Explicit teaching of two letter dependable rime units to Year one students improves word and prose reading.

Abstract

The extent to which individuals build their understanding of letter-sound relationships, simple or complex, without specific instruction, as they learn to read varies greatly. For some students who are having difficulty making the connection between speech and print, explicit instruction in phonemic awareness and alphabetic coding is likely to be critical. Snow and Juel, 2005 (cited in Ryder, Tumner and Greaney, 2007) concluded that explicit attention to alphabetic coding skills in early reading instruction is 'helpful for all children, harmful for none and crucial for some' and that 'the development of detailed orthographic representations is vital to the automatization of word recognition'.

The aim of this study was to investigate whether explicit instruction in two letter dependable rime units improves word and prose reading for Year one students who are demonstrating reading difficulties. Six year one students in their second year of school who were considered to be 'at risk' in reading, were assigned to an intervention or control group, each group containing three students. After initial testing the intervention program was carried out over a period of 4 weeks and comprised of 11 sequenced lessons focusing on 2 letter dependable rime units. The lessons were delivered by an experienced classroom teacher in a quiet, uninterrupted classroom. The study compared the results of the two groups of students. Post test results showed that the explicit and sequential instruction of two letter dependable rimes made a considerable impact on the students learning. The intervention group outperformed the control group in measures of word and prose reading accuracy. The implications of this study is that a balanced literacy program should facilitate the explicit and systematic teaching in alphabetic coding skills, both in isolation and in combination with, plenty of opportunities to practice and refine word identification skills and strategies during text reading.

Introduction

The degree of reading related knowledge skills and experiences varies greatly between school beginners. Ryder et al (2007) refer to a considerable amount of research (Nicholson, 2003; Tunmer, Chapman and Prochnow, 2003; Whitehurst and Lonigan, 2001) which suggest that children enter school with large individual differences in the experiences and competencies important in learning to read.

David Sousa in his book, "How the Brain Learns to Read", states that 'some children – perhaps 50% - make the transition from spoken language to reading with relative ease, once exposed to formal instruction. It appears, however, that for the other 50%, reading is a much more formidable task, and for about 20 to 30 percent, it definitely becomes the most difficult cognitive task they will ever undertake in their lives.' Sousa (2005 p.32)

Westwood (2001), cites previous studies, Adams et al. 1998; Castle 1999; Tunmer and Chapman1999; Wolf et al. 1994, which have confirmed that children with literacy learning problems very frequently exhibit poorly developed phonological skills.

As children continue to read, develop their understanding of sound patterns in speech and recode written words, they learn to recognise letter clusters rather than individual letters. In turn this increases their word recognition efficiency.

Westwood (2001) refers to many studies which specifically focus on the effects of specific training in phonemic awareness that show conclusively, for optimum impact on reading skills, phonemic training needs to be accompanied by the explicit instruction in the relationship between phonemes and the letters used to represent them in print. (phonics)

'Sounding out' a word accurately phoneme by phoneme is a difficult task which makes considerable demands on working memory. Young children can more readily identify word segmentation that divides words into units that are smaller than syllables, but bigger than phonemes. These units are called onset and rime. (Treiman, 1992 cited in Iversen, 1997). A single syllable word can be divided into an onset (beginning) and a rime (ending). The *onset* is a single letter or group of letters that come before the vowel. The *rime* is the group of letters that starts with the vowel and continues until the end of the word.

Some experts are now suggesting that children be taught almost from the start how to recognise letter groups rather than placing too much emphasis on decoding from individual letters. It is suggested that teaching rimes, prefixes and suffixes can be particularly helpful.

Gunning (2001) as cited in Westwood (2001) believes that teaching letter groups as pronounceable word parts is very effective because that is the way that children naturally try to decode words. It is also argued that the recognition of letter groups supports a child's ability to make analogies between familiar and unfamiliar words.

Munro (1998) has found that 'the concept of a word, rhyming and onset-rime segmentation, are all powerful predictors of later reading ability. He further states that 'not only do these gains improve word recognition but also reading comprehension. As well, structured, explicit teaching in these areas, lead to improvements in reading.' (Munro, 1998, p.9)

One type of rime unit frequently taught is the 'dependable rime'. From these 37 rime units over 500 words can be made. (Wylie and Durrell, 1970) as cited in Iversen, 1997. The rime units are called dependable because in each case the rime has the same rhyme. For example all the words that end with 'at' such as cat, rhyme with cat.

The 'whole language', constructivist approach to reading instruction and intervention, where opportunities for word analysis arise at the point of need, usually from the child's errors during reading, may be suitable for most children who enter school with high levels of reading related knowledge, skills and experiences.

However, Ryder et al (2007) refer to a large body of research in opposition to the whole language approach indicating that ' the degree of explicitness and detail with which word level skills and strategies are taught is important for most beginning readers and in particular for struggling readers.'

Ryder et al (2007) identify several advantages of explicit and systematic instruction of orthographic patterns and word identification strategies in isolation from text reading. Firstly, it allows the learner to focus specifically on letter-sound patterns. Secondly, the decoding skills learnt can be applied to all text and can be applied to words not seen before, i.e. to make analogies between words. Thirdly, it helps beginning and struggling

readers to not be reliant on ineffective word identification strategies such as using picture cues and sentence context cues to work out unfamiliar words, rather than using these cues to support word level information and finally, it helps them to see the benefits of using word-level cues as the most useful source of information to work out unfamiliar words. The present study compares the learning outcomes of six students from predominantly 'whole language' instruction classrooms, three of whom were given explicit instruction in 2 letter dependable rime units and three who were not. The results of this study show how this approach to literacy instruction and intervention may accelerate, in a relatively short time, a student's ability to decode words successfully in both isolated word and prose reading. For some beginning and struggling readers this may in fact be the key to unlocking what is a very complex task – learning to read.

<h1 style="text-align:center">Method</h1>

Design:

The study uses a case study OXO design in a naturalistic setting. The gain in word and prose reading is monitored following explicit teaching of two letter dependable rime units for Year one students who are considered at risk. The study compares the results of 3 students in an intervention group to 3 students in a control group.

Participants:

The participants for this study are Year one students who were identified 'at risk' not having met the benchmarks for literacy at the end of Prep. They were selected from the tentative list for Reading Recovery. They will not however be given the opportunity to participate in the Reading Recovery program as they are not the most at need in the year level. The students were selected from two classes in the Year 1/2 level and were identified by their classroom teachers as the lower achievers who would benefit by extra assistance. Both classroom teachers are experienced having taught for 20 or more years and use a predominantly 'whole language' approach to reading instruction. Focus on phonological and phonemic knowledge would occur at the point of need within small group or individual reading situations. The six students for this study were chosen after initial screening of 11 students using the Rime Unit test (Dalheim, 2004) as the results indicated that this was a particular area that needed focus.

A brief description of the participants is shown in Table 1.

Name	I/C	Sex	Age in Y/M	Grade Level	Text Level	ESL	EMA	Background information and learning behaviours
Student A	I	F	7Y/5M	1	13	no	no	**Youngest of 2 children** **An enthusiastic learner who is confident to have a go** **Wears glasses** **Some speech articulation errors** **Overuses DVF** **Loves to write however spelling is very poor**
Student B	I	F	6Y/4M	1	8	no	no	**Youngest of 5 children.** **Confident learner. Some use of immature and grammatically incorrect speech. Gives up and seeks assistance when faced with unfamiliar words. Loves to write however**

								spelling is very poor.
Student C	I	M	6Y/11M	1	8	no	no	Youngest of 3 children. Positive about reading, will attempt unfamiliar words. Avoids writing tasks. Poor spelling skills.
Student D	C	M	6Y/9M	1	14	no	no	Eldest of two children Positive attitude; organised in his work. Takes a while to process information. Slow to complete work. Poor spelling skills
Student E	C	M	6Y/2M	1	8	no	no	Youngest of 3 children Usually enthusiastic but will give up if he thinks he cannot do task. Has several speech articulation errors. Limited concentration span. Overuses sounding out individual letters when reading
Student F	C	F	6Y/5M	1	9	no	no	Eldest of two children Doesn't like to take risks and will rarely ask for help. Often nasally and get lots of ear infections Loves to write however spelling is very poor

Table 1.   Participants

Materials:

The assessment tasks used as pre and post tests for this study included measures of phonemic awareness, phonological decoding, context free word recognition, spelling and instructional text level.

Materials used for PRE and POST TESTING included the following:

Letter ID (Clay)

Rime Unit test

BURT word recognition test

Sutherland Phonological Awareness Test (SPAT)

South Australian Spelling test (SAST)

PM Benchmarks

Observation and discussion with classroom teacher

Materials used in the TEACHING SEQUENCE included the following:

Pencil/work book

6 picture cards for each rime unit

6 word cards for each rime unit (cut into onset and rime)

Blank flashcards

Worksheet (letter box word shapes)

Flip book

Making and Breaking Game (onset and rime)

Small book with rime unit used in prose (commercial and/or constructed)

Procedure:

The assessment tasks were administered to all students in the following order. All potential students (11) were screened using the Rime Unit test. The 6 students chosen for the case study (3 intervention group and 3 control group) were administered the remaining pre/post tests in the following order:

Letter ID

Sutherland Phonological Awareness Test

PM Benchmark

BURT word test

South Australian Spelling test

All tests were conducted in a quiet classroom environment, free from noise or distraction. All tests except the SA spelling were carried out individually. Due to time constraints the SA spelling was implemented to a group of 3 students.

The intervention program comprised of a sequence of 11 lessons conducted over 7 sessions. The lessons focussed on introducing and revising 11 of the two letter dependable rime units. The lessons were conducted in a quiet classroom environment by an experienced teacher over a period of four weeks. Each session was conducted on two consecutive days, with the time varying from 1 hour to 1 hour and 15 minutes, allowing

for a short interval in between. Most sessions comprised of two lessons hence the need to take a break! Each child in the intervention group received a minimum of two hours of small group instruction per week. This was in addition to their regular classroom literacy instruction. During the intervention the 3 students from the control group continued to receive the standard whole language instruction and support provided by their classroom teacher.

The lessons in the teaching sequence were based on Munro's 'Phonological Awareness Pathway'. Each lesson targeted a particular rime unit. The sequence in which rime units were introduced was based on the understanding that rime units should be closely related e.g. at, et, it, an, in etc.

The children were presented with six pictures that contained a focus rime unit, each picture was named and the rime unit identified. Flash cards with the rime unit were shared among the students and a set of onset cards placed in the middle. Each student took turns to choose a picture and match the onset to the rime. Once matched, the student said the word in two parts e.g. c-at. The students were then asked to generate other words that rhyme with the focus group. These words were written on cards and added to the list. The students read the words and were cued to identify the rime units and onset.

Using the letter shape boxes students wrote the words in the appropriate box. The students then chose 3 words each to say in a sentence. With the help of the teacher the focus words were used to make up a story and recorded in a booklet to be used for revision in the following lesson. Each student was given a flip book containing the focus words and a picture to colour and keep. The lesson concluded with a reflection of what had been learnt in the session.

The following lesson began with the students re-reading the words and the text from the previous lesson.

In between sessions the children were able to revise the rime units by playing a 'word making' type game where they each had a board containing 3 previously taught rime units and were required to turn over an onset from the pile and decide whether it made a word on their board. They also read phonic based books that contained the rime units.

(Fitzroy Readers and/or Fun with Phonics) These rime reinforcement activities were used independently during the regular classroom literacy time.

Following the teaching sessions with the intervention group, all students were then post tested using the same materials and procedure as in the pre-test. All the data that was collected from the assessment tasks and during the teaching sequence was recorded in a log book for further evaluation. The data was analysed by making comparisons between the intervention and control group and by examining the learning trends for individual students.

Results

The pre and post test results for all participants in the study are shown in Table 2.

Student	Text Level		Letter ID /54		SPAT /58		Burt		Rime Unit / 95		S.A Spelling Test B A	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
*A	13	14	52	54	27	31	25	29	19	52	11	22
*B	8	13	53	54	28	36	18	25	20	48	11	21
*C	8	12	49	54	30	36	19	25	30	79	11	12
D	14	14	51	51	42	39	21	25	51	61	17	20
E	8	10	52	53	30	28	16	22	25	26	12	10
F	9	11	52	52	36	37	21	26	31	45	13	18

Table 2   Pre- Post test results for all students   *indicates intervention participant

Table 2 shows that overall; the most significant gains were made by the students in the intervention group. The children in the control group made some progress over the six week period and in most cases maintained or slightly improved on their previous performance scores. The intervention group as a whole showed great improvement in their instructional text level and the rime unit test. Students A and B also made significant improvement in the SAST.

The specific test results and comparisons between the participants can be seen in the following graphs.
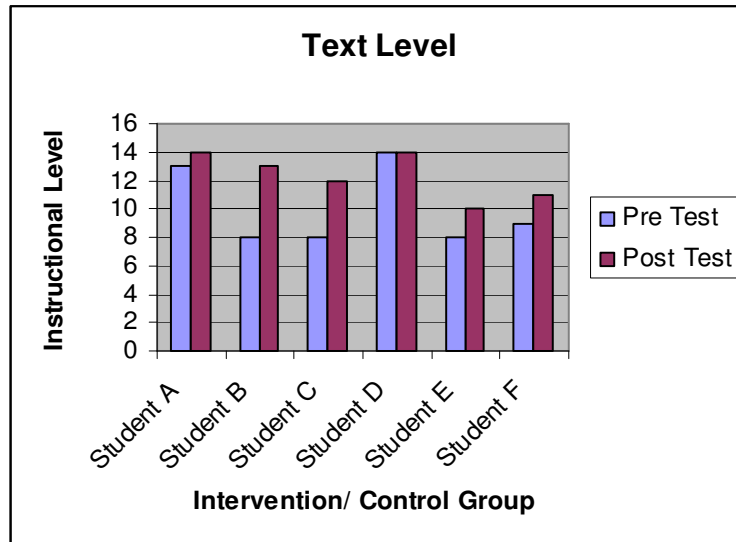
Text Level

Figure 1   Instructional text level

Figure 1 compares the pre and post instructional text levels for all students. All students maintained or increased in their instructional text level with the most significant increases being shown by the lowest students in the intervention group. The average increase for the control group was 3 text levels.
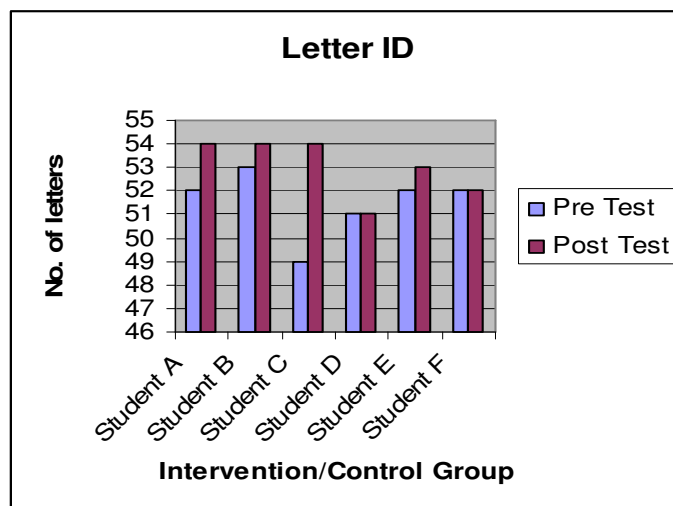
Letter ID

Figure 2   Letter ID Test

The Letter ID test was used to establish both letter name and sound knowledge. The results show that all students have acquired the basic skill of understanding the relationship between common sound units and single letters of the alphabet. Letter identification scores for pre and post testing show that students in the intervention group have consolidated their understanding of the alphabetic code and have overcome any previous confusion. The children in the control group are still experiencing confusion with some letters.
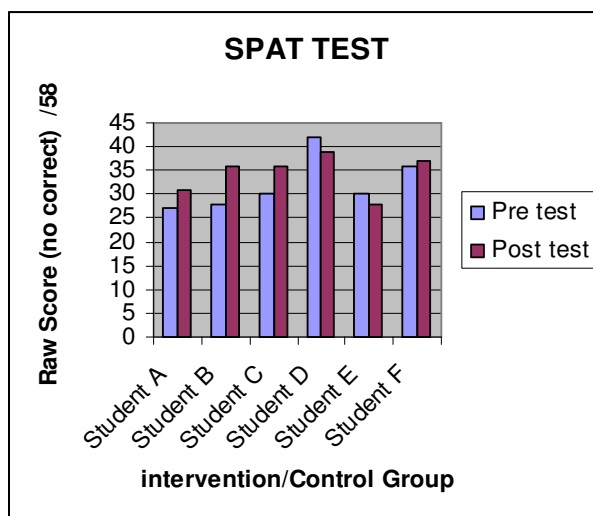

Figure 3   Sutherland Phonological Awareness Test

The Sutherland phonological awareness test is a measure of the child's ability to notice, think about and manipulate sounds.

The pre test showed that student A, B, C and E were one standard deviation below the mean for Year one students indicating a significant weakness in phonological awareness. Student D showed high phonological awareness and was successful in items 9 to 11 which is not an expectation in Year one. Student F was within the normal range.

In the post test both student A and E continue to display significant weaknesses in phonological awareness. This is of particular concern with Student A, who has showed some improvement after intervention but is still well below the mean.

S.P.A.T	Syllabic and Subsyllabic Level Items 1-4 /16		Phonemic Level (CVC) Items 5-8 /16		Phonemic Level (Blends) Items 9-11 /12		Grapheme – Phoneme Correspondences /14		Total Score /58	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Student A	13	16	13	13	1	2	2	3	27	31
Student B	15	16	12	16	1	2	2	4	30	38
Student C	14	16	16	16	0	4	4	7	34	43
Student D	15	14	16	16	11	9	9	12	51	51
Student E	15	13	15	11	0	4	5	5	35	33
Student F	14	15	15	16	7	6	6	8	42	45

Table 3 Sutherland Phonological Awareness scores

Table 3 shows the results of particular items within the test and highlights the successes and weaknesses for all students. The post test results show that the intervention group have improved in items 1-4 the syllabic and subsyllabic level, which assesses syllable counting, rhyme detection, rhyme production and identification of the onset. The control group have not yet consolidated their skills in this area in fact students D & E scored less in post testing. At the phonemic level which focuses on identification of the final phoneme, segmentation, blending and deletion of the initial phoneme students B, C, D and F displayed good skills in these areas. Students A and E scored low particularly in Item 8 deletion of the initial phoneme. Items 9 – 11 which assess segmentation, CC blends: delete first phoneme and CC blends: delete second phoneme are not an expectation in Year 1 but the results show that there are signs of emerging skills for students C, E and F and student D has established the skills in these areas.
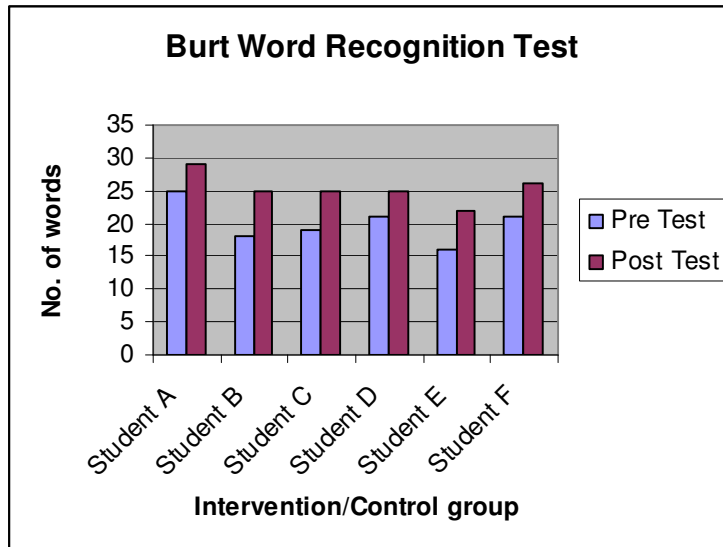
Figure 4   Burt Word Test

The Burt word test is measure of context free word reading. Figure 5 shows that students in both groups have made progress in this area with an average increase of five words. Students B and C who in pretesting were well below expected, are now within or just slightly below the normal range for their age. Student A, however remains at least 4 months below the expected level when compared to students of similar age.

The students in the control group are all within the normal range for their age.
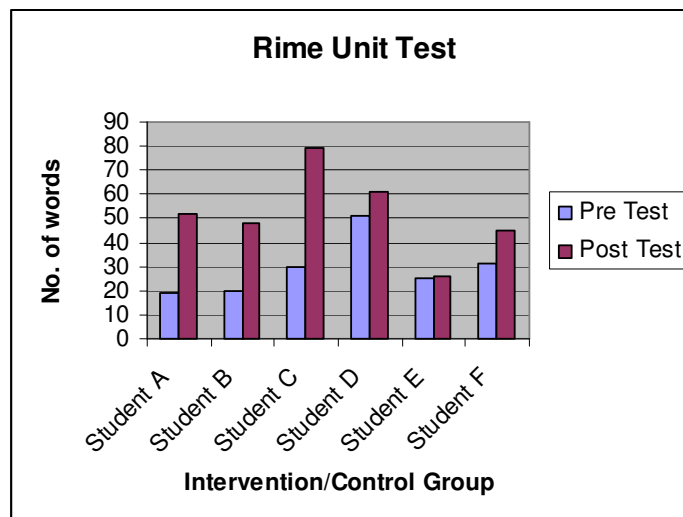

Figure 5   Rime Unit Test

Figure 5 shows the overall results for the Rime Unit Test. The total number of words attempted by each student was 95. Students A, B and C (the intervention group) made significant improvement in their scores. Further evaluation of responses (Table 4) indicated that the 2 letter rime units explicitly taught in the teaching sequence were identified rapidly and automatically in 3 letter (CVC) words and to a slightly lesser degree in 4 letter (CCVC) words. However, this instant recognition did not transfer to the rime unit 'ab' which was not part of the teaching sequence. The ability to break words into onset and rime also did not transfer to 4 letter (CVCC) and 5 letter (CCVCC) words for rime units that were not explicitly taught. These findings are shown in Table 4 below. Student C showed the greatest gains overall which was surprising as the participation and engagement for this student was not as consistent as the others in this group. The control group showed minimal progress in general however Student D who initially scored comparatively well, has continued to develop skills at word level.

	3 letter words *(CVC) /24		4 letter words *(CCVC) /24		4 letter words (CVCC) /24		5 letter words (CCVCC) /23	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
STUDENT A	8	19	2	20	7	12	2	3
STUDENT B	12	21	3	15	5	12	0	0
STUDENT C	19	24	3	20	8	20	0	15
STUDENT D	18	20	15	21	20	22	18	18
STUDENT E	14	13	5	7	6	6	0	0
STUDENT F	17	18	7	11	4	11	3	5

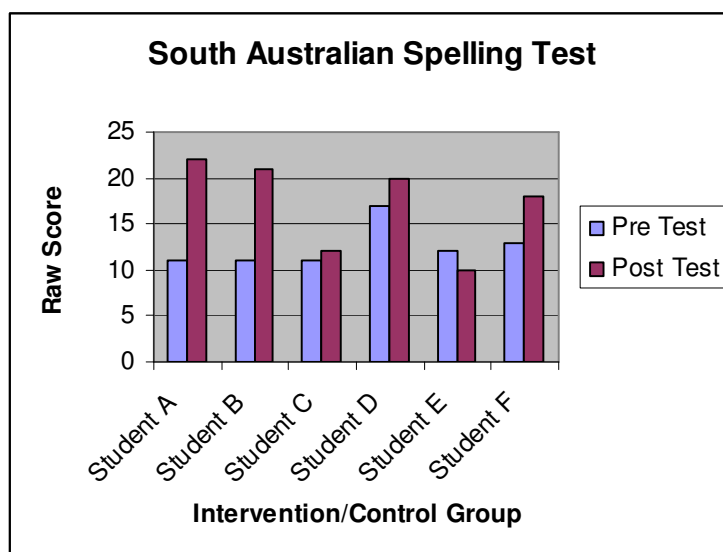Table 4. Rime Unit Test comparison between 3, 4 and 5 letters words   * target rime unit

Figure 6 South Australian Spelling Test

The results for the 'South Australian Spelling Test' which is a standardised test of spelling achievement for students in the age range 6 to16 years are shown in figure 6 . The pre test was conducted using Form B. The results for the group indicated that all students were below average spellers for their age. Although students B,D,E and F were within the normal range they were all at the low end. Student C was below the normal range, however, was not considered critically low. Student A however was found to be in the critically low category, almost certainly needing support to develop more effective spelling strategies.

The post test, using Form A, shows that student A made significant improvement, now within the normal range and just below average for the age. Student B was still within the normal range but now showing an above average score. Student C however did not make any progress and is now considered to be in the critically low category.
The control group students D, E and F are still within the normal range but are slightly below average for their respective age.
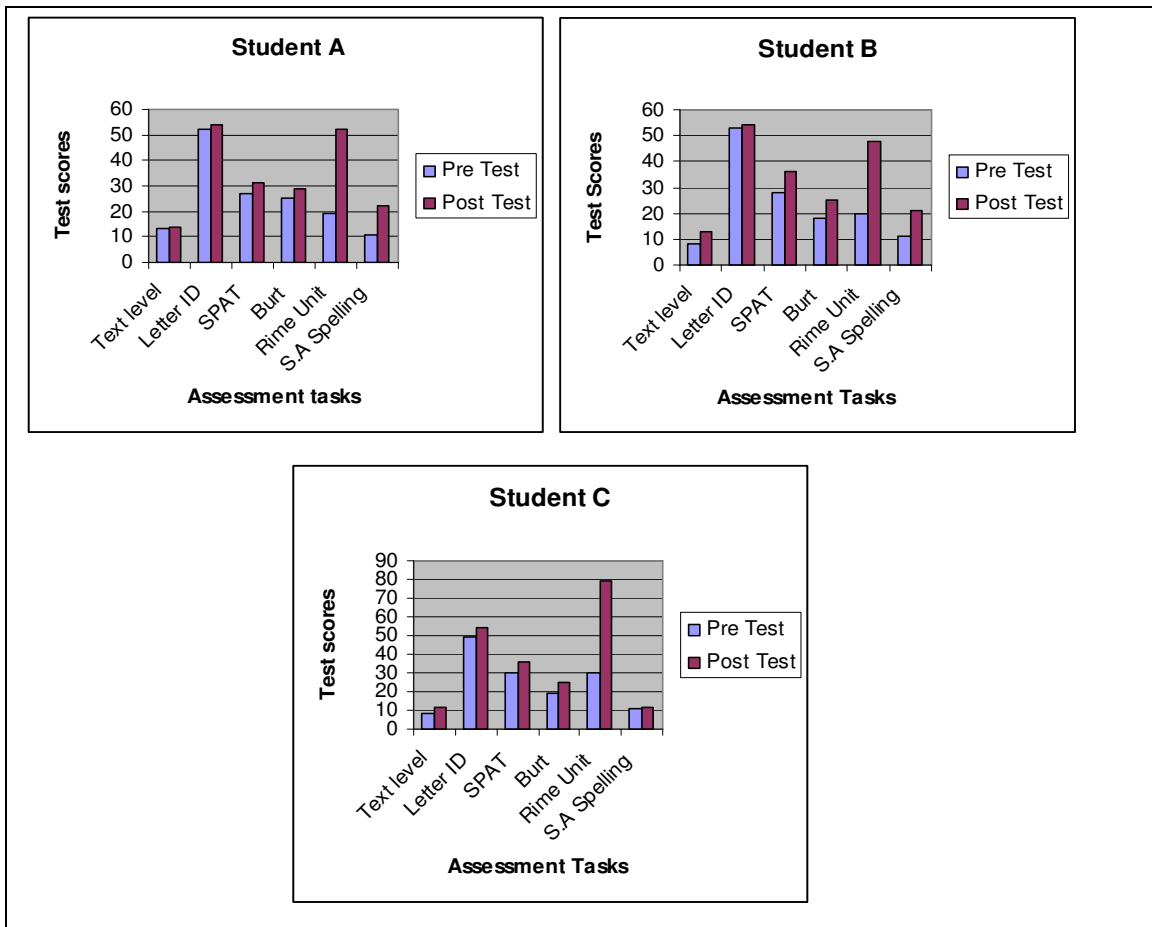
Figure 7   The Intervention Group results

Figure 7 shows that overall the intervention group made gains to varying degrees in all of the assessment tasks when comparing the pre and post test results.

Discussion

While there are limitations to the present study, notably the sample size and length of intervention, there is clear evidence that the intervention group out performed the control group in measures of word and prose reading.

The findings of this study were sometimes surprising; however, knowing the students as their classroom teacher provided further insights into why certain results may have occurred.

Although student C made the most progress in the rime unit word reading test, the knowledge of rime units and breaking words into onset and rime, did not transfer to spelling. The results are not surprising knowing that the student is a very reluctant writer who demonstrates poor control with pencil grip and overall letter formation. This task may have been an overload of working memory having to recall the sounds and write the letters. It would be interesting to implement the test orally and compare the results.

Student A remained quite low in measures of phonological awareness and text level results showed minimal improvement. Given the opportunity to work in a small group in a quiet uninterrupted setting allowed me to focus on responses given by the student. It became apparent that there was confusion with phonemes that were very similar e.g. c/t, d/g, m/n and that there was an inability to generate rhyming words, often saying words that sounded similar e.g. rhyming with 'bug' the response would be 'mud'. Using a visual prompt, cued articulation, the student had greater success. This concern and her low score on the SAST prompted a referral for further testing which indicated mild conductive hearing loss in both ears. Once this physical disability has been rectified it will be necessary to revise the teaching sequence.

Closer evaluation of the grapheme- phoneme correspondence component of the SPAT indicated that the intervention group often said real words that looked similar e.g. spob-stop, ig- big. Further intervention programs may require greater emphasis on reading non-words to develop decoding.

A study by Deavers, Solity and Kerfoot (2000) argued that the rime based strategies may be useful, not in early stages, but once a child has an adequate reading vocabulary to support the use of analogy. They found that children who had been taught to blend and

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segment phonemes and to decode on the basis of phoneme-grapheme correspondence were better at non-word reading than those whose instruction had included word level work with an emphasis on in rhyme and onset-rime word families. (cited in Moseley and Poole, 2001)

Student D who was in the control group scored well in the SPAT both in pre and post testing. This intervention may not be exactly what is needed and the cause of the reading difficulties would need to be further investigated. Considering the classroom teacher reported that this student takes a while to process information, is slow to complete work and it was noted in testing that this student was very slow and hesitant in word and prose reading, it would be beneficial to check RAN (rapid automatised naming) skills.

The results of the rime unit test indicated that there was not always an automatic transfer of knowledge from 3 letter words to words of 4 or 5 letters sharing the same rime unit. These findings support the previous findings of Munro (2000) and highlight as Munro suggests the need to be aware of the 'phonemic load' that students can handle both automatically and with an investment of attention during the administration of phonemic awareness tasks. Given the relationship between the amount of phonemic knowledge that can be manipulated and word reading ability (Berninger,1994; Van Orden, 1987; Van Orden, Pennington and Stone, 1990 cited in Munro 2000) the findings of Munro (2000) suggest the need to match an assessment of word reading knowledge with the assessment of phonemic knowledge using words that match in sound length to those on the reading task.

The use of 'analogy' as a self teaching mechanism, using known letter clusters to attempt unfamiliar words, was used more successfully with 3 and 4 letter words when the rime unit had been explicitly taught. This ability did not always transfer to 4 and 5 letter words that were not taught. This supports the findings that rime units should be explicitly taught and not left to chance as the need arises. The more accurately a student can decode words, with minimal attention, the greater their comprehension and confidence. The self efficacy of the students in the intervention group developed significantly through out the sessions. They all enjoyed the opportunity to work in the group and were able to contribute more and more as the sessions went on. This was particularly evident when

given the opportunity to generate other rhyming words. The challenge was to 'beat the teacher' and the score of rhyming words generated by the group was given as feedback. This approach also allowed me to suggest possible onsets in the early sessions when the student's ability to generate rhyme was not as strong.

Ideally it would have been beneficial to introduce one rime unit per session and to have daily lessons of shorter duration. This was not possible due to the time constraints of only being able to conduct lessons when the rest of the class was at specialist lessons. Introducing two rime units per session seems to have caused confusion for some students. Errors which were made in post testing were predominantly with 'ay' and 'aw' words which were introduced in the same session with only a short break between lessons.

The results of the study have implications for educational practice.

Schools have an obligation to identify early the students at risk and provide appropriate intervention that is suited to specific needs.

Stanovich (1986) refers to the Matthew's effect whereby in reading 'the rich get richer and the poor get poorer.' Students who do not make good progress in learning to read initially find it increasingly difficult to ever master the skills. (cited in Hempenstall 1996).

 'A reading program should be good enough to make every child competent.'
(McGuinness 1998, p 186 cited in Westwood 2001)

This has implications for placing quality teachers and quality teaching/intervention programs in the early years of schooling, where children are first exposed to formal reading instruction. This for some children could be the difference between success and failure in learning for many years to come.

There are implications for current intervention programs in schools such as the 'Reading Recovery' program. Iversen and Tumner (1993), conclude that 'children's progress in reading recovery can be enhanced even further if explicit teaching of phonological skills and decoding is included in each lesson.' For children who show minimal progress during or are unable to maintain and transfer their skills back into the classroom after the program, the explicit and systematic teaching of rime units may be what is required.

There seems to be much debate over the benefits of teaching isolated phonics instruction as opposed to phonics in context. It would be of interest to further explore the idea of 'rime-prompting' as discussed in a study by Moseley and Poole (2001). Using this method, the helper- parent, teacher etc. would write the word in which the error was made, highlight and say the rime and ask the student to then attempt the word again blending the onset and rime. This strategy could be further developed during guided reading when listening to individuals read or when reading at home to a parent. The teacher could choose texts that target a specific rime unit. Future research could compare this approach to the explicit and systematic teaching of rime units.

Research suggests that the process of learning to read varies greatly across children. The explicit and systematic instruction in phonemic awareness and alphabetic coding skills addresses what previous research has shown as 'the most important skill deficiencies of struggling readers.'(Chapman et al, 2001 cited in Ryder et al 2007)

Considering the range of literacy knowledge and experiences our school beginners bring with them, it seems that our approach to teaching reading must be this- teachers and remedial specialists maximizing their effectiveness by using research based assessment procedures and instructional strategies that cater for differing skill needs from the beginning of formal education with particular attention to establishing phonemically based word-level skills and strategies in the early stages of reading instruction.

References

Articles

Hempenstall, Dr. K. (1996) The Matthew Effects. Educational News. Org.

Iversen, S. and Tumner, W. (1993) Phonological processing skills and the Reading Recovery program. Journal of Educational Psychology, 85, 1, 112-126.

Moseley, D. & Poole, S. (2001) The advantages of rime prompting: a comparative study of prompting methods when hearing children read. Journal of Research in Reading, 24, 2, 163-172.

Munro, J. (2000). Phoneme awareness span: a neglected dimension of phonemic awareness. Australian Developmental and Educational Psychologist, 17, 1, 76-89.

Ryder, J.F., Tunmer, W.E. & Greaney K.T. (2007). Explicit instruction in phonemic awareness and phonemically based decoding skills as an intervention strategy for struggling readers in whole language classrooms. Published online: 4 July 2007 Springer Science and Business Media B.V. 2007

Teacher Reference

Iversen, S (1997). A Blueprint for Literacy Success: Building a Foundation for Beginning Readers and Writers. Macmillan Education Australia Pty Ltd

Munro, J (1998). Assessing and Teaching Phonological Knowledge. Australian Council for Educational Research Ltd

Sousa, D A (2006). How the Brain Learns to Read. Hawker Brownlow Education

Westwood, P (2001). Reading and Learning Difficulties: approaches to teaching and assessment. Australian Council for Educational Research Ltd

Assessment Tasks

Clay, Marie M. (2002). Letter Identification & Burt Word Recognition Test An Observation Survey of Early Literacy Achievement. Heinemann Education, N.Z.

Dalheim, B. (2004). Rime Unit test

Neilson R. (1995). Sutherland Phonological Awareness Test.

Nelley, E. & Smith, A. (2000). PM Benchmark Kit. Melbourne, Australia. Nelson
    Publishing.

Westwood, P. (1979; 1993) South Australian Spelling test

Teaching Resources

Fitzroy Readers

Graves, S. Fun with Phonics. Fat Cat. Dog in the Fog. Jen the Hen. Posy the Pig.
    The Book Studio 2003.

Appendices

Appendix 1

Teaching Unit: Onset and Rime

Explicit teaching of two letter dependable rime units to Year one students improves word and prose reading.

Establish which rime units are to be targeted by implementing the Rime Unit Test. (Appendix 2). Proceed through the lessons as quickly or slowly as required by the students. The following lessons were designed for a group of 3 students.

Each lesson targets a particular rime unit and is based on elements of the Phonological awareness pathway. The lesson sequence can be applied to any rime unit requiring focus.

Preparation for each lesson is required as follows:

- Pictures cards with the target rime unit (6-8)

- Onset and rime cards to match pictures (6-8)

- Onset cards (consonants and consonant blends)

- Blank cards to add words to word bank

- Worksheet with flip book to colour, cut and make.

- Worksheet with letter box shapes (one per child)

- Constructed or commercial text with the focus rime unit

- textas /pencils/scissors

The activities, task description and time allocation to each activity are as follows.

Lesson one: 'at' (bat, cat, hat, mat, rat, chat)

|	
Text Reading: (3 mins)	Revision of rime unit taught in previous lesson. (Begin lesson 2)
Rhyming Activities: (2 mins)	Give students 6 picture cards to name. Ask students to identify the rime unit. e.g. "What can you hear in all of these words?"
Blending Task: (4 mins)	Give each student 2-3 rime cards 'at'. Place the onset cards (b, c, h, m, r & p) in the middle. Students take turns to choose an onset and match to the rime. Teacher adds 3-5 more onset cards to make real words and non-words. Students take turns to choose an onset and decide if it is a real word or not. Sort into two groups. Students take turns until all cards are matched.
Rhyming Activity (2 mins)	Teacher asks the students if they can think of other words with the same rhyme. Record their responses both correct an incorrect.
Reading Target Words: (2 mins)	Teacher cues the students to say the words in two parts like this "c-at".
Writing Target Words: (7 mins)	Give student a sheet containing letter boxes to copy the words into. e.g. [letter boxes] Students may like to illustrate. (if time)
Saying words in sentences: (3 mins)	Students take turns to choose a word and say in a sentence. (2 words each)
Read or jointly construct a text: (5 mins)	The students read simple texts that contain many of the targeted rime units. (e.g. Fitzroy Readers) This will help to model to the students how to compose a text in the next lesson.
Reflect: (2 mins)	What did we learn today? What is the rime? How do we say words in two parts? Hand out worksheet "Flip Book" to take home and make.

Lesson Two: 'it'   (lit, bit, hit, kit, sit, fit)

Text Reading: (3 mins)	Revision of rime unit taught in previous lesson. Read commercially made material or text constructed in previous lesson. Identify the words from the previous lesson.
Rhyming Activities: (2 mins)	Give students 6 picture cards to name. Ask students to identify the rime unit. e.g. "What can you hear in all of these words?"
Blending Task: (4 mins)	Give each student 2-3 rime cards 'it'. Place the onset cards (b, l, h, k, s & f) in the middle. Students take turns to choose an onset and match to the rime. Teacher adds 3-5 more onset cards to make real words and non-words. Students take turns to choose an onset and decide if it is a real word or not. Sort into two groups. Students take turns until all cards are matched.
Rhyming Activity (2 mins)	Teacher asks the students if they can think of other words with the same rhyme. Record their responses.
Reading Target Words: (2 mins)	Teacher cues the students to say the words in two parts like this "s-it".
Writing Target Words: (7 mins)	Give student a sheet containing letter boxes to copy the words into. e.g. ⊔⊐ Students may like to illustrate. (if time)
Saying words in sentences: (3 mins)	Students take turns to choose a word and say in a sentence. (2 words each)
Read or jointly construct a text: (5 mins)	With the help of the teacher construct a simple text that contains many of the focus rime units. "Let's make up a story with it words." (Publish the story ready for the next session)
Reflect: (2 mins)	What did we learn today? What is the rime? How do we say words in two parts? Hand out worksheet "Flip Book" to take home and make.

Lesson Three: 'ot' (pot, dot, cot, not, tot, hot)

|	
Text Reading: (3 mins)	Revision of rime unit taught in previous lesson. Read commercially made material or text constructed in previous lesson. Identify the words from the previous lesson.
Rhyming Activities: (2 mins)	Give students 6 picture cards to name. Ask students to identify the rime unit. e.g. "What can you hear in all of these words?"
Blending Task: (4 mins)	Give each student 2-3 rime cards 'ot'. Place the onset cards (p, d, c, n, t & h) in the middle. Students take turns to choose an onset and match to the rime. Teacher adds 3-5 more onset cards to make real words and non-words. Students take turns to choose an onset and decide if it is a real word or not. Sort into two groups. Students take turns until all cards are matched.
Rhyming Activity (2 mins)	Teacher asks the students if they can think of other words with the same rhyme. Record their responses.
Reading Target Words: (2 mins)	Teacher cues the students to say the words in two parts like this "p-ot".
Writing Target Words: (7 mins)	Give student a sheet containing letter boxes to copy the words into. e.g. ⬚⬚⬚ Students may like to illustrate. (if time)
Saying words in sentences: (3 mins)	Students take turns to choose a word and say in a sentence. (2 words each)
Read or jointly construct a text: (5 mins)	With the help of the teacher construct a simple text that contains many of the focus rime units. "Let's make up a story with ot words." (Publish the story ready for the next session)
Reflect: (2 mins)	What did we learn today? What is the rime? How do we say words in two parts? Hand out worksheet "Flip Book" to take home and make.
Rime Reinforcement	Between sessions introduce the 'Making and Breaking' game focusing on 'at', 'it' and 'ot' words

Lesson Four 'an' words (man, pan, ran, tan, can, van)

Text Reading: (3 mins)	Revision of rime unit taught in previous lesson. Read commercially made material or text constructed in previous lesson. Identify the words from the previous lesson.
Rhyming Activities: (2 mins)	Give students 6 picture cards to name. Ask students to identify the rime unit. e.g. "What can you hear in all of these words?"
Blending Task: (4 mins)	Give each student 2-3 rime cards 'an'. Place the onset cards (m, p, r, t, c & v) in the middle. Students take turns to choose an onset and match to the rime. Teacher adds 3-5 more onset cards to make real words and non-words. Students take turns to choose an onset and decide if it is a real word or not. Sort into two groups. Students take turns until all cards are matched.
Rhyming Activity (2 mins)	Teacher asks the students if they can think of other words with the same rhyme. Record their responses.
Reading Target Words: (2 mins)	Teacher cues the students to say the words in two parts like this "p-an".
Writing Target Words: (7 mins)	Give student a sheet containing letter boxes to copy the words into. e.g. ⬚⬚⬚ Students may like to illustrate. (if time)
Saying words in sentences: (3 mins)	Students take turns to choose a word and say in a sentence. (2 words each)
Read or jointly construct a text: (5 mins)	With the help of the teacher construct a simple text that contains many of the focus rime units. "Let's make up a story with an words." (Publish the story ready for the next session)
Reflect: (2 mins)	What did we learn today? What is the rime? How do we say words in two parts? Hand out worksheet "Flip Book" to take home and make.

Lesson 5 'in' words (win, fin, bin, pin, tin, thin)

Text Reading: (3 mins)	Revision of rime unit taught in previous lesson. Read commercially made material or text constructed in previous lesson. Identify the words from the previous lesson.
Rhyming Activities: (2 mins)	Give students 6 picture cards to name. Ask students to identify the rime unit. e.g. "What can you hear in all of these words?"
Blending Task: (4 mins)	Give each student 2-3 rime cards 'in'. Place the onset cards (w, p, f, t, b & th) in the middle. Students take turns to choose an onset and match to the rime. Teacher adds 3-5 more onset cards to make real words and non-words. Students take turns to choose an onset and decide if it is a real word or not. Sort into two groups. Students take turns until all cards are matched.
Rhyming Activity (2 mins)	Teacher asks the students if they can think of other words with the same rhyme. Record their responses.
Reading Target Words: (2 mins)	Teacher cues the students to say the words in two parts like this "p-in".
Writing Target Words: (7 mins)	Give student a sheet containing letter boxes to copy the words into. e.g. ⬚⬚⬚ Students may like to illustrate. (if time)
Saying words in sentences: (3 mins)	Students take turns to choose a word and say in a sentence. (2 words each)
Read or jointly construct a text: (5 mins)	With the help of the teacher construct a simple text that contains many of the focus rime units. "Let's make up a story with in words." (Publish the story ready for the next session)
Reflect: (2 mins)	What did we learn today? What is the rime? How do we say words in two parts? Hand out worksheet "Flip Book" to take home and make.
Rime Reinforcement	Between sessions introduce the 'Making and Breaking' game focusing on 'at', 'it', 'ot', 'an' and 'in' words

Lesson Six 'ay' words (day, ray, may, lay, say, play)

|	
Text Reading: (3 mins)	Revision of rime unit taught in previous lesson. Read commercially made material or text constructed in previous lesson. Identify the words from the previous lesson.
Rhyming Activities: (2 mins)	Give students 6 picture cards to name. Ask students to identify the rime unit. e.g. "What can you hear in all of these words?"
Blending Task: (4 mins)	Give each student 2-3 rime cards 'ay'. Place the onset cards (d, r, m, l, s & pl) in the middle. Students take turns to choose an onset and match to the rime. Teacher adds 3-5 more onset cards to make real words and non-words. Students take turns to choose an onset and decide if it is a real word or not. Sort into two groups. Students take turns until all cards are matched.
Rhyming Activity (2 mins)	Teacher asks the students if they can think of other words with the same rhyme. Record their responses.
Reading Target Words: (2 mins)	Teacher cues the students to say the words in two parts like this "d-ay".
Writing Target Words: (7 mins)	Give student a sheet containing letter boxes to copy the words into. e.g. Students may like to illustrate. (if time)
Saying words in sentences: (3 mins)	Students take turns to choose a word and say in a sentence. (2 words each)
Read or jointly construct a text: (5 mins)	With the help of the teacher construct a simple text that contains many of the focus rime units. "Let's make up a story with ay words." (Publish the story ready for the next session)
Reflect: (2 mins)	What did we learn today? What is the rime? How do we say words in two parts? Hand out worksheet "Flip Book" to take home and make.
Rime Reinforcement	Between sessions introduce the 'Making and Breaking' game focusing on 'at', 'it', 'ot', 'an', 'in', 'ay' and 'aw' words

Lesson Seven 'aw' words (raw, jaw, paw, law, saw, draw)

|	
Text Reading: (3 mins)	Revision of rime unit taught in previous lesson. Read commercially made material or text constructed in previous lesson. Identify the words from the previous lesson.
Rhyming Activities: (2 mins)	Give students 6 picture cards to name. Ask students to identify the rime unit. e.g. "What can you hear in all of these words?"
Blending Task: (4 mins)	Give each student 2-3 rime cards 'aw'. Place the onset cards (r, j, p, l, s & dr) in the middle. Students take turns to choose an onset and match to the rime. Teacher adds 3-5 more onset cards to make real words and non-words. Students take turns to choose an onset and decide if it is a real word or not. Sort into two groups. Students take turns until all cards are matched.
Rhyming Activity (2 mins)	Teacher asks the students if they can think of other words with the same rhyme. Record their responses.
Reading Target Words: (2 mins)	Teacher cues the students to say the words in two parts like this "r-aw".
Writing Target Words: (7 mins)	Give student a sheet containing letter boxes to copy the words into. e.g. ☐☐☐ Students may like to illustrate. (if time)
Saying words in sentences: (3 mins)	Students take turns to choose a word and say in a sentence. (2 words each)
Read or jointly construct a text: (5 mins)	With the help of the teacher construct a simple text that contains many of the focus rime units. "Let's make up a story with aw words." (Publish the story ready for the next session)
Reflect: (2 mins)	What did we learn today? What is the rime? How do we say words in two parts? Hand out worksheet "Flip Book" to take home and make.
Rime Reinforcement	Between sessions introduce the 'Making and Breaking' game focusing on 'at', 'it', 'ot', 'an', 'in', 'ay' and 'aw' words

Lesson Eight 'ap' words (map, cap, nap, tap, zap, clap)

Text Reading: (3 mins)	Revision of rime unit taught in previous lesson. Read commercially made material or text constructed in previous lesson. Identify the words from the previous lesson.
Rhyming Activities: (2 mins)	Give students 6 picture cards to name. Ask students to identify the rime unit. e.g. "What can you hear in all of these words?"
Blending Task: (4 mins)	Give each student 2-3 rime cards 'ap'. Place the onset cards (m, c, n, t, z & cl) in the middle. Students take turns to choose an onset and match to the rime. Teacher adds 3-5 more onset cards to make real words and non-words. Students take turns to choose an onset and decide if it is a real word or not. Sort into two groups. Students take turns until all cards are matched.
Rhyming Activity (2 mins)	Teacher asks the students if they can think of other words with the same rhyme. Record their responses.
Reading Target Words: (2 mins)	Teacher cues the students to say the words in two parts like this "m-ap".
Writing Target Words: (7 mins)	Give student a sheet containing letter boxes to copy the words into. e.g. ⬜⬜⬜ Students may like to illustrate. (if time)
Saying words in sentences: (3 mins)	Students take turns to choose a word and say in a sentence. (2 words each)
Read or jointly construct a text: (5 mins)	With the help of the teacher construct a simple text that contains many of the focus rime units. "Let's make up a story with ap words." (Publish the story ready for the next session)
Reflect: (2 mins)	What did we learn today? What is the rime? How do we say words in two parts? Hand out worksheet "Flip Book" to take home and make.

Lesson Nine 'op' words (hop, mop, pop, top, shop, stop)

|	
Text Reading: (3 mins)	Revision of rime unit taught in previous lesson. Read commercially made material or text constructed in previous lesson. Identify the words from the previous lesson.
Rhyming Activities: (2 mins)	Give students 6 picture cards to name. Ask students to identify the rime unit. e.g. "What can you hear in all of these words?"
Blending Task: (4 mins)	Give each student 2-3 rime cards 'op'. Place the onset cards (h, m, p, t, sh & st) in the middle. Students take turns to choose an onset and match to the rime. Teacher adds 3-5 more onset cards to make real words and non-words. Students take turns to choose an onset and decide if it is a real word or not. Sort into two groups. Students take turns until all cards are matched.
Rhyming Activity (2 mins)	Teacher asks the students if they can think of other words with the same rhyme. Record their responses.
Reading Target Words: (2 mins)	Teacher cues the students to say the words in two parts like this "h-op".
Writing Target Words: (7 mins)	Give student a sheet containing letter boxes to copy the words into. e.g. Students may like to illustrate. (if time)
Saying words in sentences: (3 mins)	Students take turns to choose a word and say in a sentence. (2 words each)
Read or jointly construct a text: (5 mins)	With the help of the teacher construct a simple text that contains many of the focus rime units. "Let's make up a story with op words." (Publish the story ready for the next session)
Reflect: (2 mins)	What did we learn today? What is the rime? How do we say words in two parts? Hand out worksheet "Flip Book" to take home and make.
Rime Reinforcement	Between sessions introduce the 'Making and Breaking' game focusing on 'at', 'it', 'ot', 'an', 'in', 'ay', 'aw', 'ap' or 'op' words

Lesson Ten 'ip' words (lip, rip, tip, zip, chip, flip)

Text Reading: (3 mins)	Revision of rime unit taught in previous lesson. Read commercially made material or text constructed in previous lesson. Identify the words from the previous lesson.
Rhyming Activities: (2 mins)	Give students 6 picture cards to name. Ask students to identify the rime unit. e.g. "What can you hear in all of these words?"
Blending Task: (4 mins)	Give each student 2-3 rime cards 'ip'. Place the onset cards (l, r, z, t, ch & fl) in the middle. Students take turns to choose an onset and match to the rime. Teacher adds 3-5 more onset cards to make real words and non-words. Students take turns to choose an onset and decide if it is a real word or not. Sort into two groups. Students take turns until all cards are matched.
Rhyming Activity (2 mins)	Teacher asks the students if they can think of other words with the same rhyme. Record their responses.
Reading Target Words: (2 mins)	Teacher cues the students to say the words in two parts like this "l-ip".
Writing Target Words: (7 mins)	Give student a sheet containing letter boxes to copy the words into. e.g. ⬚⬚ Students may like to illustrate. (if time)
Saying words in sentences: (3 mins)	Students take turns to choose a word and say in a sentence. (2 words each)
Read or jointly construct a text: (5 mins)	With the help of the teacher construct a simple text that contains many of the focus rime units. "Let's make up a story with ip words." (Publish the story ready for the next session)
Reflect: (2 mins)	What did we learn today? What is the rime? How do we say words in two parts? Hand out worksheet "Flip Book" to take home and make.

Lesson Eleven 'ug' words (bug, rug, hug, jug, mug, plug)

Text Reading: (3 mins)	Revision of rime unit taught in previous lesson. Read commercially made material or text constructed in previous lesson. Identify the words from the previous lesson.
Rhyming Activities: (2 mins)	Give students 6 picture cards to name. Ask students to identify the rime unit. e.g. "What can you hear in all of these words?"
Blending Task: (4 mins)	Give each student 2-3 rime cards 'ug'. Place the onset cards (b, r, h, j, m & pl) in the middle. Students take turns to choose an onset and match to the rime. Teacher adds 3-5 more onset cards to make real words and non-words. Students take turns to choose an onset and decide if it is a real word or not. Sort into two groups. Students take turns until all cards are matched.
Rhyming Activity (2 mins)	Teacher asks the students if they can think of other words with the same rhyme. Record their responses.
Reading Target Words: (2 mins)	Teacher cues the students to say the words in two parts like this "b-ug".
Writing Target Words: (7 mins)	Give student a sheet containing letter boxes to copy the words into. e.g. [ ] Students may like to illustrate. (if time)
Saying words in sentences: (3 mins)	Students take turns to choose a word and say in a sentence. (2 words each)
Read or jointly construct a text: (5 mins)	With the help of the teacher construct a simple text that contains many of the focus rime units. "Let's make up a story with ug words." (Publish the story ready for the next session)
Reflect: (2 mins)	What did we learn today? What is the rime? How do we say words in two parts? Hand out worksheet "Flip Book" to take home and make.
Rime Reinforcement	Between sessions introduce the 'Making and Breaking' game focusing on 'at', 'it', 'ot', 'an', 'in', 'ay', 'aw', 'ap', 'op', 'ip' or 'ug' words.

Appendix 2   Rime Unit Test

STUDENT RIME UNIT READING SHEET

(Student reads the words in order, <u>down</u> each column, cover the other columns.)

bin	pin	thin	spin		rock	sock	block	clock
can	man	plan	than		bell	well	shell	spell
day	say	play	stay		back	pack	black	track
saw	paw	draw	thaw		hill	fill	chill	spill
cab	tab	grab	crab		ring	wing	thing	bring
bug	mug	plug	slug		duck	luck	truck	stuck
hot	not	shot	spot		sick	pick	brick	thick
fat	pat	chat	that		tail	mail	snail	trail
cap	tap	clap	trap		bank	tank	thank	drank
hop	top	stop	shop		mask	task	flask	-
lip	zip	drip	ship		junk	bunk	trunk	chunk
hit	pit	spit	grit		pink	wink	think	stink

jump	pump	thump	stump
test	rest	chest	crest
-	-	light	night
meat	beat	cheat	treat
cake	make	shake	snake
date	late	plate	state
name	came	shame	flame
rice	mice	slice	spice
ride	hide	slide	bride
fine	mine	shine	spine
more	core	store	snore
woke	poke	broke	spoke
rain	main	brain	chain
sale	male	whale	stale

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RIME UNITS TEST - TEACHER RECORD SHEET

(Underneath each attempted word, the teacher ticks words read correctly and records the
student's response for incorrect and self corrected attempts)

Name: _____   Date: _____

3letter words		4 letter words			4 letter words	5 letter words			4 letter words		5 letter words	
bin	pin	thin	spin	rock	sock	block	clock	jump	pump	thump	stump
can	man	plan	than	bell	well	shell	spell	test	rest	chest	crest
day	say	play	stay	back	pack	black	track	-	-	light	night
saw	paw	draw	thaw	hill	fill	chill	spill	meat	beat	cheat	treat
cab	tab	grab	crab	ring	wing	thing	bring	cake	make	shake	snake
bug	mug	plug	slug	duck	luck	truck	stuck	date	late	plate	state
hot	not	shot	spot	sick	pick	brick	thick	name	came	shame	flame
fat	pat	chat	that	tail	mail	snail	trail	rice	mice	slice	spice
cap	tap	clap	trap	bank	tank	thank	drank	ride	hide	slide	bride
hop	top	stop	shop	mask	task	flask	-	fine	mine	shine	spine
lip	zip	drip	ship	junk	bunk	trunk	chunk	more	core	store	snore
hit	pit	spit	grit	pink	wink	think	stink	woke	poke	broke	spoke
								rain	main	brain	chain
								sale	male	whale	stale

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