and so would require further practise to consolidate this learning. Goswami and Bryant (1990) found that the easiest sound pattern for children to hear is a whole word, then syllable parts, and then individual letters. For children who have had difficulty learning to read, research has shown that the use of Wylie and Durrell's (1970) thirty seven most common phonograms gives children a visual pattern to recognise.

Children are seekers of pattern (Moustaff 1997). The more they know about how the language words, the more we find that they are able to make analogy, manipulate words and then become more efficient as word solvers.

It appears that students such as the three selected for this research, would continue to benefit from regular small group explicit instruction in further rime units together with reinforcement of those previously taught. Further work on analogy would benefit these children. Verbalising the onset and rime then blending these with magnetic letters helps to give a visual aspect to those children struggling to make the connections.

Teaching must focus not only on the visual but also the oral aspect of language. Lyon argues that " if beginning readers have difficulty perceiving the sounds in spoken words- if they cannot 'hear' the /at/ sound in fat and cat and perceive that the difference lies in

the first sound- they will have difficulty decoding or sounding out new words. In turn, developing reading fluency will be difficult, resulting in poor comprehension, limited learning and little enjoyment.”

Studies have shown that for some students the development of phonological awareness is slower than for their peers. These students, once identified, require explicit instruction. This may be from their teachers in the classroom as part of a small pull-out group, or it may be from parents or an aide at school following a particular program to address their individual needs also allowing for the manner in which they best learn. Individual learning plans should be devised for some children which would address a long term goal but also which would specifically target a short term goal. These goals need to be explicit, the number of weeks specified and evaluated at the end of this pre-determined period. The research project has shown that tremendous gains can be made in a short term.

Upon reflection, it would have been interesting to measure self efficacy in some way. This was not the intention of my research however it became evident that while there was one specific goal (to teach rime), self efficacy had an impact on their willingness to be open to some new learnings. This teaching was taken during a period when children were involved in a swimming program, routine was altered, much excitement and also some degree of tiredness. There were many distractions for each child and yet their response was positive to the daily withdrawal.

The majority of children make steady progress in their classrooms. The progress can be measured in many ways including the testing which occurs for children from Prep to Grade 2 within the ClaSS program. Some children make slow progress however and it becomes necessary to look further at the areas in which we need to be more explicit with these children. Assessment needs to examine students phonological awareness and their ability to learn letter clusters ( i.e orthographic knowledge), as well as how to use this knowledge when reading. Long term goals must be identified, short term goals and ways to achieve these need to be outlined. Different students may require variations in their third wave intervention. (Munro 2002) Children learn in many different ways and it is sometimes necessary to choose a different approach. Changes must be monitored and modifications made to the intervention we devise.

Further research could examine the impact that such teaching of rime units has on the prose reading of the child. The less time taken to decode words would free up ‘working space’ and allow a child to concentrate on bringing meaning to text thereby not needing to focus on the letter and word level but more on the sentence and conceptual levels of reading. This is ultimately our goal, to teach children to read fluently with meaning and to enjoy what they read.

**APPENDIX 1**

**RIME CLUSTERS**

a n

a p

a t

a w

a y

i n

i p

i t

o p

o t

u g

## APPENDIX 2

### RIME WORDS

ban	sat	pay
dip	cop	mug
lap	raw	pin
fit	pot	fan
hat	day	hip
pop	dug	map
saw	win	sit
rot	man	bat
way	lip	hop
jug	lap	law
tin	pit	dot

## APPENDIX 3

### TEACHING SESSIONS-RIME UNITS

#### OBJECTIVES

- ◆ To identify a rime unit
- ◆ To segment a word into onset/rime
- ◆ To blend an onset/rime to make a word
- ◆ To make an analogy between words known / unknown
- ◆ To articulate knowledge of rime units and how it helps in our reading

#### *Lesson One* (taken over two sessions individually)

Running Record taken to ascertain Instructional level for each child.

Test to ascertain rime units children know (two letter rimes). Appendix 1

Test to ascertain child's ability to read words with rimes to be taught. Appendix 2

#### *Lessons Two-Seven* (small group instruction)

Introduce the term Word Families to the children

- ◆ Magnetic letters to identify the rime unit to be taught-*teacher makes the rime unit on a whiteboard and children copy the rime after the teacher verbalises it.*
- ◆ Choose some consonants to become onsets.-*each consonant is sounded as it is placed on the whiteboard*
- ◆ Discuss sounds that these make-together with letter names
- ◆ Add the onset to each rime c at-*children stretch out the word cccc / at*
  - b at
  - eg. s at
  - f at
- ◆ segmenting and blending using magnetic letters-*taking the words apart slowly to see the onset and rime, put the words back together*
- ◆ on whiteboards write the words s/at, f/at-*teacher says the words to children as they write them on the whiteboards (emphasis on the shared rime unit)*
- ◆ read each word out individually-*lids on textas, turn them into pointers and read each of the words to the group. I gave the slowest child the opportunity to listen to the others first for further reinforcement.*

- ◆ erase the words, quickly... write cat, rub it out  
quickly...write fat, rub it out etc.-*children had to think of the visual and concentrate, no time to look around for prompts. Use of the Look, say cover, write, check method.*
- ◆ choose a word for Tchr to write on a flashcard-*what is your favourite word, spell it to me to add to our flashcards.*
- ◆ Variety of activities, look at the word, now write it down, what is this word you see? Complete the worksheet with the rime unit, read and do activity, look at the picture what rime unit would it have in it?*each day the activity changed a little to reinforce the rimes taught.*
- ◆ Listen to a short story or poem with the rime units, shared reading at times to reinforce the rime.
- ◆ Complete a worksheet focussing on the rime unit in the word-*this activity provided reinforcement to children as it could be marked with a positive comment and taken home to gain further reinforcement and contact with the parents.*
- ◆ Stepping stones played on the floor-individually walk over the word and say it out loud
- ◆ Articulating what we have learnt today.

Lessons moved quickly focussing on onsets and rimes, the segmenting and blending of these. Visual and oral cues were used to help children with their learning.

### ***Lesson Eight***

Review of the V-C rimes taught. Children played a game where they threw dice which had consonants or vowels on them. Referring to picture cards, they attempted to make a word, turning the card over confirmed that they were correct/incorrect as the word was printed.

*Game—LDA CVC Shake a Word Dice Game*

Testing of the words we had made into flashcards followed as the assessment activity. Self corrections were noted and the way that children decoded the words was also recorded.



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