"The ability to read words in isolation and in prose is improved by explicitly teaching of onset and rime units"

Abstract

A problem that some year 2 level students have is efficient word-reading strategies and poor phonological knowledge at the word-level. The purpose of this study was to examine the relationship between explicit teaching of onset and rime units and automatic reading of isolated words and prose. In this research 12 students were selected by the special needs teacher, and the two grade 2 class teachers. All students were well below the expected reading level (level 20) at the end of grade one and the below the means in the Sutherland test administered in April 2008. All students were assessed and from this the students were broken up into two groups -an Intervention Group and a Controlled Group.

The hypothesis tested in this study was "The explicit teaching of Onset and Rime enhances reading accuracy in individual words and prose."

The Intervention Group took part in 10 x 50 minute sessions of explicit instruction of 2 to 3 rime units with revision of every rime units at the beginning of each session over a period of 2 weeks. Following the intervention post testing was conducted on both the Intervention and controlled groups to assess gains made. The intervention group's instruction was held in the classroom as part of the literacy block in the teacher focus sessions.

The findings indicated that explicit teaching of onset and rime units improved the students reading at both isolated word and prose. All students in the intervention group showed the ability of transferring what they have learnt to new situations whether it is to isolated word reading or prose or both. All students demonstrated an improvement in their ability to use onset and rime strategy to decode unknown words.

Students in the controlled group showed small improvement in the reading of isolated words and prose. They remained reliant on the inefficient strategy of Visual Distinctive Features (VDF) to help them decode unfamiliar isolated words and prose.

The results suggests that the control group would benefit from explicit teaching of on-set and rime units to improve their reading efficiency. The intervention group would need to continue to practice the skills and strategies they have been explicitly taught to maintain and further develop their word and prose reading.

Introduction

Many students reach year 2 level in the primary years without having acquired the strategies and skills to become fluent readers. These students display difficulties at the most sophisticated level of phonological awareness that is the phoneme level, most commonly referred to as phoneme awareness. Students with strong phonemic awareness are able to manipulate individual phonemes, the smallest sound units of spoken language. Recognition of the phoneme requires a prior knowledge of the recognition of syllables in words – on-set and rim. These syllables form the building blocks for phoneme awareness skills, which include the ability to detect, segment and blend phonemes and to manipulate their position in words (Adams, 1990; Lenchner et al., 1990). The students in this study displayed a limited knowledge in phonemic awareness. Phoneme knowledge is knowledge of individual speech sound (Share, 1995; Stahl & Murray, 1994, one aspect of Phonological Knowledge – a knowledge of sound patterns.

To make sense of any text we read, we need to connect the written words with our spoken knowledge. Phonological knowledge helps us do this by giving us ways for linking letter clusters with what we know about how words are said. It helps us to detect sounds in spoken words. When we are learning to read words, these sounds provide the 'hooks' to which we can attack the letter clusters. We can have sounds for individual letters, (e.g. d,r, o) and for letter clusters such as on-sets, (e.g. dr), syllables (e.g. 'sec' and 'ret'). A person's knowledge of sound patterns provides a foundation for learning the matching letter clusters. (Munro,1998). Most poor readers have not learned to recognize these frequently occurring sound clusters as individual rime units. The ability to recognize segment and manipulate these units of rime is necessary for the student seeking to acquire the word level skills in the model. The importance of establishing automatic recognition of rime units has been stressed by researchers (Adams & Bruck, 1993) Compton (2002) concurs, *"Acquiring a lexical system of representations that permits efficient word recognition is an essential part of learning to read."* (p201)

Following on from this, some students have difficulty with the on-set rime (or intrasyllabic level) of phonological awareness. The on-set is the part of the syllable that precedes the vowel (e.g. the /k/ in cat; the /br/ in brown). The rime is the rest of the syllable (e.g. the /og/ in dog, the /ack/in black). Because a syllable must contain a vowel, all syllables must have a rime, but not all syllables have an on-set (e.g. and, out, or). Therefore the on-set and rime level includes segmentation skills that form a useful scaffold between the syllable level and phoneme level. (Adams, 1990).

Numerous studies have demonstrated the importance of phonological awareness, particularly at the phoneme level, as the foundation for skilled decoding and, therefore, for fluent reading (Blachman, Tangel, Ball Black, & McGraw, 1999; et al; cited in Lane, Pullen, Eisele, and Jordon 2002).

Difficulties in acquiring fluency arise because the intermediate step of the onset and rime is not always explicitly taught in early reading instruction. The students in this study display some phoneme awareness but have difficulty in transferring this awareness into the necessary skills required for automatic reading of isolated words and prose. Their reading suggests that when they look at a word they see the individual letters rather than groups of letters, they detect letters not clusters. They

read words either by sounding out letter-by-letter or pick out one or two letters and use these unsystematically to decode the word. They do not use what they know about some words to read other unknown words. They may know a great deal about the topic of the text but can't use this knowledge when they read because they can't efficiently read enough of the words (Munro, 1998). They need to invest large amounts of attention to decoding words thus limiting their ability to engage and comprehend the text.

The rime level (intrasyllabic level) of phonological awareness suggests that the instruction at the on-set and rime level is an important step. Tasks that require onset and rime analysis require the segmentation of syllables, they are more sophisticated than syllable-level tasks (Trieman, 1985, 1991, 1992). Yet these same tasks are easier than phoneme level tasks because they do not require discrimination between individual phonemes. On-set and rime tasks could, therefore, be considered an intermediate step in the development of phonological awareness. The difficulty that many children experience when progressing from syllabic analysis to phoneme analysis may arise because the intermediate step, the on-set rime units, is not always explicitly taught or revisited from early reading instruction. Providing experience working with on-sets and rimes may alleviate this difficulty for some children experiencing difficulty in reading.

Therefore the hypothesis of "**The ability to read words in isolation and in prose is improved by explicitly teaching of on-set and rime units"** was explored in this study. The students need to be able to draw on their knowledge of word segmentation and sound letter correspondence. Students may recognize some written words and letter strings automatically and accurately consistent but at the same time may need to use word segmentation and recoding to read others. They need to make analogies between known and unfamiliar words by noting letter group similarities and using the sounds that match the letter cluster in one word to read the others. A level of phonemic decoding is necessary for making these analogies (Ehri & Robbins, 1992; Goswami, 1991). The teaching targeted an increased knowledge and automatic recognition of rime units and strategies for using this knowledge.

Method

Design

This study uses an OXO design (pre-testing, intervention and post testing) in the context of a 'real' classroom situation (teacher focus group during literacy block) through explicit teaching of on-set and rime to gain accuracy in both reading isolated words and prose.

Participants

Discussions were held between the grade 2 teachers and the special needs teacher to determine who would benefit from taking part in this research project. We looked at what the research project will be focusing on and thus it was decided that the students whose reading level was between level 11 and 16 (Marie Clay benchmark) at the end of grade 1. In total 14 students were chosen but only 12 permission slips were returned. As presented in table 1 all students scored below the means in the Sutherland test administered in early April, they are of ESL background and that 7 out of the 12 students received earlier intervention. Student's age ranged between 7 and 8 years of age. The students were broken up into 2 groups – the intervention group and the controlled group. In the intervention group there were 2 females and 4 males, 5 students from my class and one from the other grade two. In the controlled group there were 3 females and 3 males, 3 students from each grade 2 classes.

Participants' Selection Data Chart

Student	Male/ Female	Control/ Teaching group	Age in months April '08	ESL	Earlier Intervention	EMA	Concept of print – 24 Feb	Running Records Feb '08 Alpha	Sutherland April-58	Hearing & recording sounds in words ; 37 Feb
A	F	C	93m	Y	No	No	24	13	38	36
B	F	C	93m	Y	2006	Yes	23	11	41	35
C	M	C	97m	Y	No	Yes	18	16	40	37
D	M	C	88m	Y	No	Yes	23	13	29	37
E	F	C	87m	Y	2007	Yes	23	13	34	36
F	M	C	90m	Y	2006	No	24	15	35	37
G	F	T	91m	Y	No	Yes	23	13	n/a	36
H	F	T	94m	Y	2006	Yes	19	13	28	30
I	M	T	93m	Y	2007	Yes	19	14	40	37
J	M	T	87m	Y	2006	No	21	12	17	36
K	M	T	90m	Y	No	Yes	24	14	42	37
L	M	T	91m	Y	2007	Yes	23	14	38	37

Table 1

Materials

The pre-testing and post testing for this study was the Rime Unit Test (Dalheim, 2004) and the PM Benchmark Kit 1 (pre) and 2 (post). The Rime Unit Test is an easy and non threatening test to be administered. It gives an indication to whether students are able to recognize similarities in words and letter patterns/sounds. Even though the English language is considered to be irregular, there are 37 dependable rimes that remain consistent regardless of the on-set. Over 500 words can be made using these dependable rimes, thus extending the students vocabulary. The PM Benchmark Kit 1 was used for the pre-testing and PM Benchmark Kit 2 was used for the post-testing. These were used to assess students reading accuracy.

For both pre-testing tasks, students were individually removed from the class. The Rime Unit test was administered first, in the morning and then the students returned to their class, returning later in the day for the Running Records. The post-testing tasks were administered within 2 weeks after the intervention session took place. This was due to the fact that a number of school activities were taking place and that I also was not available to administer the test immediately. The availability of students was also a factor, students being sick or committed to other activities within their class/school.

Procedure

The sessions were conducted as part of the Literacy Block, the intervention group being the teacher focus group. The sessions administered were as follows:

Students were introduced to 2/3 different rime units, during each session. Three words were written on cards with the same rime unit. Students read the words and discussed what the similarities were in each word – rime unit. Discussion was also had in relation to the on-set of the word – explaining that even though the on-set is different the rime unit remains the same and so does the pronunciation. To help students to read these words and breaking the words into on-set and then rime, students were shown how to tap out the sounds they hear as they say the word on their arm e.g. s-t – op and then swiping their arm downwards when recoding the on-set and rime. Once they practiced this, students then wrote words that they knew that had the same rime unit. During the sessions if a student gave a rhyming word with a different spelling e.g. if we were learning the 'aw' rime unit and they suggested words like 'tore, for, sure.' these words were listed and discussed – looking at the patterns in the words – questioning 'Have they the same rime unit?' Yes they sound the same but are spelt differently. Students shared, tapping out their words as they said them and so a list was made. Students read words, identifying the on-set and rime units and then as a group made up sentences using the words which are recorded. Their sentences were recorded on large sheets of paper, reread and displayed. With a new rime unit, 3 words on flashcards are presented and students read and identify the on-set and rime unit, tapping out each word as they read. Again students are asked to record words they know, share, identify the on-set and the rime unit and make up sentences. Students reread all sentences and circling the different rime units with different colours. The same process as above is repeated if another rime unit is introduced in the same session.
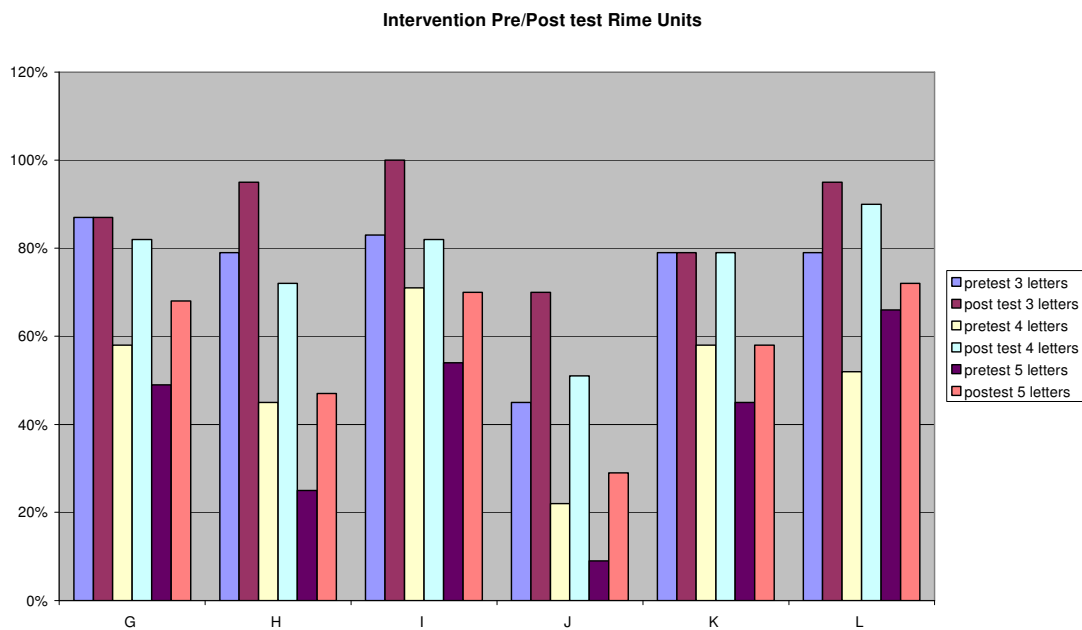
At the beginning of each session students were given the opportunity to add to the lists of rime units and then either individually or as a group reread rime units listed from previous sessions – then reread the sentences that were recorded – highlighting the rime units but also pointing out the on-set of each word. Revisiting that even though the on-set may be different the rime units remain the same and thus new words are made.

As the rime units build up games are introduced, such as concentration, bingo, fish and snap. These games became a part of the session – at times at the beginning of the session, in the middle and or at the end to finish up.
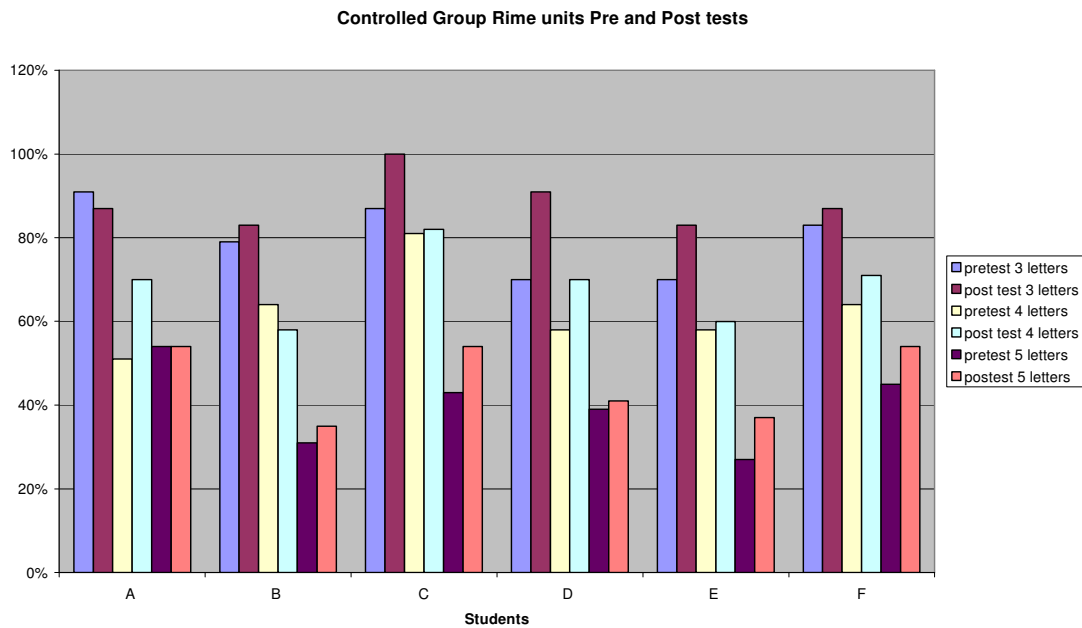
Anecdotal notes were taken throughout the sessions, recording which rime units were easily remembered or which ones they found difficult. Games reinforced and helped identify whether the students were applying their new learning to other situations.

Data

The results from the testing tool Rime Unit supports part of the hypothesis that explicit teaching of On-set and Rime enhances reading accuracy of isolated words. Referring to the data collected in figure 2 students in the Intervention Group show a vast improvement in their reading accuracy of isolated words. The post-test results show that the students were transferring their learnt knowledge to new situations.

Intervention Pre/Post test Rime Units

Figure 2

Controlled Group Rime units Pre and Post tests

Legend:
- pretest 3 letters
- post test 3 letters
- pretest 4 letters
- post test 4 letters
- pretest 5 letters
- postest 5 letters

Figure 3

In the controlled group, the data in figure 3 shows that the students made little improvement, indicating that explicit teaching of on-set and rime would benefit reading accuracy of isolated words. Student C and D made improvements in reading 3 letter rime units and students A and D made some improvement in reading 4 letter rime units. Students C, E and F also made improvements in reading 5 letter rime units. Students A and B regressed in their reading of 3 letter rime units but did make marginal progression in the reading of 4 and 5 letter rime units.

Looking at the second part of the hypothesis "Explicitly teaching on-set and rime to enhance reading accuracy in prose", the data once again supports this. Looking at the data in figures 4 and 5 evidence shows that the students involved in the intervention group improved in their reading accuracy of prose with greater success than the students in the controlled group. Students G, I and K improving their reading accuracy by transferring their learnt knowledge moved their reading levels by 5 and L and H moving 3 and 2 reading levels respectfully, indicates also that they too have used their learnt knowledge to help them read accurately. Considering Student H and J scored well below the means in the Sutherland test and Student H also scored lower in the Hearing and Recording Sounds in Words (figure 1) than all other students in both controlled and intervention groups evidence supports that the intervention sessions that they participated in made an impact on their reading of isolated words and prose. Student J, even though hasn't transferred this knowledge into reading of prose his self efficacy as a learner improved, attempting unknown words and using other strategies for reading for example self correcting and re-reading phrases to help make sense of the text.

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Intervention Group Running Records
Pre and Post test
PM Benchmark Kit

Student	Reading Level Pre-test PM Kit 1	Reading Age	Reading Level Post test PM Kit 2	Reading Age	Levels Gained
G	Level 16 1:12 (Instructional) Level 17 1:7 (Hard)	- 7 years	Level 20 1:12 (Instructional)	- 8 years	5 levels
H	Level 15 1:21 (Easy) Level 16 1:7 (Hard)	6.5 + years	Level 17 1:12 (Instructional)	7 + years	2 levels
I	Level 16 1:17 (Instructional) Level 17 1:8 (Hard)	- 7 years	Level 20 1:12 (Instructional)	- 8 years	5 levels
J	Level 15 1:13 (Instructional) Level 16 1:8 (Hard)	6.5 + years	Level 15 1:22 (Easy) Level 16 1:9 (Hard)	- 7 years	1 level
K	Level 16 1:13 (Instructional) Level 17 1:8 (Hard)	-7 years	Level 20 1:12 (Instructional)	- 8 years	5 levels
L	Level 15 1:22 (Easy) Level 16 1:10 (Hard)	6.5 + years	Level 17 1:35 (Easy) Level 18 1:8 (Hard)	7 + years	3 levels

Figure 4

Whereas, the students in the controlled group – figure 5, improvements in reading accuracy was not as substantial as in the intervention group. All students did progress 1 to 2 levels, but students B,C and D remained on the instructional levels while students A, E and F found level 17 easy and level 18 too difficult. These students continued to rely heavily on the inefficient strategy of Visual Distinctive Features (VDF) when attempting unknown words.

Controlled Group Running Records
Pre and Post test
PM Benchmark Kit

| Student	Reading Level Pre-test PM Kit 1	Reading Age	Reading Level Post test PM Kit 2	Reading Age	Levels Gained
A	Level 15 1:21 (Easy) Level 16 1:10 (Hard)	6.5 + years	Level 17 1:26 (Easy) Level 18 1:7 (Hard)	7 + years	2 levels
B	Level 15 1:21 (Easy) Level 16 1:8 (Hard)	6.5 + years	Level 17 1:19 (Instructional) Level 18 1:8 (Hard)	7 + years	2 levels
C	Level 15 1:21 (Easy) Level 16 1:9 (Hard)	6.5 + years	Level 17 1:16 (Instructional) Level 18 1:6 (Hard)	7 + years	2 levels

|					
D	Level 15 1:21 (Easy) Level 16 1:9 (Hard)	6.5 + years	Level 17 1:14 (Instructional) Level 18 1:5 (Hard)	7 + years	2 levels
E	Level 16 1:13 (Instructional) Level 17 1:8 (Hard)	- 7 years	Level 17 1:33 (Easy) Level 18 1:10 (Hard)	7 + years	1 level
F	Level 16 1:11 (Instructional) Level 17 1:6 (Hard)	- 7 years	Level 17 No errors (Easy) Level 18 1:7 (Hard)	7 + years	1 level

Figure 5

Results

Looking at figure 6, Student G showed no improvement in the reading of 3 letter rime units this may indicate that the student is functioning close to the ceiling level because both pre and post test percentages were high. However there was a substantial improvement in reading of 4 and 5 letter rime units. In the pre-test of both rime units and prose, Student G relied heavily on Visual Distinctive Features (VDF) to help read through both tests. Evidence show that Student G transferred the learnt knowledge of on-set and rime, not only in the reading of isolated words but also in reading of prose, moving up 5 reading levels.   Student G's self efficacy as a learner improved, attempting unknown words, utilizing the learnt knowledge from the intervention sessions and using other strategies used for reading to help improve reading accuracy. The errors made in the post testing of the Rime Units were mainly from the rime units with the magic 'e' the long vowel sound. Student G's needs explicit instruction in learning how the magic 'e' works, and other orthographic units thus improving the reading accuracy of unknown words.
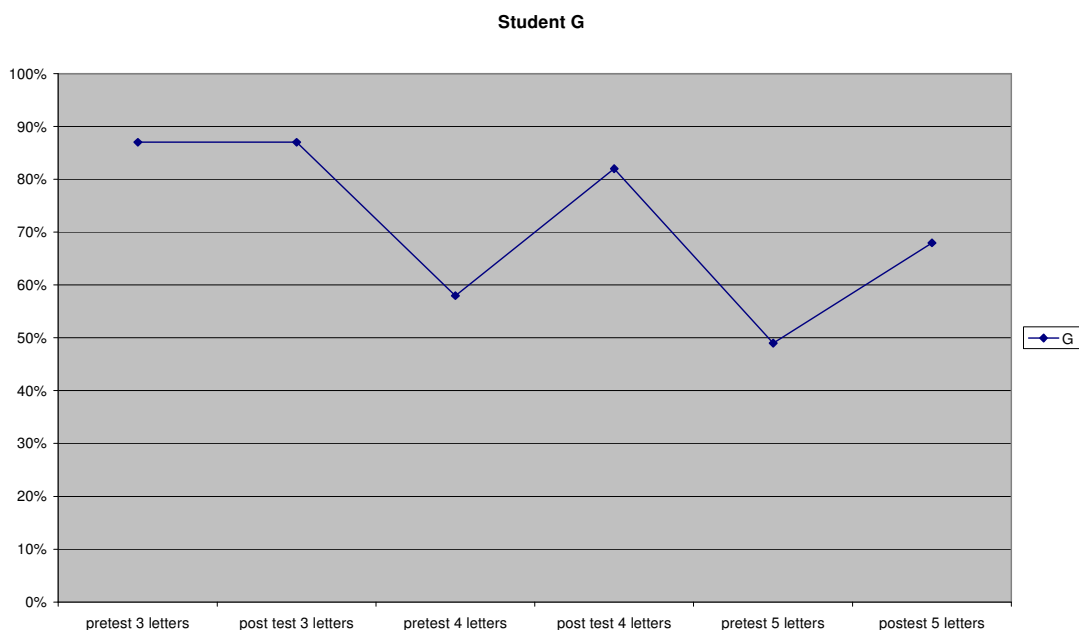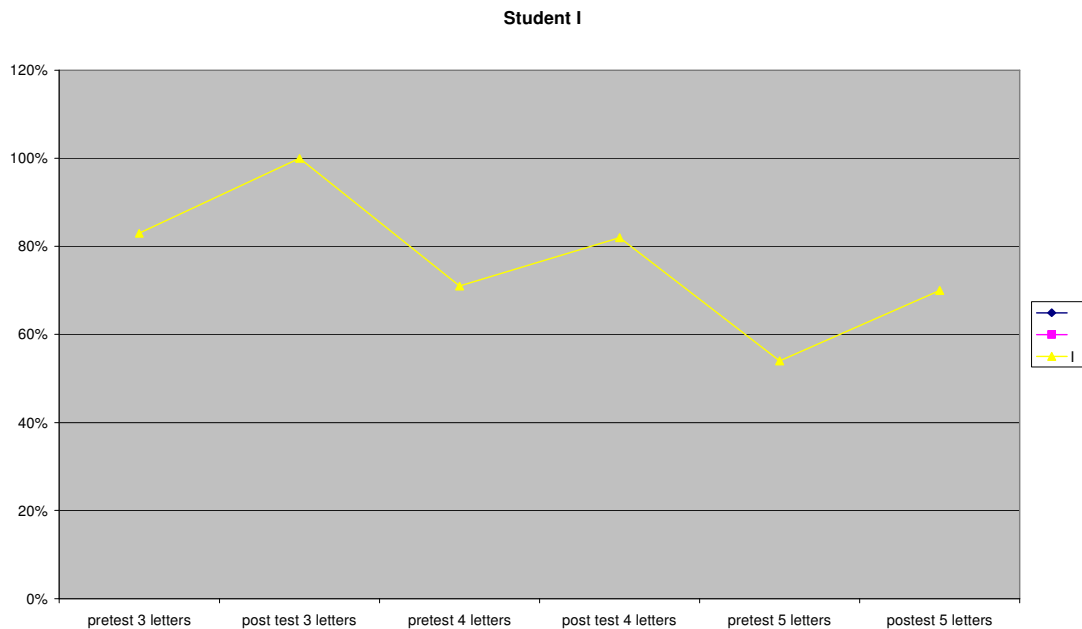

Student G

Figure 6

Student H showed improvements in both reading isolated words (evidence in figure 7) and reading of prose (figure 4) progressing from level 15 (hard) to Level 17 (instructional) transferring knowledge learnt from the intervention sessions. During the pre-testing of both tasks, Student H relied heavily on Visual Distinctive Features strategy (VDF) to help read through both tests. Using only one strategy hindered Student H's reading of both isolated words and prose. The post test of the Rime Units indicates that Student H needs explicit instruction on the magic 'e' in rime units. Inability to automatically read most of these words hindered Student H's reading accuracy not only in reading isolated words but also in reading of prose. In student H's post testing there was a longer time lapse between intervention and testing due to illness. Student H was absent for one week returning to school on the last day when assessments were conducted. The rime unit test was administered before recess and Student H showed interest commenting that this was easy. Student H quickly went through the rime unit test. After recess prose reading test was administered and Student H complained of not feeling very well and being very tired. This also possibly contributed to Student H's results in reading accuracy in prose.
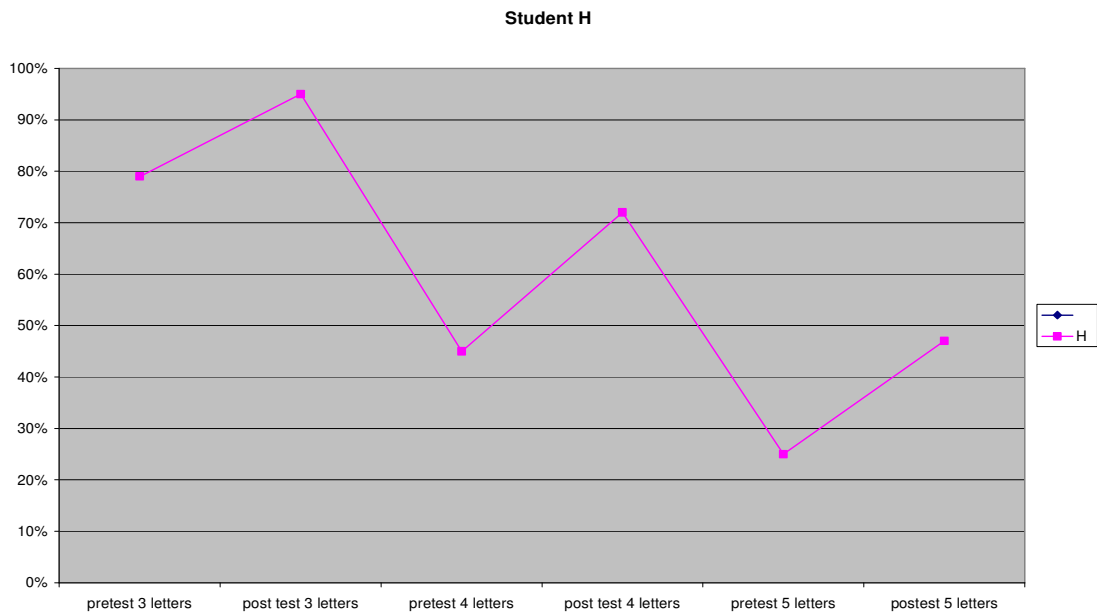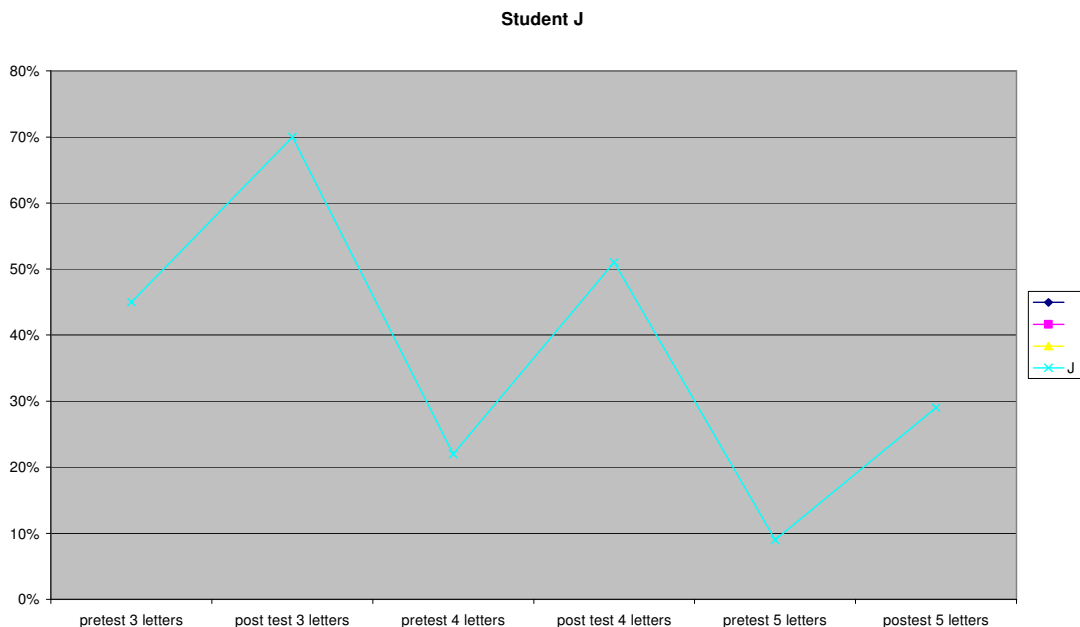
Student H

Figure 7

Student I showed a vast improvement in both reading isolated words and prose. Evidence shows that Student I transferred learnt knowledge to the reading of unfamiliar words and prose. During the pre-tests of both reading of rime units and prose, Student I relied heavily on Visual Distinctive Features (VDF) to help read through both tests. After the intervention sessions, Student I transferred the learnt knowledge of on-set and rime to reading unfamiliar isolated words and prose. Throughout the post test of rime units and reading of prose, Student I found difficulty with the magic 'e'words. With explicit teaching in the magic 'e' rime units, Student I's reading accuracy in both isolated words and prose will improve following the trend that explicit teaching does enhance children's reading accuracy. Student I moved from level 16 instructional to level 20 instructional, thus improving reading accuracy of prose by 5 levels (figure 4).
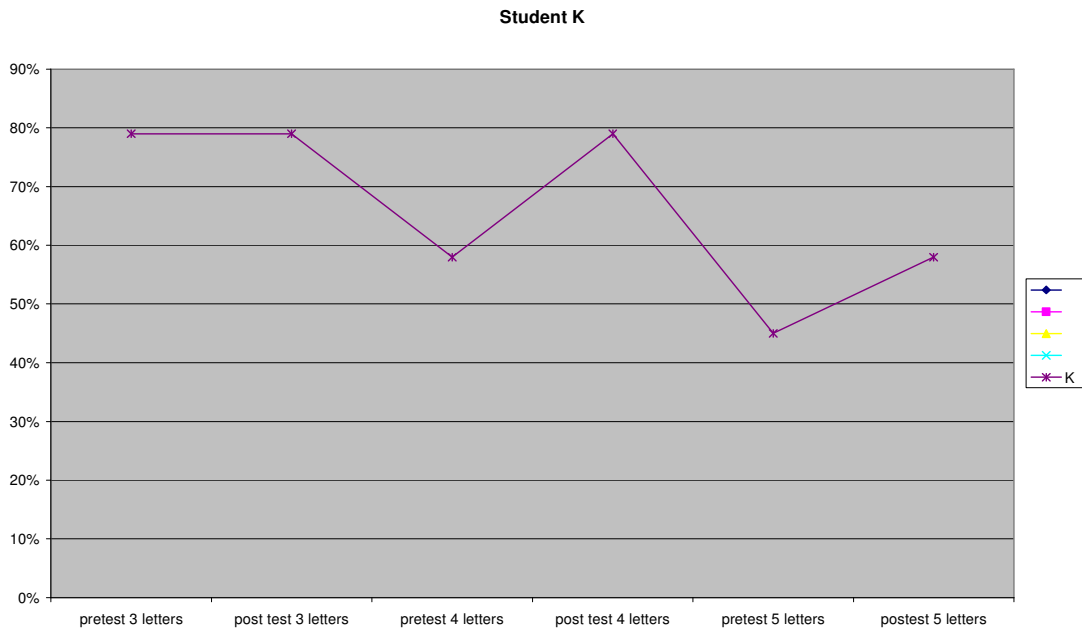
Student I

Figure 8

Evidence in figure 9 shows that Student J made vast improvement in all sections of reading rime units. Throughout the pre-testing of both assessment task, prose reading and rime unit test, Student J used no strategies to help read unknown words in both assessment tasks. Student J would verbalize the first letter and then remained silent. Student J's learning efficacy did improve after the intervention. This is evident when Student J took part in the post-testing. Student J attempted all words – using strategies like sounding out, VDF, attempted but found difficulty in blending. Student J would add extra sounds e.g. 'ot' for 'o', 'sh/h' for 'sh'. Confused a/u when reading words. Student J did show a great improvement in reading of isolated words with accuracy but only a small improvement was made in the reading of prose – moving from Level 15 instructional to Level 16 hard, demonstrates that Student J is still working on how to decode words and so Student J needs explicit teaching of on-set and rime to continue, showing Student J other strategies to attack unknown words. Student J was absent for 2 of the intervention sessions due to illness. Student J was absent on a Thursday and Friday, making the time lapse between intervention sessions 4 whole days not just a weekend break. During this absence, Student J missed out on the introduction of 6 new rime units and the revisiting of other rime units learnt. This variable maybe attributed his results in the minimal progression in reading accuracy.
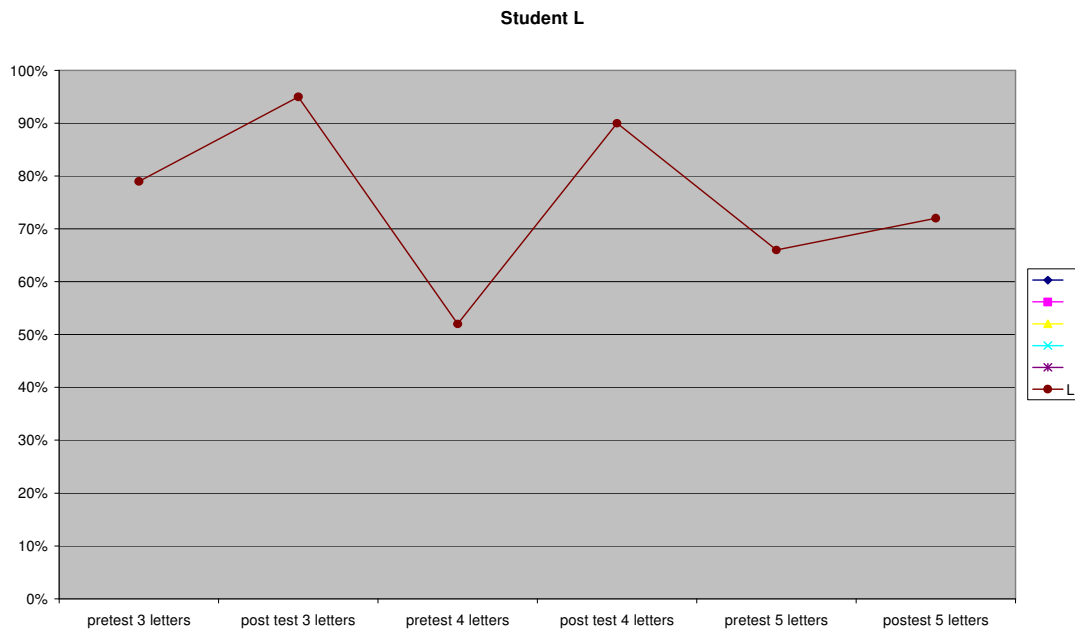

Figure 9

Student K made no progress in reading 3 letter rime units but did improve in both reading 4 and 5 letter rime units thus supporting the hypothesis that explicit teaching of on-set and rime does help reading accuracy in isolated words. Also, in figure 4 Student K also improved in reading accuracy of prose – supporting the second part of the hypothesis that explicit teaching of on-set and rime will help reading accuracy in reading of prose. Student K moved from reading level 16 instructional to level 20 instructional (figure 4). Student K transferred learnt knowledge from the intervention sessions in both tasks – reading of isolated words and proses even though at times relied on initial sound strategy.

Figure 10

Evidence in figure 11 shows that Student M made a vast improvement in reading accurately 3 and 4 letter rime units. Student M made some improvement in reading 5 letter rime units but throughout the post-testing displayed difficulties in reading rime units with the magic 'e'. This caused Student M to struggle in reading the 5 letter rime units. Student M transferred learnt knowledge on rime units to reading 3 and 4 letter rime units accurately but was not able to transfer this knowledge to the 5 letter rime units. Student M used the Visual Distinctive Features (VDF) strategy to read these. Student M made improvement in reading of prose – moving from Level 15 easy to Level 17 easy. Student M found level 18 difficult to read (figure 4).

Figure 11

In summary the comparison between the intervention group and controlled group, evidence show that explicit teaching of on-set and rime improved students reading accuracy in both reading of isolated words and prose. The intervention group in relation to rime unit reading accuracy improved between 14% to 23% whereas, the controlled group, Student B regressed and Student A made no improvement and the other students, C,D,E, and F made minimal improvement 7% to 10%.

In prose reading students in the intervention group improved their reading accuracy, Students G, I and K moving up 5 reading levels, Students H and L moving 2 to 3 levels respectfully. Student J moved one level but demonstrated more confidence enhancing his efficacy as a learner. Students in the controlled group made little progress, improving between 1 and 2 levels of reading levels and still relying heavily on the inefficient strategy of Visual Distinctive Features.

Discussion

Reflecting on the results of this research project, evidence shows that the explicit teaching of on-set and rime units has a positive effect to improve reading accuracy. As Treiman (1992) has indicated, *'Instruction at the onset-rime level is an important step for many children.* Treiman (1992) continues to say that, *'The difficulty that many children experience when progressing from syllabic analysis to phonemic analysis may arise because the on-set rime level is often omitted from early reading instruction. Thus providing experience working with on-sets and rimes may alleviate this difficulty'* . The evidence in this research project demonstrates the importance of explicit instruction of on-set and rime units which is supported by Adams (1990), Goswami & Mead (1992), *'Onset rime segmentation skill is an essential component of phonological awareness.'*

Researchers have found that children look for meaningful clusters of letters as they decode words and also think in terms of clusters as they spell (Treiman, 1992), so it makes sense to teach students to attend to units of sounds that are larger than phonemes but smaller than words – rime units. Results from the Intervention Group indicate that students do need to be given explicit attention to units of sounds to help them improve their fluency and accuracy in reading. Transferring their learnt knowledge of on-set and rime strategy to their reading improved their fluency and accuracy, giving these students an effective strategy to help decode words more efficiently.

Students from the Intervention group, in the first session were randomly saying words that did not have the same sound pattern or rime. Discussion on the letter patterns within the first rime unit introduced initially took a considerable time to explain. Even though an explanation was given at the beginning of the session, students found it difficult to understand. Using examples, breaking up words, students physically putting the words apart and back together and discussing the similarities in the words did help the students for the following 9 sessions. The introduction of tapping out the on-set and rime helped students also, giving them another strategy in helping them work out unknown words. This strategy helped the students to segment and blend unknown words efficiently. This strategy gave students confidence to attempt unfamiliar words when they came across them in other activities involving reading. As the sessions progressed, students became familiar with the routine and became more comfortable with the procedure. Many more discussions were held during the listing of the rime units, students reading each others lists, interacting and making comment whether the rime was correct or not. Students volunteered to share their words and were eager to read the sentences that they made up to each other. They co operatively played the games and assisted each other when one of them found a rime that they were not sure of, reminding each other to strategy of tapping out the word. Apart from learning this strategy, another positive outcome was their self efficacy as learners demonstrated in their interactions with each other and print.

It is important that explicit teaching of the rime units is maintained with the Intervention Group, providing opportunities to practice the skills and strategies that they have learnt and in doing so continuing to improve their reading accuracy, fluency and confidence as learners.

The results in the Controlled Group lend to support to Salinger (2003), who suggests that helping students learn to pay close attention to seemingly small differences in consonant or vowel patterns enhances and clarifies their attention to speech sounds and their ability to map speech sounds to letter symbols, thus increasing their vocabularies. Salinger (2003) also suggests that students need to receive direct explicit instruction in individual words and in word learning strategies to help them with their vocabulary growth. Reviewing the results of the Controlled Group in both rime units test and reading of prose it is apparent that these students would benefit from explicit teachings of on-set and rime to help them with their reading accuracy in both isolated words and prose.

There would be a number of factors that need to be addressed if a research project like this was to be implemented. Firstly, the timetabling of pre-post testing needs to be allotted and that all staff is aware that the times allocated needs to be adhered by. Also, that the school calendar needs to be checked so that other school events do not interrupt the intervention sessions and the administering of the pre-post testing.
Illnesses of students are one variable that cannot be timetabled into the research project. Also, the selection of students – being that evenly split the students from each class. The intervention group consisted of 5 students that are in my class and only one student (Student G) from the other grade 2, who made a vast improvement in both reading of rime units and prose. In the Controlled Group, there were 3 students from my class and 3 from the other grade 2. Results did show in the Controlled Group that Students C, D and F (who were in my class) made a more marginal improvement than that of the students from the other class. They did not take part in the intervention sessions but were in the classroom while the sessions took place and were privy to repetitious nature of the intervention.

Through this observation one possible direction is to share this research with staff so they can see the positive benefits of explicitly teaching to the needs of their students, in this case on-set and rime. To encourage teachers to take on an action research approach to explicitly teach those students they consider at risk; maintaining an emphasis on explicit teaching of phonological awareness in the early years because of its direct link to the acquisition of literacy skills.

Another possible direction is expanding the hypothesis to include a comprehension component.

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Testing Materials: Rime Unit Test; Brenda Dalheim 2004
                    PM Benchmark Kits 1 and 2

Appendix 1

List of rime units covered over the 10 sessions held.

2 letter – 2 sound rime units	in, an, ay, aw, et, ug, ot, at, ob, op, it, un
3 letter – 2 sound rime units	ock, ell, ill, uck,
3 letter – 3 sound rime units	ail, unk, ink
(VV)C rimes	eat, ine

Appendix 2

Outline of the teaching sessions

1. Introduce words – read each word to students. Read words with students. Students repeat each word.

2. Read each word in segments – say the onset and rime word separately, pointing to each letter cluster as you say it e.g. 'day' say 'd' and 'ay'. Students repeat after you.

3. Introduce tapping your fingers on your arm while you are saying the onset and rime and when the word is said together swipe your arm down from top to bottom with one swipe. E.g. 'p'(one tap), 'l'(one tap) 'ay' (one tap) then swipe the arm from top to bottom when you say the word together – 'play' (swipe).

4. Students record other words they know and then share. List the words.

5. Students read new words – tapping out onset and rime on arm while they say the words.

6. Students highlight the rime in each word.

7. Students make up sentences using the words.

8. Students read the sentences, tapping the rime units out as they come to it.

9. Repeat 1 – 8 steps when introducing new rime units.

At the end of each session, together or individually students read the rime words and sentences.

At the beginning of each session, revisit each rime units taught by playing a game called 'Tic Tac Toe' and reading the rime units and sentences – emphasizing what part is the on-set and rime.

At the end of the fifth session introduce a game called Fish. Students are dealt rime unit cards and they have to ask each other if they have a particular word.

At the beginning of sixth session – children play Fish again. Then you repeat steps 1 – 8. Introducing new rime units.

Repeating steps 1 – 8 at each session, introducing different games at the end of each session and then playing the game again to begin the following session. Games that were introduced are – fish, concentration, bingo, snap and memory.