

ABSTRACT

Students who have ongoing reading difficulties often fall further and further behind and have less strategies and confidence to draw on as the demands of school increase. These children require constant monitoring and tailoring of specific and explicit instruction if they are to have any possibility of reaching their peers and coping with school at the higher levels.

This study examines the effectiveness of explicitly teaching a series of unknown rime units and the impact it has on the children's ability to then read individual words and prose.

Four students in grade 4 who have had ongoing reading difficulties were exposed to small group teaching of a series of three letter rime units. The teaching was specifically targeted at words that contained blends as the onset and the developing the children's ability to segment and blend the onset and rime as this strategy had been identified as a specific need.

Testing of prose reading, isolated word reading and phonological awareness was carried out prior to and at the completion of the intervention. An analysis of each student's results was done and then specific lesson designed to meet their needs.

All four students showed gains in their prose reading and isolated word recognition. Their self-efficacy and self-management skills also improved as they now had a strategy to employ when reading.

INTRODUCTION:

Reading is indeed a complex set of skills. Speaking is innate or natural. Reading isn't natural. It involves a human-created language code system, which must be learned (Anita J. Holten 2004).

The Multiple Levels of Text Processing (MLOTP) Model (Munro, 2000) supports the complexity of the reading process. Munro's model describes reading as functioning at a number of levels, the word, sentence, topic/conceptual, dispositional and Meta cognitive level. It clearly shows the many levels a person operates at when reading text. We are given an insight into what successful readers do when they read and it allows us to identify what may be happening for a person who is having reading difficulties.

Many children experience difficulty in one or more of the parts of the reading model. Many children have difficulty reading at the word level. They have difficulty storing letter patterns, manipulating sounds, hearing rhyming patterns in words, recalling known words quickly (rapid automatic naming) and segmenting and blending sounds.

Holten (2004) states, phonemic awareness has been proven to provide an important foundation for success in reading. It is not phonics. It is an understanding that our speech language (spoken sounds) work together to create words. Students must work to hear, identify and manipulate phonemes, discovering that by changing their position from one phoneme to another, they can change words and their meaning. Without this ability to hear and work with the phonemes of spoken words, students will have a difficult time applying these very phonemes to the graphemes (written letters). Reading problems originate if these skills haven't been taught. Groff (2004) states that it is now well established that children who have developed PA (phonemic awareness) gain written word recognition skills better than do children who lack PA. Moreover, it is found that PA is best taught in a direct and systematic fashion.

The results of a study by Ehri & Wilice (1985) support the notion that phonology facilitates the creation of orthographic representations by providing evidence that phonological awareness influences sight-word reading as well as alphabetic reading.

To become a proficient reader, children need to be able to have a readily available bank of sight words, an understanding of the letter patterns and clusters and be able to segment and blend in an accurate and quick manner. Groff (2004) reports that nothing relates more closely to children's reading comprehension than does automatic word recognition. He goes on to say that children's recognition of "onset and rime" is a useful part of phonemic awareness and phonic knowledge that they should acquire. After a certain amount of sounding-out of letters in words, children come to recognise rimes as familiar spelling patterns. At that point, they can recognise them without sounding them out. This quick recognition of rimes therefore is a natural consequence of sounding-out letters in words. Children's identification of rimes as such, helps them read more rapidly.

The area of 'instruction' for these children who come to school with poor phonemic awareness and therefore go through their school years struggling to read has many implications for educators. Share & Stanovich (1995) explain that because of their weakness in the area of phonologic awareness (specifically their delayed development in phonemic awareness) children who are seriously at risk for reading failure require explicit and systematic instruction to help them acquire the knowledge and strategies necessary for decoding print. Gaskins, Ehri, Cress, O'Hara and Donnelly (1997) make a very poignant comment, that as an educator really hits home. "First grade readers who are at risk for failure in learning to read do not discover what teachers leave unsaid about the complexities of word learning. As a result it is important to teach them procedures for learning words".

In the light of this knowledge it is essential to develop a program that systematically builds on what the child knows. It can be a complex process developing an appropriate program but Foorman and Torgesen (2001) give us an insight into some essential elements. Instruction for children who are at risk of reading failure that differentiates from instruction sufficient for most children, in that it must be supportive both emotionally and cognitively. The need for at risk children to have more positive emotional support in the form of encouragement, feedback and positive reinforcement is widely understood. However, their potential need for more cognitive support, in the form of carefully "scaffolded" instruction is less widely appreciated. Scaffolded instruction involves the interaction between the teacher and the child in

accomplishing a task that he/she could not do without the support of the teacher. Scaffolding involves careful sequencing so that skills build very gradually – the child is always systematically taught and practiced on the skills required for any task they are asked to do (Swanston, 1999).

The four children chosen for this study require strategic and explicit teaching as they have obviously missed the unsaid information about decoding words. Three of the four children have very poor phonological skills and all have poor knowledge of ‘onset and rime’. When faced with words where they don’t recognise the orthographic pattern they segment words into individual sounds, this is particularly obvious with words that begin with a letter cluster. This then slows down their reading and comprehension is lost.

This study aims to measure the impact of explicit teaching of unknown onsets and rimes on the children’s ability to read individual words and prose.

Hypothesis:

The explicit teaching of unknown rime units to a group of year 4 children who have experienced ongoing reading difficulty will improve their ability to read individual words and prose that contain those specific rimes.

METHOD:

This study uses an **OXO** design (observe, input, observe) , in which the gain in reading isolated words and prose using three letter rime units is monitored for year four students with reading difficulties.

Participants:

The participants were four grade 4 children with a history of reading difficulties throughout their primary school years. All participants have attended the same primary school from Prep. These children were selected by their classroom teacher and myself as a clear stand out from the rest of the class. All of the children have been through the CLaSS program from Prep – Grade 2 and in grade 3 & 4 have received more intensive classroom teacher small group focus sessions.

All four children have poor self-efficacy as a reader and are reluctant to attempt unknown words. They quickly skim over unknown words hoping that what appears to be fluency will mask their errors and as a result their comprehension is very weak. They are finding the demands of the grade 4 classroom increasingly difficult and are becoming more frustrated which can manifest itself as a behaviour problem.

It was not possible to get a control group to cross-reference these children with, as we are a small school with small class sizes. There were no children with similar needs at grade levels either side of their level.

The following table provides further information regarding the participants:

C H I L D	A G E	SUTHERLAND PHONEMIC AWARENESS TEST	TEXT LEVEL	RUNNING RECORD – Teacher designed	37 DEPENDABLE RIME TEST	RIME TEST Teacher designed	HISTORY
T		Score = 31 / 58 Score indicates the skill level is below the mean for a year 1 student.	RRL – 23 94% - instructional level	89.2% Frustrational level	3 letter = 23 / 24 4 letter = 44 / 72 5 letter = 16 / 32 Total = 83/128	19 / 60 Added in letters particularly in the onset. Confused the medial vowel.	-Ex-Reading Recovery student - Tested by CEO in year 3. had a full language assessment & WEISC test administered. Found with in Recommended to have counselling for anger management. - Very poor self- efficacy to the point of hurting himself with frustration at his lack of ability. - Behaviour problem in classroom.
S		Score = 58 / 58 This is a full score, which I found surprising at the time. When I administered the other tests it became obvious that S did not have a lot of letter pattern knowledge. Also S was not paying attention to the DSV's of words.	RRL – 22 93.7% Instructional level	94 % instructional level	3 letter = 21 / 24 4 letter = 60 / 72 5 letter = 26 / 32 Total = 107 / 128	33 / 60 Confused the medial vowels. Sounded out the onset but didn't recognise many of the rimes. Didn't transfer knowledge of known rimes.	- S was on the list for Reading Recovery in Year 1 however there was not full coverage that year.

C H I L D	A G E	SUTHERLAND PHONEMIC AWARENESS TEST	TEXT LEVEL	RUNNING RECORD – Teacher designed	37 DEPENDABLE RIME TEST	RIME TEST Teacher designed	HISTORY
L		Score 38 / 58 This score indicates that L is operating at a skill level just below 1SD below MEAN for a grade 2 student.	RRL – 24 87% Frustrational level	92.6% Instructional level.	3 letters = 21 / 24 4 letters = 61 / 72 5 letters = 26 / 32 Total = 108 / 128	36 / 60 -Confused medial vowels. -Had great trouble distinguishing between A & U. - Made more errors when a consonant blend was introduced. -Took a long time to process known words.	-L did not receive RR because we did not have full coverage. - He has been involved in small group pull out sessions with extra support staff when funds permitted.
J		Score = 48 / 58 This score indicates that J is operating at the MEAN for a third grade student.	RRL – 28 83.4% Frustrational Level	92.2 % Instructional level	3 letter = 22 / 24 4 letters = 56 / 72 5 letters = 25 / 32 Total = 103 / 128	24 / 60 - Confused medial vowels. - Added or deleted letters particularly in the onset. - Didn't pay attention to DSV's within a word. Said word that sounded similar. - Poor knowledge of letter patterns	- J is an ex Reading Recovery student. - J has been on the CEO Speech Pathology Program for 3 yrs.

MATERIALS:

Materials used included the following:

Assessment purposes:

- PM Benchmark Kit (Nelson 2000)
- 37 Dependable Rime Unit Test (J Munro) (Appendix 4)
- Sutherland Phonological Awareness Test
- Prose – Teacher designed to incorporate all rime units taught. (Appendix 1)
- Rime Unit Test – Teacher designed to determine which 3 letter rimes were most difficult. (Appendix 3)
- Anecdotal observation sheet

Teaching sessions:

- Teacher designed prose containing rime units to be taught during teaching session. (Appendix 1)
- Word lists of targeted rime units – (Appendix 2)
- Small magnetic white boards.
- Magnetic letters.
- Flash cards with word containing rime units to be taught.
- Flash cards with rime unit only on them. These were used in games.
- Foam dice with onset blends
- Rime bingo game, teacher designed.
- Dice with rime units. Teacher designed.
- Pens, highlight pens
- Look, cover, write spelling sheets.
- Chocolate frogs
- LEM Phonic Phonogram Posters.

PROCEDURE:

The implementation of the study was as follows:

Pre-Assessment

Discussions were held with the classroom teacher as to which candidates would be selected. The students were selected because they are a stand out-group from their peers and after a range of interventions have only made small gains.

The four students were then tested individually using the following tests:-

- PM Benchmark Kit to determine RRL.
- Sutherland Phonological Test
- 37 Dependable Rime Test – (J Munro)
- Rime Test – Teacher designed
- Prose Running Record – Teacher Designed.

The testing was broken up over a two-day period for each student as they became frustrated with themselves and this distracted them from the task. It was done in a quiet room with no interruption and conducted after recess.

The teaching sessions were designed around the most common errors made by all students.

Teaching sessions:

The teaching sessions were conducted on Monday, Tuesday and Wednesday over a three-week period. Each session was run between 11.30 to 1.00 pm depending on what was happening in the classroom. The sessions lasted about 45 mins and the children were withdrawn from the classroom to a quiet teaching area.

Each session began with a series of Brain Gym exercises. This was done to calm the children after recess and to focus their attention, as they were a difficult group to keep on task. Most sessions consisted of a number of short exercises or games to keep the children interested.

Session 1

As all four children were experiencing difficulty with the medial vowel sounds the first session was devoted to developing a clear understanding of what a vowel / consonant is and the sounds associated with each vowel.

This session was devoted to exploring vowels.

The following aspects were taught: - (The LEM Phonics charts were used here as they have begun to use them in class)

- Vowels & consonants
- Short & long vowel sounds
- What vowels – what is special about them.
- Ý doing the job of a vowel – rule ‘English words never end in ‘I’ so need to use y.’
- Listening for long and short vowel sounds in words.
- Children had to come up with their own definition of what a vowel is and what its job is.

Sessions 2 – 9

The following is the format for sessions 2 – 9.

* All lessons began with Brain Gym and then revision of the previous days work.

THEN – Pre test of prose at the beginning of lesson 2, 5, 7, and 9.

1. Introduction to the rime – children had to sort words into groups where they found something common within the group, i.e. the rime or they were given magnetic letters with the rime on the board and asked to generate as many words as possible.
2. Generate a group list of rime units.
3. Activity – snap, bingo, crossword, highlighting rime in prose, dice game, making words, magnetic letters,
4. Look, cover, write, check, spelling activity or spelling quiz.
5. RAN activity with words. Children had to read through a set of words on cards. The teacher flashes the word in front of the child as fast as child can manage.

Post test – lessons 4, 6, 8, 9

RESULTS:

Results show that all four students benefited from the explicit teaching of rime units. Those with poor phonological awareness seemed to make the most gain. Within the teaching of the rime units I was very aware of their deficiency in PA and provided as many opportunities to build their skills. Given that they were in grade 4 and needed to 'catch up' so to speak as quickly as possible I also built into the lessons a few rules about letter patterns. I challenged the children to come to these rules themselves after careful questioning, this was difficult for them as they are usually the children who sit on the mat and let the children who naturally see patterns in language do all the work and never quite make the connections. They seemed genuinely pleased when they came to the conclusion with response like, "Now I know when to use ck."

All of the children improved in their individual word reading and their prose reading. Their overall 'Reading Recovery Text Level' didn't improve greatly but I believe that it takes a great deal more time and attention to more than just onset and rime to make a long term change to their ability to pick up any book at an instructional level and be successful, particularly when you are of the opinion that you are a bad reader as these children do.

Something that could only be measured by observation was their willingness to approach the tasks. They gained a confidence that they could 'do it!' because now they knew what they were looking for.

The following is a detailed analysis of each child's results: -

Pre & Post Test Legend:

- Dep. Rime Unit – Dependable Rime Unit Test designed by John Munro.
- SPAT – Sutherland Phonological Awareness Test.
- Rime Unit Test – designed by teacher doing the intervention.
- Rime Prose Test - Prose containing the rime units taught throughout the intervention. Designed by the teacher.
- Text Level – Reading Recovery Levels (PM Benchmark Kit 1 & 2)
- Pre & Post Prose Test – designed by the teacher to be administered when introducing a set of new rime units.

RESULTS FOR STUDENT S

Table 1

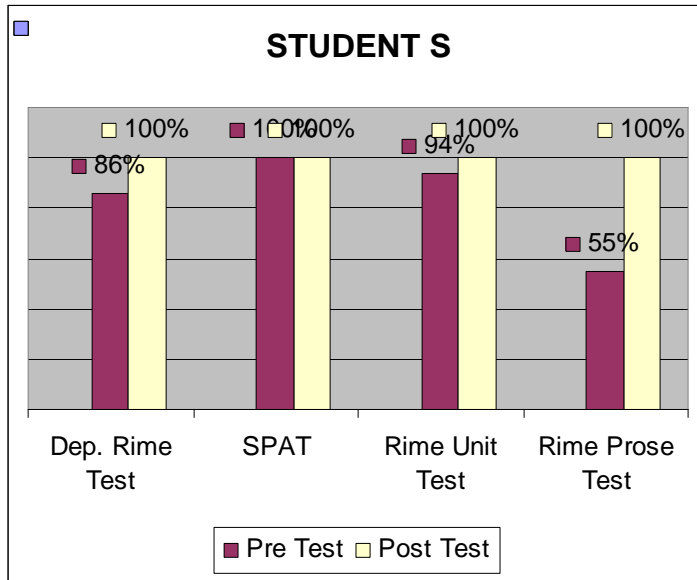
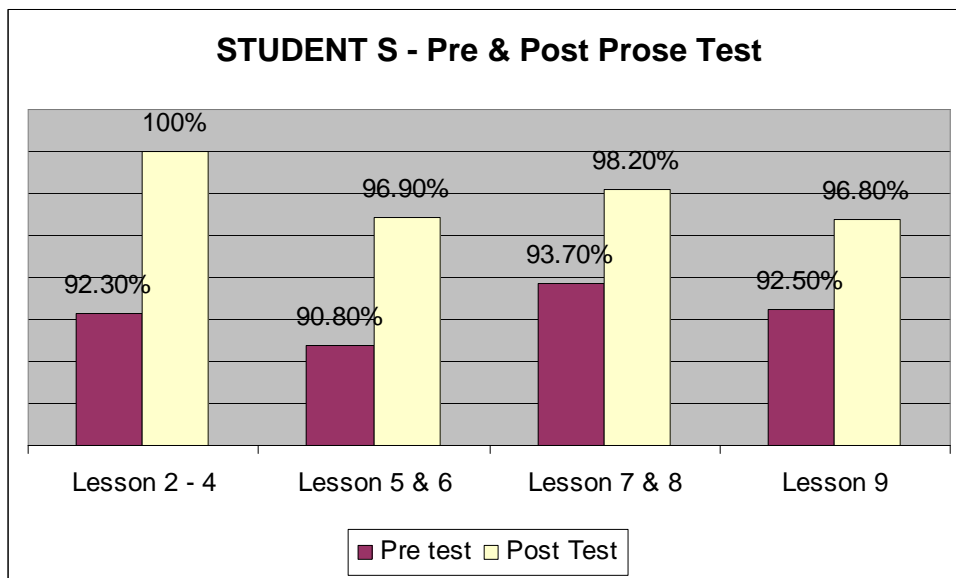


Table 2

Student S –Text Level Results	
Pre Test	Post Test
RRL 22 (93.7%) Instructional	RRL 23 (84.7%) Frustrational

Table 3



Student S came to the “Intervention Program’ with more skills than her peers. She had a full score on the phonological skills test (SPAT). She approached the test confidently and was able to complete the tasks quickly and accurately. Her strengths in PA made the explicit teaching more effective as she had a good base to build on. Table 1 shows that at the end of the series of explicit teaching sessions Student S got 100% for each of the tests. In the pre assessment for both the Dependable Rime Unit Test and the teacher designed Rime Test, Student S although scored relatively high scores, however many of the words read correctly were sounded out letter-by-letter and it was a laboured task. Many of the errors were confusion of the medial vowel, particularly ‘a’ & ‘u’ or adding and deleting letters in the onset part of the word. There was no attempt to segment unknown words into onset and rime. Most of the words she had difficulty with involved letter clusters as the onset.

In the post assessment tasks Student S approached the tasks much more confidently and read the words more rapidly and accurately. When she did labour over a word her word attack approach was significantly different from the pre testing. She broke words into the onset & rime. She was confident with the onset clusters and verbalised the learning that had gone on in the teaching sessions and applied it to the unknown word.

When reading prose Student S was not as successful as the individual word reading tests. In table 3 it is clear that she has made gains in the post Prose Reading Test. She confidently read the onset and rime words that had caused her concern in the pre test therefore she didn’t have to pay as much attention to the decoding which freed her up to concentrate on the meaning. The few errors she made were words where she omitted letters or added them in. This suggests that she doesn’t pay attention to the distinctive visual features of the word and is not maintaining meaning.

Student S’s text level did increase one level but she is currently at the expected level of an early grade two child according to the CLaSS school targets.

RESULTS FOR STUDENT T

Table 4

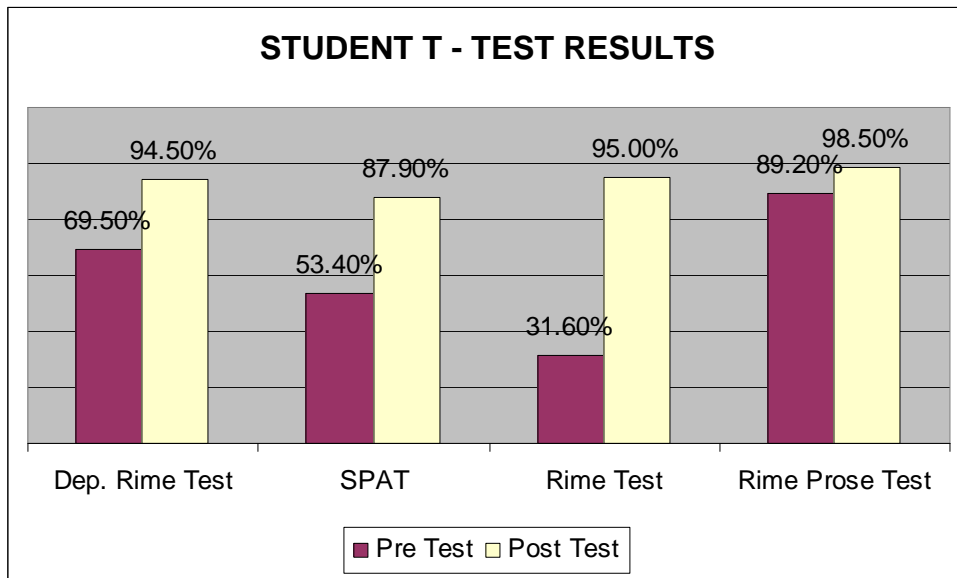
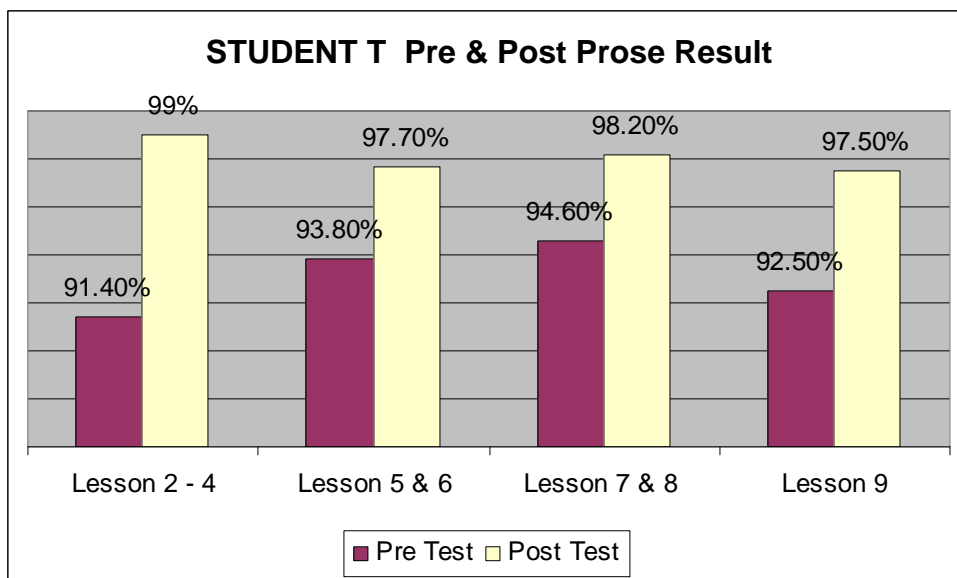


Table 5

Student T – Text Level	
Pre Test	Post Test
RRL 23	RRL 24
(92 %)	(85 %)
Instructional	Frustrational

Table 6



Student T has extremely poor self-efficacy with his reading ability. As his history reports, he has had several attempts at some form of intervention. He is extremely reluctant to read and becomes very angry and aggressive towards himself when he makes an error this can have a huge impact on his results. The pre and post testing was done over a number of days depending on his mood. The post testing was far easier to complete as he had enjoyed the intervention and had success and approached the testing more confidently.

In the SPAT pre test Student T's scored 31 / 58 (53.4%. See Table 4) which places his Phonological Awareness at first grade level, which is significantly below the average for his age. He was able to recognise syllables readily and could recognise words that rhymed using picture prompts although this took him some time where he had to repeat the words over a number of times. He had trouble thinking of words that rhymed with a given set of words, which suggests he doesn't have rhyme patterns automatically imbedded. He had difficulty recognising the final phoneme and couldn't hear or recognise the medial vowel. He was unable to segment words into individual sounds or manipulate sounds when asked to delete a sound and make a new word.

In the post test his score was equivalent with third grade which is a significant improvement. After the intervention program he was able to think of words that rhymed more readily, he seemed to understand how the 'sing song' (for the lack of a better word) of the language flowed. He seemed more tuned into listening for sounds, particularly the onset and rime aspect and had more success with manipulating sounds in words. He still had trouble isolating the individual sounds within words and still confused some medial vowel sounds.

In the pre test for the 'Dependable Rime Test' and the 'Rime Unit Test' student T scored poorly (see Table 4), in particular the 'Rime Unit Test'. In the 'Dependable Rime Unit Test' he made most errors on words the five letter words. The 'Rime Unit Test' is made up of mainly five letter words, which explains the poor results. He found it difficult to segment the onset and rime units and was unfamiliar with many of the onset blends.

In the post test for the above tests his score was significantly better (see table 4). Through the intervention he had become familiar with the segmenting & blending of the onset & rime and had learnt to recognise common blends.

Student T's text Level did not improve greatly during the intervention program. Student T is currently at the expected level of a mid year grade two students according to the CLaSS school targets. Given his SPAT results and the understanding this would have on his reading a great deal of specific explicit teaching would need to take place.

The Prose Reading Running Records done at the beginning and end of the introduction of the each new set of rimes to be taught show that at the end of each teaching session of the rime unit Student T made a significant gain in his prose reading. The results do not show this, but in the initial Prose pre test for lesson two Student T had to be told many of the unknown words as he was unsure how to decode them. This caused him to become very angry with himself and the teacher for telling him, but as the intervention progressed he attempted to decode the unknown words using the strategies taught during the lessons. The errors occurred when he confused the medial vowel. This was very encouraging and he was much more confident in his approach to reading in the post test.

RESULTS FOR STUDENT L

Table 7

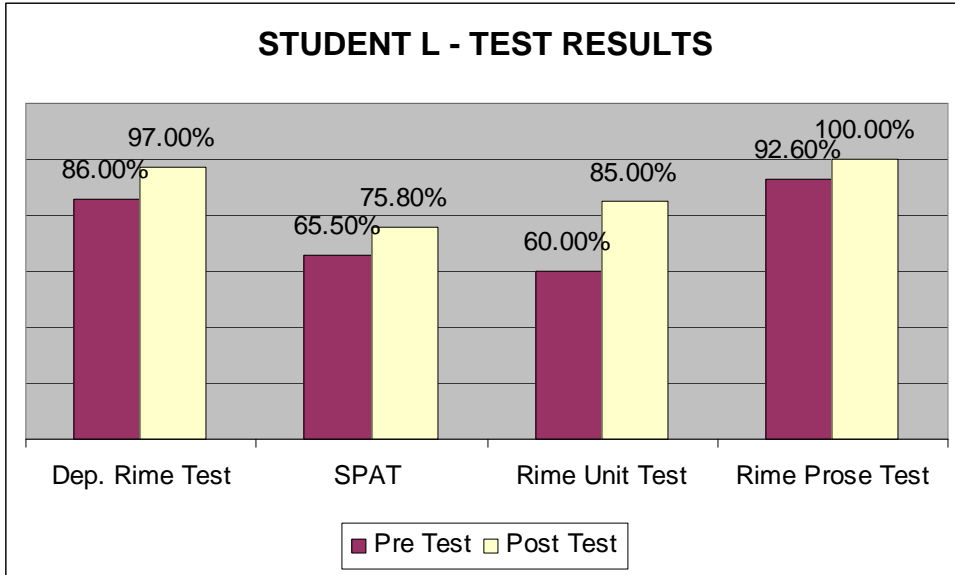
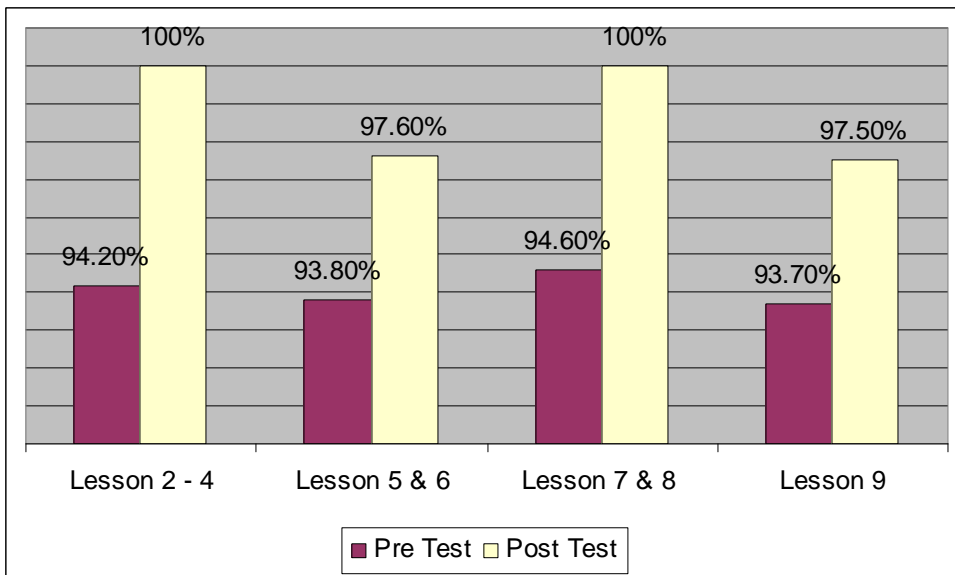


Table 8

Student L – Text Level Results	
Pre Test	Post Test
RRL 24	RRL 24
(89 %)	(94.6%)
Frustrational	Instructional

Table 9



Student L like the previous student has difficulty with Phonological Awareness. He scored 38/58 (65.5% see table 7) in the pre test, which places him just below the mean for grade one. There was a marginal improvement in the post test 44/58 (75.8% see table 7) which is just below the mean for grade two. This is significantly lower than the average for his grade four peers.

In the pre test student L found it difficult to choose words that rhymed using picture stimulus but scored better when he had to think a word that rhymed with a set of given words. However this did take some thinking time. He did manage to complete the segmenting and blending section reasonably well; however, again this took a lot of thinking time. He found the segmenting words into individual sounds very difficult. He was unable to hear all the sounds within the words even after repeating them to himself a number of times. He found the manipulation of sounds within words very confusing. He was not clear about what was being asked of him.

In the post test he was successful matching the rhyming words with the picture stimulus and giving a rhyming word to match a set of words was much more spontaneous. He was also more successful breaking words into individual sounds and significantly better at manipulating sounds within words.

In the 'Dependable Rime Test' pre test student L managed the three letter words however he did confuse some medial vowels. He began having difficulty when introduced to the three letter rimes particularly if they had a blend as the onset. Again the main error was confusion of the medial vowel. This was strongly evident in the 'Rime Unit Test' as this consists of three letter rime units, many which have a blend onset.

Student L was at the instructional level 92.6% (see table 9) on the pre test 'Rime Prose Test'. Many of the errors involved the words targeted for the teaching sessions in the intervention program or were words that had a suffix attached. In the post test Student L score 100%, confidently reading the words that had been taught through out the lessons.

His text level did not change over the course of the intervention however he did go from a frustrational level to an instructional level (see table 8). When he came to an unknown word he still appealed to the teacher for assistance particularly if the word was a compound word or had a prefix or suffix. He pays no attention to the meaning of the text and has a very slow recall of words. Student L is currently at a mid grade two level according to the CLaSS school target.

He showed better results in the 'Prose Reading Test' done at the beginning and end of the introduction of a set of new rime units, (see table 9). His pre test scores were all at the instructional level and two of the post test score were 100% while the other two were at the easy level. Initially in the pre test he appealed for help with the unknown errors, but as the intervention progressed he did make attempts at segmenting and blending the unknown words. In the post test he confidently knew the words that had been taught throughout the lessons and read them quickly.

Student L had considerable difficulty through out the intervention with the vowels at the beginning of the rime units. He was unclear what sound they each made and found the pronunciation difficult. He found it extremely difficult to hear the distinction between the sounds.

RESULTS FOR STUDENT J

Table 10

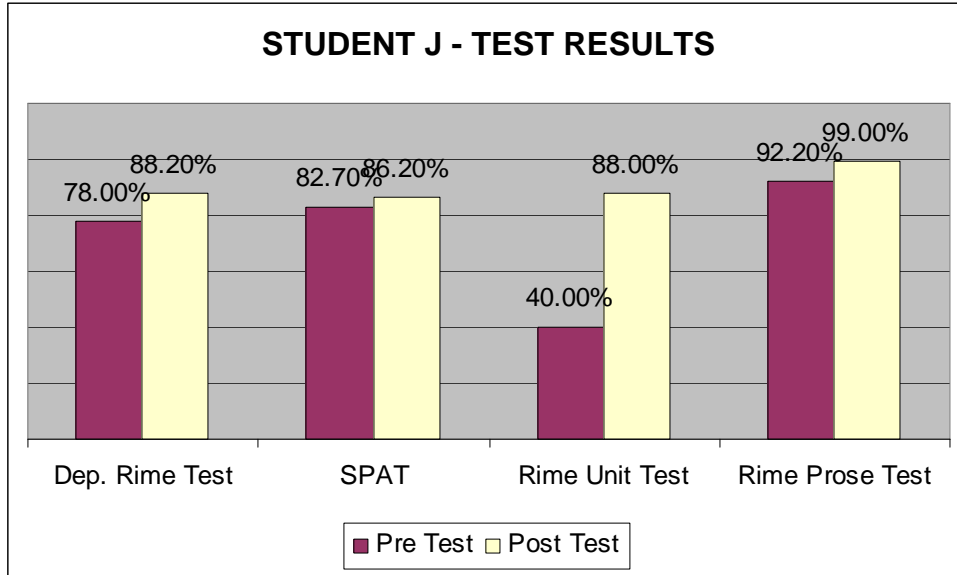
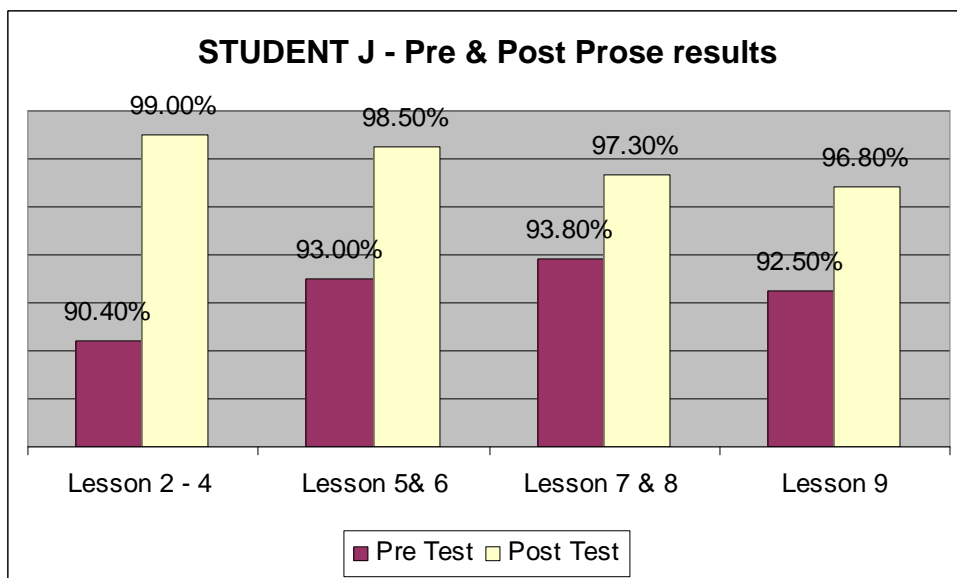


Table 11

Student J – Text Level Results	
Pre Test	Post Test
RRL 28 (83.4%) Frustrational level	RRL 28 (91.3%) Instructional level.

Table 12



Student J scored 48/58 (82.75 see table 10) in the pre test. He scored well on the phonemic section where he was asked to identify syllables, segment and blend words, produce rhymes and manipulate sounds within words. The section that involved the grapheme – phoneme section was where student had the most difficulty. When presented with non-words he was unable to segment and blend the words. He confused the medial vowels particularly ‘e’ and ‘i’. When having to write non-words he was unsure of what letter or letter clusters represented some sounds. Again he confused medial vowel sounds.

In the post test he scored marginally better on the grapheme-phoneme section again having trouble recalling letter / letter clusters for certain sounds. This suggests that he has trouble retaining the letter patterns in his long-term memory.

In the ‘Dependable Rime Unit Test’ Student J was confident with the three letter words. He began to make errors with four letter words by substituting letters or omitting letters. Many of the errors involved confusion of the medial vowel. He often deleted letters in the onset blend. This became more apparent in the pre test for the ‘Rime Unit Test. He was clearly unsure of many of the rime units and again inserted and deleted letters.

In the post test for both he showed a good improvement particularly in the ‘Rime Unit Test’ (pre test 40%, post test 88%. See table 10). He was more able to recognise the onset blend and the rime unit. He segmented them into the onset and rime to solve those he was not sure of. He was able to recall the rime unit rapidly which showed he had committed them to memory after the constant repetition of the intervention program.

Student J’s pre test results for the ‘Rime Prose Test’ was at the instructional level, 92.2% (see table 10). The majority of errors involved words that were targeted for the teaching sessions in the intervention program. In the post test Student J scored within the easy range, 99% (see table 10). The few errors made involved the confusion of the medial vowel.

Student J's text level remained the same although it went from a hard to an easy level. He is currently equivalent to the level of a child at the end of grade two according to the CLaSS school target. When reading unknown words he attempts to sound out the word but then substitutes them for a word that has a similar letter pattern, but doesn't pay attention to the meaning.

Student J's results for the pre test 'Prose Reading' test done prior to and at the completion of teaching a set of new rime units were all in the instructional level. The great majority of his errors were the words that were targeted for the teaching sessions. At the completion of the teaching sessions Student J read the prose easily and rapidly, all score fell within the easy level. Any errors involved the confusion of the medial vowel. This shows that he had committed the rime unit to memory and was able to recall it within the prose.

DISCUSSION

As pointed out in the MLOTP (The Multiple Level of Text Process, John Munro 2002) effective readers have to operate on a number of levels. The word, sentence, topic, conceptual and dispositional level and they must be able to competently and confidently integrate all this information automatically. When faced with this it is easy to understand why some children are not successful. Many children need specific and explicit teaching at the various levels to become effective readers

The results from the study support the hypothesis that explicit teaching of onset & rime units to a group of grade 4 children with reading difficulties will increase their ability to read isolated words and improve their reading of prose. It is fair to say though that even though all children showed a gain in their reading effectiveness this is only one small strategy needed for effective reading. The aspect of the study that was found to have the most impact was the specific and explicit nature of the teaching. As Foorman and Torgesen (2001) point out that children who come to school with weakness in talent for learning to read more slowly than other children will thus require more repetition in order to solidly establish critical word reading and comprehension skills. This became very apparent through out the study. All four children had difficulty with the medial vowel or the vowel at the beginning of the rime unit and even though there was constant repetition through out the lessons it was still an issue in the post testing, albeit that it had improved over the course of the study. This will need to be an ongoing teaching point for some time to come for the group, particularly student T and L.

Foorman and Torgesen (2001) go onto say that the most practical method for increasing instructional intensity for small numbers of highly at risk students is to provide small group instruction. This small group instruction allows for a great deal of talk by the group as a whole. The teacher's talk can be clear and precise to meet the need of the group and allows the teacher to say what might be in the large whole class setting left 'unsaid'. Foorman and Torgesen (2001) explain that these children do not discover what teachers leave unsaid about the complexities of word learning. The study clearly supported this theory. The children's enthusiasm for the lessons was evidence enough of this. All four children according to their teacher are usually

unengaged or disruptive during whole class teaching; however they were eager to attend the lessons and were very disappointed when the sessions came to an end. Although still very boisterous and at times distracted the lesson format kept them engaged and allowed them time and opportunity to talk their way through their learning. They were able to verbalise, experiment and clarify and then practice what they had learnt which made the learning more meaningful. By keeping the format simple and predictable they were then able to transfer their knowledge to a new set of rime units as they were introduced. At times they also shared how they had “done stuff just like that in class and I knew what to do”. The small group also benefits the teacher greatly. It allows the teacher to make very specific observations of the children, which drives further teaching.

The study also supports the notion of specific teaching. So often in the whole class setting we are trying to target different levels within the group. Analysis of the data collected on the children and specifically targeting their needs proved to be more effective as shown in the results. The need for ongoing assessment was also apparent to measure the success of the teaching strategies but also provided a motivator for the students. The pre & post prose running records were an immediate source of feedback for the students and gave them concrete evidence of their success and a purpose for the teaching. This had a direct impact on their self-efficacy.

The relationship between phonological awareness and reading was supported throughout the study. Students T, L and J phonological awareness skills were all significantly below the expected level of their age group. In the pre testing they had difficulty segmenting and blending words and hearing sounds within words, which transferred to a poor knowledge of the orthographic patterns. Through the teaching of onset and rime all students in the study were more successful at segmenting and blending words and had a better understanding of the sound / letter patterns relationship. A study by Ehri & Wilce (1985) supports the notion that phonology facilitates the creation of orthographic representations by providing evidence that phonological awareness influences sight-word reading as well as alphabetic reading.

Given the limited time frame of the study yet its effectiveness it is recommended that this group continue with the study of onset and rime as part of their classroom

instruction. The teaching of the onset and rime unit provided a good forum to address the issues with the student's phonological awareness. The use of pseudo words was particularly good for forcing the issue of paying attention to the distinctive visual features of words something all four students need to practice. The onset and rime also allowed the students to build on their orthographic knowledge. The school is currently using the LEM Phonic Program to teach the phonemes and given evidence presented by Bowey & Francis, 1991; Kirtle, Bryant, Mclean, & Bradley, 1989; Treiman & Zukowski, 1991 that tasks that require attention to the intrasyllabic units of onset and rime may be easier than tasks that require attention to single phonemes it would seem to be a more effective strategy for the teacher to achieve the same end. It is possible to teach the individual phonemes and the associated rules within the onset and rime unit. During the teaching session that looked at the rime units 'ack, eck, ick, ock, uck' the teacher used the LEM Phonics Charts to point out the 'ck' phoneme and through questioning and discussion the children observed that 'ck' always comes after a short vowel sound. This proved to be an effective way of teaching the orthographic patterns and rules because they were all able to verbalise this and apply it to other situations,

Recommendations will also be made to the classroom teacher to develop activities that develop the children's RAN skills (Rapid Automatic Naming) skills, particularly Student L and that she use the strategy of repeated reading for the group as all four children need work at the comprehension level of the reading model. The use of the R.I.D.E.R strategy would also benefit the group.

These students are difficult to keep on task so they need specific, purposeful, engaging and successful activities to motivate them to keep learning. Juel, 1988 reminds us that students who fail to acquire literacy by second grade are likely to struggle with reading throughout their lives; supplemental reading instruction in the primary grades is indispensable. Through supplemental instruction, students who fail to acquire appropriate reading skills in the general education classroom can receive intensive and focused reading instruction that builds foundational reading skills that will enable them to benefit from the classroom instruction. As educators it is a challenge to provide this to our at risk students.

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APPENDICES

Appendix 1

The following are the pre & post tests that were used to assess the children.

Pre & Post Intervention Running Record

On the weekend my family and I went to the local park. It was a treat for my brother Jack's birthday. He wanted to sail his new boat. We packed a snack then jumped in dad's truck. We all climbed in the front seat. My little sister got sick. When we got to the park we went for a walk down a little track. My brother and I ran ahead and found a clump of trees to hide in. when the others came past we jumped out and gave them a shock. We walked back to the lake to sail Jack's boat. Jack put the boat on the lake. We stood on the shore and watched it sail away but it didn't float for long, it sank to the bottom. Jack ran into the water up to his neck to get his boat. When he came out he was covered in black muck. The wind began to blow a gale so mum said we had better hurry home or Jack would be cold and get a sore throat. We packed up and got back in the truck for the ride home. We had a fun day even the boat sinking didn't spoil the day.

Fry's Readability = grade 2.7

Pre – Post Test for Lesson 2 & 4

Jack and Mike rode their bikes around the block everyday after School. On Saturday they would pack a snack and stick their Bikes on Mike's dad's truck and he would drive them down a rocky track. They would ride their bikes home along the track. Halfway home they would have their snack. Their mums would Pack them nice treats. One Saturday while they were mucking around Jack did a trick but his bike hit a rock. Jack fell and hurt his neck and his bike was a wreck. When they got home their parents said "No more riding on dirt tracks! Only around the block."

Fry's Readability = grade 2.8

Pre – Post Test for Lesson 5 & 6

It was a boiling hot day and the heat was making everyone grumpy. Frank and I jumped on our bikes and rode down to the river. There were lots of children there. There was a rope tied to a tree trunk on the bank and we all had a turn at swinging into the river. We all jumped off the bank into the muddy river. Frank jumped off the bank but he got a cramp in his leg. He crashed into a clump of trees with a loud thump and got a huge lump on his head. When he got up he had a blank look on his face. I jumped on my bike and rode down the trail to get help. Frank's parents came and took him to hospital.

Fry's Readability = grade 2.7

Pre & Post Test Lesson 6 & 7

Mum and I went shopping to the Myer sale. We saw a really cute dress. I tried it on and it looked very nice. Mum checked her wallet but she was broke. We spoke to the lady in the store and asked her to put it to the side for us. After going to the bank our feet were sore. We went and had some lunch. I had Coke and a slice of pizza. Mum had rice. I had some more shopping to do, mum looked pale but she took it in her stride. We went back to the Myer sale and I picked out some shoes. I was all set now.

Fry's Readability = grade 2.7

Pre & Post Test Lesson 9

On the school holidays my friend's family and my family went camping. We set off early in the morning because we were traveling to another state. My little brother kept asking "How long will it take?" My dad hates that. He turned around to yell at my brother and the car went off the road and hit a tree trunk lying on the ground. Dad hit the brake but it was too late. The car hit the trunk and it took a big chunk out of the side of the car. Dad was as white as a ghost. Luckily no one was hurt and the car could still go. We then drove the rest of the way to our campsite very quietly and carefully. When we got to the lake it was very late. Our friends helped us set up and make our beds. They had a plate of food for us all and then we fell into bed.

Fry's Readability = grade 2.9

Appendix 2

The following are wordlist of the rime units covered.

ack	eck	ick	ock	uck
dock	deck	sick	dock	duck
hack	heck	pick	hock	luck
Jack	neck	Mick	lock	muck
Lack	peck	tick	mock	puck
pack	check	kick	rock	truck
rack	wreck	flick	sock	suck
sack	fleck	stick	tock	tuck
whack	speck	lick	block	cluck
black	Shreck	brick	clock	chuck
crack		click	flock	pluck
flack		thick	frock	truck
slack		trick	shock	snuck
track			stock	stuck
snack				
stack				
smack				

oil	amp	eat	ank	ump	ail
boil	damp	beat	bank	bump	bail
coil	lamp	feat	rank	dump	fail
foil	ramp	heat	sank	hump	hail
soil	cramp	meat	tank	jump	jail
toil	clamp	peat	blank	lump	mail
spoil	champ	seat	flank	pump	nail
	tramp	bleat	crank	rump	pail
	stamp	cheat	plank	clump	rail
		pleat	stank	chump	sail
		treat	prank	grump	snail
		wheat	spank	plump	trail
			thank	slump	frail
				thump	
				stump	

ALE	ICE	OKE	IDE	UTE	ORE
Gale	Dice	Coke	hide	Cute	Core
Male	Lice	Poke	Ride	Mute	More
Pale	Mice	Woke	Side	Chute	Sore
Sale	Rice	Bloke	Tide	Flute	Tore
Tale	Slice	Broke	Bride		Wore
Stale		Choke	Glide		Chore
whale		Stoke	Pride		Shore
		Spoke	Slide		Snore
		stroke	stride		Store
					spore

Appendix 3

Rime Unit Test – Teacher’s Copy (teacher generated)

lamp	Meat	Sack
Fail	Drake	Stale
Trunk	Tame	Junk
Bride	Trout	Meet
Wore	Nate	Slick
Cluck	Chute	Coat
Gale	Boil	Spoil
Mide	Stand	Fight
Wait	Rank	Pine
Stain	Neck	Mute
Pick	Lice	Tock
Side	Treat	Fleet
Flock	Tuck	Hint
Lamp	Late	Bright
Crack	Rore	Bout
Fank	Fake	Main
Snore	Clamp	Spank
Frame	Slice	Clump

RIME UNIT TEST – STUDENT COPY

Print	Snail	Shine
Rump	Crate	stand
lamp	Meat	Sack
Fail	Drake	Stale
Trunk	Tame	Junk
Bride	Trout	Meet
Wore	Nate	Slick
Cluck	Chute	Coat
Gale	Boil	Spoil
Mide	Stand	Fight
Wait	Rank	Pine
Stain	Neck	Mute
Pick	Lice	Tock
Side	Treat	Fleet
Flock	Tuck	Hint
Lamp	Late	Bright
Crack	Rore	Bout
Fank	Fake	Main
Snore	Clamp	Spank
Frame	Slice	Clump
Print	Snail	Shine
Rump	Crate	and

Appendix 4

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)

3 letter words
4 letter words

4 letter words
5 letter words

4 letter words

5 letter words

bin	Pin	thin	spin		rock	sock	-	-		jump	pump	thump	stump
can	Man	plan	than		bell	well	shell	spell		test	rest	chest	-
day	say	play	stay		back	pack	black	-		light	night	bright	-
saw	Paw	draw	thaw		hill	fill	chill	spill		meat	beat	cheat	-
cab	Tab	grab	crab		ring	wing	thing	bring		cake	make	shake	snake
bug	Mug	plug	slug		duck	luck	truck	-		date	late	plate	-
hot	Not	shot	spot		sick	pick	brick	thick		name	came	shame	-
fat	Pat	chat	that		tail	mail	snail	-		rice	mice	slice	-
cap	Tap	clap	trap		bank	tank	thank	-		ride	hide	slide	-
hop	Top	stop	shop		mask	task	flask	-		fine	mine	shine	-
lip	Zip	drip	ship		junk	bunk	trunk	-		more	-	store	-
hit	Pit	spit	-		pink	wink	think	-		woke	-	broke	-
										rain	main	brain	chain

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