

## **Abstract.**

A problem some students have is their lack of ability to segment words into onset and rime. This affects their accuracy, phrasing and fluency when reading text.

The student in this study was using distinctive visual features (dvf) to try unknown words, due to his poor orthographic knowledge. He was exposed to explicit 1:1 teaching in ten, three letter dependable rime units to develop an awareness of these rime units and how to segment and blend words containing them.

This Action Research Study examines the effectiveness of explicit rime instruction and whether it improves accuracy and fluency when reading prose.

The hypothesis tested was:

“Teaching dependable rime units reduces the dependence of a Grade 2 student on distinctive visual features and improves accuracy and fluency when reading prose.”

The student was assessed and a teaching procedure was developed, after which he was assessed again. The findings indicated that whilst there was no significant gain in reading level at the conclusion of instruction, the student did make changes in his approach to reading unknown words. He used letter clusters more and relied less on dvf. His fluency, speed and accuracy when reading prose also improved.

## **Introduction.**

Some students at Junior Primary Level rely on Distinctive Visual Features (dvf) instead of rime units and letter clusters to identify words in text. Children who do this are not searching words for recognizable patterns which frequently leads to inaccurate reading of many words and loss of meaning on text. The student in this study has good phonological awareness (see Table 1) but is unable to transfer his phonemic knowledge to the use of onset and rime segmenting and blending in text.

Ken Hudson in his article “Onsets and Rimes” (Australian Journal of Learning Disabilities Dec. 1996) states that, “Research has shown that onsets and rimes are psychologically distinguishable units for children long before they begin learning to read (Goswami 1994 p22).

A child before reading cat/bat/rat, is able to hear the rhyme ‘at’ without knowing the actual letters therefore onset-rime awareness precedes reading.”

Research also indicates that a pre-school child’s future reading and spelling ability could be predicted by his/her ability to categorize words by onsets and rimes.(Bradley and Bryant 1983 and 1985.) The child could have this existing strength of onset-rime awareness that the teacher should be using to the fullest.

Researchers have found that children find it easy to learn to read words by use of rhyming phonograms (rime- families of words that use the same rime.(Jager, Adams 1990 p84)

Onset-rime awareness provides the child with very consistent spelling patterns eg.if a child knows fast/last/past and reads the unfamiliar words vast/mast, he/she will transfer the pronunciation of the ‘ast’ rime to read the new words. This is far simpler than teaching spelling through individual sp/sound correspondences and phonic generalizations.

Adams (1995) says that while the pronunciation of vowel sounds is “frustratingly unreliable” the vowel sounds within rimes are generally constant, and that we should be helping children learn the common spelling patterns that have stable pronunciations, rather than the traditional vowel digraphs ie. It is better to teach the dependable rime ‘eat’ than ‘ea’.

Clay(1993p19) says that we do not need to teach the total inventory of items. If we give the child knowledge of some items and a strategy which can be applied to similar items, then he/she has a general way of approaching new items. Therefore, if children know the common (or most dependable) rimes, they will have a much better chance of working out and assimilating unfamiliar rimes.

Gunning(March1995) found that when analysing readings, the most frequent strategy used by seven year old children was to pronounce the beginning consonant and then the whole word (buh-bat) which suggests that the children divided words into onset (initial consonant or consonant cluster ) and rime (vowel or vowel plus consonant element eg. h+e, c+at, dr+op).

Gibson (1985) found a tendency for both adults and children to use letter clusters or units of an order higher than the single letter to decode words.

Onsets and rimes may be the natural sound units of words and have a more predictable pronunciation. The letter ‘a’ may represent a dozen or more pronunciations, ‘a’ followed by a consonant usually represents a vowel (at).

The present investigation aims to extend earlier research by examining the influence of specific dependable rime knowledge on reading accuracy and fluency in prose.

## **Hypothesis**

Teaching dependable rime units reduces the dependence of a Grade 2 student on distinctive visual features and improves accuracy and fluency when reading prose.

## **Method**

### **Design**

This study uses a case study OXO (assess, teach, assess) design in which the gain in onset and rime word reading accuracy and prose fluency, following explicit dependable rime teaching is monitored for a junior level student who has reading difficulties.

### **Participant**

The participant is a Grade 2 student who continues to have reading difficulties despite 1:1 intervention on the Reading Recovery Program in 2002. His entry age and pre-test assessment results are recorded in Table 1

**Table 1 Student Gains from Rime Teaching**

	<b>Pre -Test</b>	<b>Post test</b>
Age	7.6	7.6
Instructional Reading Level	15 (90%)	16 (94%)
Orthographic Word Reading Test	42	61
Rime Units Test	87	114
Sutherland Phonological Awareness Test	50	N/A
Speed of Text Processing (200 words)	8.5 min	6.0 min

## **Materials**

1. The Rime Units Test devised by John Munro was used prior to instruction to assess which rimes were secure and which ones needed to be taught,
2. The Orthographic Reading Test was also administered to determine which rimes were already secure and where the student would benefit most from instruction.
3. Running Records were taken on 3 PM texts and analysed to determine a reading level at the commencement of the case study. The text readings were taped and timed for fluency ( pre and post assessment)
4. The Sutherland Phonological Awareness Test ( SPAT ) was also administered to determine the student's phonological awareness ability .
5. After assessment, ten, three letter rime units from the thirty seven dependable rimes list were selected and put onto flashcards. Separate onset cards were made so the children could match onsets and rimes to say the word. ( eg. pl-ain, tr-ain). Whole words containing the selected rimes were also written on cards for use in activities eg. Snap and Memory.
6. Magnetic letters were used for segmenting and blending of the rime unit being taught.

## **Procedure**

Pre-assessment on the Orthographic and Rime Unit tests indicated that two letter rime units were mostly secure and that the student was competent using most rimes where the silent e rule applied. He struggled with vowel blends(ain), vowel consonant blends ( ore ), and vowel consonant consonant blends (ump).

The following ten dependable rimes were chosen for explicit teaching:

- eat, ain (vvc)
- ick (3letter 2sound)
- ink, ump, ask, est(3letter 3sound)
- ice, ake, ore(vce)

This combination gave the student experience dealing with different types of three letter dependable rimes.

The student worked with the Reading Recovery teacher in a 1:1 situation in a quiet room for twenty minutes each day for ten lessons.

Each session consisted of:

- quick revision of rime learnt the previous day(except day one)
- introduction and explicit teaching of the new rime to be learnt(using cards described in Materials 5.)
- games with flashcards and magnetic letters using the new rime and previously taught rimes.

## **Results**

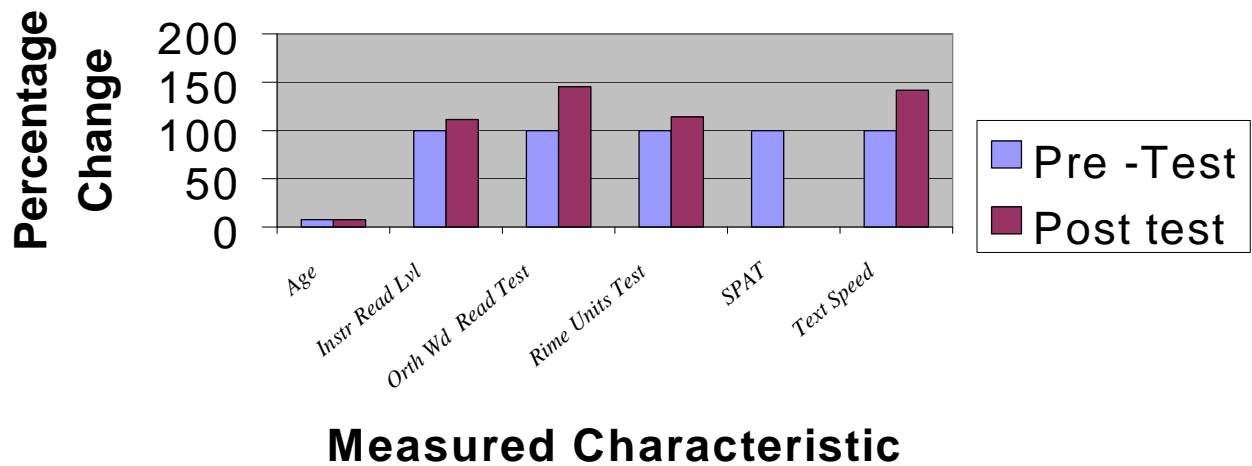
The results, shown in Table 1, indicate that the student made gains after intervention in his use of letter clusters when reading individual words. He was quicker and more accurate on both the John Munro Rime Units test and the Orthographic Reading test, in the Post Test.

Running Record Analysis indicated that whilst the student did not make significant gains in reading level, he did make better use of letter clusters (rime units) and relied less on distinctive visual features of words, which was the aim of instruction.(refer Hypothesis). He also was more fluent after instruction. His reading, which was taped at the Pre-test and Post-test assessment, improved in speed, phrasing and fluency, due to fewer pauses and repetitions.

The Sutherland Test given at the Pre-test assessment indicated no phonological awareness problems total score 50/58), so Post-testing was not indicated.

The information presented in Table 1 is displayed in the following graph.

## Student Gains from Rime Teaching



### Discussion.

The hypothesis being tested in this research has been supported by the results. The data indicated improved accuracy on the Orthographic Reading Test and Rime Units Test after explicit teaching of the ten dependable rimes. It is interesting to observe that whilst only ten rimes were chosen (due to time constraints) for this study, the student was able to attempt segmentation of words that contained rimes not taught in the study. His approach to reading unknown words had changed from relying totally on dvf, to chunking words using onset and rime. He was able to successfully segment words with a rime he had been taught, and make better approximations with untaught rimes. Before instruction he read 'park' as 'pack' on text but after instruction was able to segment the word 'mark' and get it right.

The student's improvement in speed and fluency of text processing supports research conducted by Adams (1990) and Juel and Minden-Cupp (1999) where they asserted that intervention to improve the automaticity of the student's word reading should lead to improved prose reading. By focusing on rime units as key orthographic features of words, instead of distinctive visual features (dvh) the student has learnt to recognize more rime units as individual chunks.

According to the works of Adams (1990) Juel and Minden-Crupp(1999) and Stahl and McKenna(2001) this should lead to more successful prose reading.

The student in this study was accurate after intervention, when reading words in prose containing dependable rimes he had been taught. Whilst there was a relatively low increase in accuracy for words not containing the rime units taught, he had changed his approach to analysing unknown words and now relied less on dvf and more on chunking words using an onset-rime approach. He was now able to transfer some rime unit knowledge to new words. With continued regular, explicit instruction to build up orthographic knowledge of rime units, he should become more proficient at reading rime units and using analogy to chunk new words.

The gains made by this student have shown that explicit, individual instruction aimed at the student's specific needs is beneficial. A program that is developed to address a student's needs, after careful assessment, can produce significant gains through short, intensive teaching sessions.

In conclusion, the results of this study suggest that some children need specific instruction outside the normal classroom, in the areas where they are experiencing difficulties, and that this can lead to improvement on text reading. Careful assessment is necessary to determine what is causing the difficulties and to assist in the development of a teaching program tailored to meet the needs of individual students, and thus improve their ability to develop a self-extending system and become independent readers.

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## **Appendix 1**

### **Teaching Units**

#### **Outcome**

The activities undertaken during the teaching sessions, are designed to improve a grade 2 student's reading fluency and accuracy.

The aims are that the student will be able to:

- say accurately, each dependable rime taught.
- Correctly segment and blend single syllable words using the taught rimes.
- Transfer his knowledge of the rimes learnt to other single syllable words.
- Use his improved knowledge of letter clusters and rime units to reduce his dependence on dvf when reading prose.
- Improve self-efficacy when reading prose.

#### **Activity**

### **Teaching Procedure**

#### **Lesson 1.**

1. Teacher introduces rime unit to be taught (eat) on a flashcard and reads it with the student, getting him to repeat it.
2. Teacher adds onset card to "eat" and says, "now this word says m-eat(meat). Teacher separates onset and rime cards a few times, blending the word slowly each time. Child repeats.
3. The procedure is repeated for four more words- heat, beat, seat, treat.
4. Teacher quickly changes onset cards and child blends the word with the rime "eat".
5. Magnetic letters are provided for the child to manipulate and make words using the given onsets and taught rime.

#### **Lesson 2.**

- quick revision (using onset-rime cards and whole word cards) of yesterday's taught rime.
- Introduce new rime to be learnt (ain) and follow same procedure as for "eat". Steps 1-5.
- Play "Snap" using "eat" and "ain" words. Snap if the rime unit is the same.

#### **Lesson 3.**

- revise "eat" and "ain" words using flashcards.
- Introduce "ick" and repeat steps 1-5 from lesson 1.

- Student sorts flashcards of whole words into 3 groups – eat , ain, ick, and reads the words.
- Play “Memory”, saying each word as it is turned over, using all words taught (keep a pair which has the same rime unit )

#### **Lesson 4.**

- revise “eat”, “ain”, “ick” words, using flashcards.
- Introduce “ink” and repeat steps 1-5 from lesson 1.
- Make lists of words on whiteboard and read them.
- Play “Snap” using all rime units taught.

#### **Lesson 5.**

- revise “ick”, “ink” words
- introduce “ump” words and repeat steps 1-5 from lesson 1.
- Add “ump” words to whiteboard list.
- Play “Snap” or “Memory” using “ick”, “ink” and “ump” words.

#### **Lesson 6.**

- revise “ump” words.
- Introduce “ask” words and repeat steps 1-5 from lesson 1.
- Add “ask” words to whiteboard list.
- Play “Snap” or “Memory” using “ick”, “ump” and “ask” words.

#### **Lesson 7.**

- revise “ask” words.
- Introduce “est” words and repeat steps 1-5 from lesson 1.
- Add “ask” words to whiteboard list
- Play “Snap” or “Memory” using “ump”, “ask”, “est” words.

#### **Lesson 8.**

- revise “est” words.
- Introduce “ice” and “ake” words. ( These rimes are introduced together as the student has a good understanding of the silent e rule, indicated in the Orthographic Reading Test). Repeat steps 1-5 from lesson 1.
- Add “ice” and “ake” words to whiteboard list.
- Play “Snap” using “ice” and “ake” words.

#### **Lesson 9.**

- revise “ice” and “ake” words.
- Introduce “ore” and repeat steps 1-5 from lesson 1.
- Add “ore” words to whiteboard list.
- Play “Snap” or “Memory” using “ice”, “ake” and “ore” words.

## Lesson 10.

- revise all taught rimes using flashcards to:
  1. make and break words using onset and rime cards {and read them}
  2. sort words into groups where the rime is the same and read them.
  3. Play “Snap” using all rimes taught.
  4. Read lists on whiteboard and add other untaught words to each group.

The words used to reinforce the Rimes taught were taken from a list provided by John Munro.

- “eat” - meat heat beat seat treat
- “ain” - gain, main pain rain chain
- “ick” - lick pick sick tick brick
- “ink” - pink sink wink think drink
- “ump” - bump jump lump dump grump
- “ask” - cask mask task flask
- “est” - best nest rest test chest
- “ice” - dice mice nice rice slice
- “ake” - bake cake take lake shake
- “ore” - more core sore snore store

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