

Explicit teaching of post ERIK Year 3 students who continue to demonstrate inefficiencies in word reading accuracy, to automatically recognise digraphs containing vowels through a combined phonological, phonemic and orthographic process, improves their ability to independently read words in isolation and in prose.

Abstract

A number of students continue to experience difficulties when reading an age appropriate text beyond Year 2. They are not able to correctly read all the words in a text. They may have received interventions during their junior years (Prep to Year 2) but continue to have difficulty recognising words and/ or letter clusters. They may guess at words based on their distinctive visual features or labour at converting each letter into a sound.

The hypothesis of this study is that:

Explicit teaching of post ERIK Year 3 students who continue to demonstrate inefficiencies in word reading accuracy, to automatically recognise digraphs containing vowels through a combined phonological, phonemic and orthographic process, improves their ability to independently read words in isolation and in prose.

The study used a case study OXO design model (Assessment/ Intervention/ Assessment). Three male students in Year 3, who continued to display difficulties following their participation in the Early Reading Intervention Knowledge (ERIK) Orthographic Pathway were selected. Ten lessons of 50 minutes duration were conducted during their regular two hour Literacy block over the course of three weeks.

The results indicate that explicit teaching of digraphs containing vowels through a combined phonological, phonemic and orthographic approach did improve reading accuracy of words in isolation and in prose. It also showed improved reading rate and impacted positively on comprehension as well as reading self efficacy for the students.

This would suggest that explicit intervention aimed at developing students' abilities phonologically, phonemically and orthographically by focussing on specific letter clusters is beneficial for students who display inefficiencies when reading at the word level. Some students however may require more time for the knowledge and skills to be applied independently and automatically.

Introduction

A number of students have difficulties reading text beyond Year 2. They are unable to correctly read the words in a text. They may or may not have participated in reading interventions during their junior (Prep to Year 2) school years. They struggle to read many high frequency words and to apply grapho-phonics skills that are readily used by their peers. They may rapidly read text inaccurately as they attempt to predict words based on overall visual features and/ or context, or they may hesitate at every word. Predominantly, this word reading difficulty initially impacts on students' reading fluency, comprehension and confidence, especially as these students move into middle school. Additionally, it impacts on all of their learning and lessens their confidence as learner.

One major factor with learning to read is poor recognition at the word level (Jorm, Share, MacLean, & Matthews, 1984; cited in Munro, 1995). Difficulties at any one level can hinder the process for learning to read and due to the complexity of reading, difficulties at one level may be reflected at or impinge upon other levels (Munro, 1995).

When students read, they draw upon their phonological, orthographic and semantic knowledge of words. Words become part of a student's sight vocabulary when all three types of information for each word are integrated (Perfetti & Hart, 2002; cited in Ricketts, Bishop, & Nation, 2008). However, there has been further research into identifying whether a particular set of knowledge and skills are relied on more than the others, depending on the type of word,

such that readers tend to rely more on their phonological skills with unfamiliar words and progress to their orthographic skills as their vocabulary expands and develops, including more familiar and high frequency words (Coltheart, Curtis, Atkins & Haller, 1993; Martin, Pratt &

Fraser, 2000; cited in Hagiliassis, Pratt, & Johnston, 2006). Ehri (2005) identifies four ways of reading words. The first three are for reading unfamiliar words and these involve: phonological recoding, segmenting and blending words into phonemes or larger letter clusters or syllables; analogising by using what is already known to read the unknown; and, predicting, based on the context and certain letters. The fourth way of reading is for reading known words, drawing upon the sight, recognition and recall of the word (Ehri, 2005).

It has also been identified that at an operational level, there is simultaneous phonological and orthographic processing occurring. (Hagiliassis et al., 2006). Sunseth and Bowers (2002, p.403) develop this idea further, by claiming that “phonological knowledge and phonic skill contribute to orthographic knowledge”. Given that word recognition difficulties have been attributed to students with inadequate orthographic knowledge about words (Adams, 1990; Szeszulski & Manis, 1987; cited in Munro, 1995), students may therefore also have inadequate knowledge or skills at the phonological and/ or phonemic level.

Phonological knowledge is the basis for understanding the sound properties of language. In order to link spoken and written words when reading, phonemic knowledge (knowledge of the individual speech sounds), is also required. Phonological and phonemic knowledge provide a link between the spoken and the written. Such knowledge is required to convert letters to sounds, in order to segment and blend words and manipulate sounds in words. Restrictions to reading ability occur when students have difficulty identifying sounds, taking longer to recall sounds of letters, not accurately converting letters into sounds or identifying sound patterns in words. This slows down the reading process in that the student segments known individual sounds, or uses certain individual letters or letter clusters to predict a word, a strategy which has been shown to be the least effective in the long term (Frith, 1985; Freebody & Byrne, 1988; cited in Munro, 1998). Furthermore, students may demonstrate difficulty with their orthographic knowledge and skills as they may not recognise or be able to automatically recall certain letter clusters within words and may experience difficulty using knowledge that they have of one word to assist them in reading another word with a similar letter cluster pattern (Munro, 1998).

Research indicates that combining the teaching of phonemic awareness with the rules and application of grapheme-phoneme correspondence actually increases and accelerates the learning and use of word reading skills (Byrne & Fielding-Barnsley, 1989, 1991, 1993, 1995; Torgesen, Morgan, & Davis, 1992; Uhry & Shepherd, 1993; Castle, Riach, & Nicholson, 1994; cited in Stuart, 2006). In a study conducted in 1999, six Reception classes had one hour of literacy a day for twelve weeks (Stuart, 2006). Three classes used big books with a focus on the word level. The other remaining classes used a phonological program, ‘Jolly Phonics’ that included phonemic segmentation and blending as well as teaching grapheme-phoneme correspondences. At the end of the twelve weeks, the second group outperformed the first group in the post-test data, demonstrating phonemic and phonological awareness through their recognition and recall of phonemes and their ability to segment words as well as “learn consonant and vowel digraphs too” (Stuart, 2006, p.24). Likewise, Bryant and Bradley (1985; cited in Sunseth and Bowers, 2002) also found that when teaching how words can be segmented phonemically and representing how the phonemes were indicated by letters, the students’ ability to recognise words improved.

These studies focussed on the students in the early stages of learning to read. For older students who have developed some phonological and phonemic awareness, as well as an orthographic awareness through an earlier intervention program but are still experiencing difficulty decoding words, there may be a need for explicit teaching of letter clusters that they are unable to recognise or have difficulty recalling at the sub word level. It is not possible to assume that just because students have had experience with a broad range of varying letter clusters, that each will be equally recognisable to the same level as “students’ relative

familiarity with words and the importance of words in their existing experiential knowledge, influences how well the students can use them during learning” (Munro, 2006, p.43).

Furthermore, it has been claimed that at risk readers (students with reading difficulties) require more time practising with words to develop their automatic recognition of specific letter clusters than younger children who correspond to their reading level (Reitsma, 1983; cited in Sunseth & Bowers, 2002).

In particular, letter clusters that contain a vowel can be problematic for at risk readers as the pronunciation of a vowel varies considerably depending on the surrounding and/ or following phonemes (Kessler & Treiman, 2001; Caravolas, Kessler, Hulme & Snowling, 2005; cited in Ricketts, et al., 2008). Likewise, Munro (1995) suggests students learn long vowels and complex letter clusters after learning how to read two or three letter clusters, automatically segmenting words into onset and rime. Munro (1995) discusses the importance of making distinctions between long and short vowel sound patterns, using rimes to introduce them. The students gradually build up their recognition and recall of the sound pattern attached to the letter cluster by reading it within a variety of word families and using prototype words to assist in transferring that sound pattern to unfamiliar words. It has been reported that, an explicit focus on the orthographic properties of a word would lead to a higher level of application and transfer than just presenting the word visually (Benson, Lovett & Kroeber, 1997; cited in Berends, & Reitsma, 2007). As students begin to automatise their knowledge of these letter clusters, the amount of time demanding their attention at the word level is reduced and more of their attention may be focussed at the other levels of processing text, such as the sentence, conceptual or topic levels (Munro, 1995).

Being able to automatically recognise words is widely noted as being a major component of fluent reading (Barker, Torgesen, & Wagner, 1992; Levy, Abello, & Lysynchuk, 1997; Rayner, Foorman, Perfetti, Pesetsky, & Seidenberg, 2001; Jenkins, Fuchs, van den Broek, Espin, & Deno, 2003; Mathes, Denton, Fletcher, Anthony, Francis, & Schatschneider, 2005; cited in O'Brien, Wolf, Miller, Lovett, & Morris, 2011). There has been much research into the effect that inefficient phonological and orthographic processing has upon reading comprehension. Munro's research (1995) concludes that the more a reader invests their attention at a particular level of reading, the less there is available for processing the text at the other levels to enable or increase their understanding. For example, at the word level, Ehri (2005, p.170) suggests that reading words automatically occurs at an unconscious level, however, if a reader needs to consciously work out the word, then this “disrupts comprehension, at least momentarily”. Alternatively, some studies found that decreasing the time it takes to decode has not always improved comprehension (Fleisher, Jenkins & Pany, 1979; Perfetti, 1985; cited in Perfetti, 2007) or that reading comprehension itself helps to foster reading fluency (Dowhower, 1987; cited in Berninger, Abbott, Vermeulen, & Fulton, 2006).

The present study aims to investigate the effects of explicitly teaching a small group of Year 3 students, phonological, phonemic and orthographic knowledge and skills. Whilst these students completed Early Reading Intervention Knowledge (ERIK) – Orthographic Pathway - during Year 2 they continue to display inefficiencies when reading at the word level, which is lessening their reading rate, comprehension and confidence. The students demonstrate that they are not able to effectively identify particular letter clusters and tend to guess at unfamiliar words and they often base their predictions on the distinctive visual features of the word, or leave the words out when reading. The study will focus teaching at the subword level of digraphs containing vowels.

The hypothesis being investigated is that *explicit teaching of post ERIK Year 3 students who continue to demonstrate inefficiencies in word reading accuracy, to automatically recognise digraphs containing vowels through a combined phonological, phonemic and orthographic process, improves their ability to independently read words in isolation and in prose.*

Method

Design

This study uses a case study OXO design (Assessing/Teaching/Assessing) in which the gain in recognition and recall of targeted letter clusters in words and general reading accuracy are monitored for three, Year 3 primary students who continue to have reading difficulties following their participation in the Early Reading Intervention Knowledge (ERIK) Orthographic Pathway. Ongoing revision of phonological knowledge and skills to improve the students' orthographic knowledge and skills will also be monitored through explicit teaching of phonemic knowledge of digraphs, combined with blending and segmenting letter clusters in words. The students will also be taught to read unfamiliar one syllable words automatically by using their phonemic knowledge and by making analogies between words and moving the sounds successfully from the known to the unfamiliar.

Participants

The participants in this study are three boys who attend a Catholic primary school on the outskirts of Melbourne. Students B and C have been at the school since Prep. Student A started at the school in Year 2. The students are in Year 3 and each has a history of reading difficulties and has received a variety of literacy interventions for a couple of years. Students A and C both participated in literacy intervention in Year 1 of their schooling through the Reading Recovery program. In Year 2, all students participated in literacy intervention through the ERIK Orthographic Pathway. During semester 1 of 2011, the students were also part of a targeted literacy intervention group with the school's special education teacher, meeting four times a week for twenty minutes to consolidate skills developed through ERIK, such as segmenting and blending words using onset and rime, the use of analogy and retelling a short text at an independent level, as well as developing automatic recognition of words of high frequency. An outline of the students' profile can be seen in Table 1 and a complete profile in Appendix 1.

Table 1: Profile of students in the targeted intervention group at the time of the study.

Name	Control = 0 Teaching=1	Age in Months at August 2011	Gender Male = 0 Female = 1	Year of Schooling	ESL No=0 Yes=1	Earlier Intervention No=0 RR=1 ERIK=2 SDIP=3	EMA No=0 Yes=1
A	1	112	0	4	0	1, 2, 3	0
B	1	114	0	4	0	2, 3	0
C	1	112	0	4	0	1, 2, 3	1

Note: ESL – English as a Second Language

RR – Reading Recovery

ERIK – Early Reading Intervention Knowledge

SDIP – School Devised Intervention Program

EMA - Educational Maintenance Allowance

In terms of the demographic features of the students, only one student comes from a family that receives the Educational Maintenance Allowance. All three students come from families where English is the first language. One student, Student C, has difficulty with visual focussing, requiring glasses when reading and writing. Another student, Student B, has speech articulation difficulties, requiring ongoing support and assistance for applying particular sounds when speaking. As his articulation difficulties are consistent his responses in the data have not been marked as errors.

Assessment results at the start of 2011 demonstrated that all three students were below that of their peers in their independent text level, their word attack skills, comprehension and spelling as seen in Table 2.

Table 2: Literacy Profile of students in February 2011

	Student A		Student B		Student C	
Text Level	26		21		19	
Progress Achievement Tests in Reading (PAT-R) Test Booklet 2*	Raw Score	Percentile Rank %	Raw Score	Percentile Rank %	Raw Score	Percentile Rank %
	10	4	12	8	11	6
Burt Word Reading Test	Raw Score	Equivalent Age Band Boys & Girls (yrs/mths)	Raw Score	Equivalent Age Band Boys & Girls (yrs/mths)	Raw Score	Equivalent Age Band Boys & Girls (yrs/mths)
	34	7.00-7.06	37	7.03-7.09	35	7.01-7.07
South Australian Spelling Form A	Raw Score	Approx. Spelling Age (yrs/mths)	Raw Score	Approx. Spelling Age (yrs/mths)	Raw Score	Approx. Spelling Age (yrs/mths)
	24	7.01	24	7.01	23	6.11

* Percentile Rank as per year 3 norm table for test booklet 2.

The assessments recorded in Table 2, helped to highlight the students' profile for intervention. Following a semester of literacy intervention with the school's special education teacher, all their teachers reported that although students had improved in the quantity and automaticity of high frequency words, they would still guess at unfamiliar words. Their text level by July was still below level 28, the systemic benchmark level for the end of Year 2 (Table 3). Student A had even regressed a level from his score in February.

Table 3: Students' text level as at July 2011

	Student A	Student B	Student C
Text level	26	23	25

The teachers reported that the students' attempts when reading unfamiliar words in prose was usually a guess based on individual letters, or partly fitted into the context but did not match what the word looked like, or what really occurred in the story, creating further difficulties with their comprehension of the text. All teachers believed that the data indicated that the students would benefit from further intervention that focussed on developing the students' ability to recall and recognise certain letter clusters. Based on their text levels and assessment profiles, the students were chosen for the present study.

Materials and How Data was Analysed

The students were assessed using three reading tests and a self efficacy questionnaire. Two of the reading tests are published and provide comparative standardised data. The tasks used for pre-testing and post-testing are:

- Word Reading Tasks –
 - **Burt Word Reading Test** (Gilmore A, Croft C & Reid N, 1981). Students individually read a list of words of increasing length and varying frequency. A raw score (maximum 110) for number of correct responses provides an

equivalent age band for word recognition skills based on their results. For the purpose of this study, the combined boys and girls equivalent age band was used, as it took into account the differences demonstrated in the separate bands for boys and girls.

- **Orthographic Reading Test** (Munro J, 2011b). This test was used to determine students' ability to recognise and recall letter clusters and apply their knowledge to read accurately and automatically one syllable words of increasing length and varying frequency. There are 84 words in total varying in word length from 3 to 6 letters; varying in their frequency of usage from high, medium to low; and, words composed of individual sounds, digraphs and trigraphs. For the purpose of the study, students were asked to read across each row and say each word as quickly as they could. Results were recorded as a raw score and growth from pre to post test, calculated as a percentage. Also, correct responses were analysed pre and post-test in terms of how they were read: correct and rapid, correct and slow, correct and slow with part of the word read before saying it, correct and slow segmenting whole word and blending, correct and slow with explicit use of analogy. Errors were also analysed for individual students and for group trends. Totals were also calculated for errors according how the letters map into sounds.
- **Prose Reading** –
 - **Neale Analysis of Reading Ability** (Neale, 1999). This was used to assess reading rate, accuracy and comprehension when reading aloud. The raw score results for each category, combined with year of schooling, provide four types of standardised scores. For the purpose of this study, and for comparative analysis, those of percentiles, performance descriptors and reading ages were used. Whilst the Percentile Ranks may have varied according to the Year of Schooling, the Reading Ages, which were converted from their Raw Scores, would be the same, regardless of the Year of Schooling. (Neale, 1999, p.26) Form B was used at pre-test and Form A was used at post-test.
- **Self Efficacy** –
 - **Self Efficacy Questionnaire** (Chapman, & Tunmer (adapted), 2002) This was used to determine how each student viewed themselves as a reader in terms of the knowledge and skills they have and their attitude to reading and themselves as readers. The first twelve questions combine to make a possible 60 and the next six questions a possible 6. Totals and percentages were obtained; the higher the score, the higher the self efficacy.

In the absence of a control group, gains were assessed by comparing group and individual data from the pre-test period, to data from the post-test period.

Materials used during Teaching:

- **Flashcards** – For each letter cluster reviewed there were flashcards of the letter cluster, onsets and rimes built around the letter clusters and focus words. There was a new set of flashcards for each lesson (Appendix 2).
 - Phonological task: Recognition of the sound of 1 letter or 2, 3 or 4 letter clusters, phonemic segmentation and blending
 - Word reading task: Students chorally read the words after the teacher and then read them individually. In each lesson, the flashcards were also available as a visual support for students requiring to see and hear the word before spelling it.
- **Prose Reading** – Lessons 1, 2, 3 and 4 used narratives from PM Benchmark Kit 2 (Smith, Nolley, & Croft, 2009). The texts were placed in the first four lessons as they contain many of the letter clusters included in the study as well as the focus letter cluster for that lesson (Table 4). Fry's Readability Procedure (Fry, date unknown) was used to work out the appropriate level. As such, the texts are suitable for middle of Year 2 to the start of Year 3. Thus, they present a level of text suitable for the students learning a new skill, as they are at an independent level for all three students. The first

text was repeated to enable students to become more familiar with vocabulary containing letter clusters focussed in the study.

Table 4: PM Benchmark Kit 2 (2009) texts used -

	Lesson 1 & 2	Lesson 3	Lesson 4
Focus Letter Cluster	ai & ay	oa	ow
Text Title	<i>Honey Escapes</i>	<i>The Holiday Surprise</i>	<i>Harry the Tow Truck</i>
Level	Level 16	Level 18	Level 17
Number of words	328	395	339
Fry's Readability	middle of grade 2	end of grade 2/ start of grade 3	End of grade 2/start of grade 3
Focus and Related Letter Clusters	ai, ea, ee, ou, (qu)ie, ay, a-e, i-e	oa, ay, ea, ee, oo, ie, oi, ou, ow, aw, ur	oo, ay, oa, ow, oi, ee, ie, ea, ou, ur, ir, ar, aw

- Prose Reading – Lessons 5, 6 and 7 incorporated student and teacher created text using focus words from the lesson and words students generated in the lesson including the focus letter cluster (Appendix 3).
- Prose Reading – For lessons 8, 9 and 10 the narratives were teacher created texts (Appendix 4). They were included towards the end of the study as they contained a saturation of all letter clusters that were a focus for the study and their level of readability was higher than those at the start of the study. Based on Fry's Readability Procedure (Fry, date unknown), the texts are suitable for middle of grade 3 and end of grade 3. Similar to the method of analysis used for the prose reading in lessons 1 to 4, students each read aloud a third of the text while the teacher took a running record, noting the strategies they used for reading and if they were able to accurately decode words containing the letter clusters focussed upon during the study.

Procedure

As mentioned above, the study uses an OXO design. Both the pre-test and post-test stages of the study used tasks in the following order:

1. Self Efficacy Questionnaire (Chapman, & Tunmer (adapted), 2002).
2. Burt Word Reading Test (Gilmore, Croft, & Reid, 1981).
3. Orthographic Reading Test (Munro, 2011b).
4. Neale Analysis of Reading Ability (Neale, 1999). Pre-test – Form B & Post-test Form A.

The assessment tasks were administered over 2 sessions within 7 days of each other for pre and post test. The first 3 items were completed in the first session, with the last item, which focussed on reading words in prose, completed in the second session. Initially, the students were given time to talk about general matters and how they felt they were progressing with reading before the tasks were administered. No specific literacy instruction was given during the testing sessions.

Following testing, results from the Orthographic Reading Test (Munro, 2011b) were analysed to determine with which common letter clusters students were experiencing difficulties. Identified commonalities were letter clusters involving vowel digraphs (vv), vowel consonant digraphs (vc) and letter clusters where two vowels were separated by a consonant with the second vowel silent, herein referred to as split vowel digraphs (vcv).

Intervention Lessons

There were 10 lessons (Appendix 5) conducted over three weeks every Monday to

Wednesday, and Thursday of the third week. Each lesson was approximately 50 minutes. The students were withdrawn from their classrooms to an intervention room, during the first hour (Reading) of their two hour literacy block.

Each lesson focussed on one or two specific letter clusters identified from testing. The lessons predominantly focussed on digraphs such as vowel digraphs (vv) or vowel consonant digraphs (vc). This was then extended to include split vowel digraphs (vcv). In these instances, the first vowel made a long sound, with the final consonant (e) remaining silent at the end of a word, such as *place* or *hope*.

The order to the letter clusters was strategic. It began with vowel digraphs and another digraph with the same sound and same initial letter, but with the second letter a consonant. These variations helped to identify where the sounds usually occurred, either as initial, medial or final sounds. For example, the medial *ai* in *pain* becomes the final *ay* in *pay*. Alternatively, the initial *oa* in *oak*, is *ow* in *throw*. Students were then introduced to digraphs that were diphthongs, such as *oi* and *ou*. At this stage, to help them remember how to read words containing these letter clusters, students were encouraged to come up with words that they knew that contained that letter cluster to help them remember that sound. The students practised transferring that sound to less familiar words, such as *ou* in *out* for *proud*, thereby developing the skill of analogy when reading. Finally, students reviewed words that contained a final silent e separated from a long vowel with a consonant. This was introduced to the students as a vowel digraph that had been split as it followed on from their prior learning whereby, the first vowel made a long sound, with the second vowel remaining silent.

Lessons 1 to 9 used an overall similar structure, adapted from a model presented by John Munro (2011a, p.102) for teaching students to read one syllable words.

A) Review Prior Learning and Identify Learning Focus:

The first 5 to 10 minutes of the lesson involved the teacher and students establishing, reviewing or consolidating protocols for each lesson, reviewing prior learning to each lesson and identifying the learning focus for the day.

B) Introduce Letter Cluster and Create Words:

The next part of the lesson had a phonological focus. The letter cluster/s for each lesson was introduced and students discussed how it was said. Rhymes were introduced to help the students remember how to read the letter cluster. In the first lesson, the teacher demonstrated the skill of segmenting and blending using the letter cluster cards, of digraphs, onsets and rimes (Appendix 2) to create real and pseudo one syllable words. By lesson 3, students were independently demonstrating the skill of segmenting and blending to create real and pseudo one syllable words of increasing length. By lesson 4, students were encouraged to segment and blend or read the word as a whole, automatically, developing their orthographic skills.

C) Spelling Words:

The next 10 minutes of the lesson were aimed at students using their knowledge of the letter cluster, through segmenting and blending the word into onset and rime or phonemes, to help write words of increasing word length. Teacher read the word and showed it to the students who were asked to make a mental picture of it before they wrote it in their learning journals. At the end of spelling the words, each student read them aloud.

For lessons four to seven, after spelling the focus words for the lesson, the teacher asked the students to write down other words they knew that also used the letter cluster with the same sound. Students could create real or pseudo words as well as words with suffixes or

compound words. Students read these words to the group. These words were also written up on the board for the whole group to see and added to the chart for that letter cluster.

D) Text Reading or Text Writing and Reading:

In the first 4 lessons, commercially produced narrative texts were used that were at an independent level for the students (Table 4) containing the letter cluster focus for the lesson and other letter clusters in the study. Prior to reading, the teacher prompted the students to think about what they could do if they came to a word they were not sure about, and in particular, words that contained the letter cluster being reviewed that day, or previously reviewed. The teacher introduced the text by reading its title and a short blurb. Whilst the students were reading aloud, the teacher took a running record of the text for each student.

For lessons five to seven, the students created sentences using focus words or words they had generated in the lesson that used the letter cluster. The self generated words could be compound words or words with suffixes, thus including words of more than one syllable.

For lessons eight to ten, the students read words in prose (narratives) using teacher-created texts (Appendix 4). These texts incorporated words that used the letter clusters learnt over the entire program. Once again, while the students read the text the teacher took a running record for each student.

E) Review and Consolidate:

The final part of each lesson was aimed at reviewing the focus. The teacher asked the students questions that were aimed at their knowledge and skills for reading words. Students were asked to identify what they had learnt in the lesson in regards to word structure; the focus letter cluster/s; what they had taught themselves that day; what they now know that can help them when reading; and, what they can do to help themselves when reading unfamiliar words. Students discussed their responses with the group before writing their reflection into their learning journal.

Lesson 10: Review

Section 1: Students reflected on what they had learnt overall. The following sentence starters were used to help generate discussion: I have learnt; I can now; when reading unfamiliar words I feel. Students wrote a final reflection in their learning journals.

Section 2: The teacher introduced a tool for the students to use following the 10 lessons (Appendix 6). The students listed all the letter clusters covered and words which the students themselves knew automatically that contained the letter cluster. The students could refer to their personal chart when encountering the letter cluster in unfamiliar words in order to remind them of the sound that it made and transfer that sound to the new word as they had been practising in class.

Section 3: The students read prose (teacher-created narrative) containing all the letter clusters learned. While the students each read a designated part of the text, the teacher took a running record.

Section 4: Included a game of word bingo using one syllable words from the program. The teacher initially called out the words for the students to match to the same word on their card. Then students took turns to call out the words while the teacher took a student's card. There were a variety of bingo cards to choose from.

RESULTS

Results indicate support for the hypothesis that *explicit teaching of post ERIK Year 3 students who continue to demonstrate inefficiencies in word reading accuracy, to automatically recognise digraphs containing vowels through a combined phonological, phonemic and orthographic process, improves their ability to independently read words in isolation and in prose.*

The results of all three students for the reading of words in lists in the Orthographic Reading Test (Munro, 2011b) and the Burt Word Reading Test (Gilmore, et al., 1981) indicated improvement (Table 5). In the Burt Word Reading Test (Gilmore, et al., 1981), the mean for all three students improved by 11 words or by 19.5%. Likewise, the mean for the Orthographic Reading Test (Munro J, 2011) had improved by 24.34 words or 30%. Furthermore, the mean for Accuracy in the Neale Analysis of Reading Ability (Neale, 1999) indicated an improvement in reading words in prose, increasing by 7.67 or 16.7%. There were also improved results in the Neale Analysis of Reading Ability (Neale, 1999) in Comprehension and Rate. The mean in Comprehension at post testing had improved by 9.8% whilst the mean in students' Reading Rate had improved by 33%.

Table 5: Pre and Post Test raw score results, and attendance, for participants in the study.

Name	Control = 0 Teaching = 1	Atten dance No. of sessions	Self Efficacy PRE	Self Efficacy POST	Burt Word Test PRE	Burt Word Test POST	Orthographic Word Test PRE	Orthographic Word Test POST	Neale Accuracy PRE	Neale Accuracy POST	Comprehension PRE	Comprehension POST	Neale Rate PRE	Neale Rate POST
A	1	10	61	56	47	58	57	84	34	43	16	16	31	65
B	1	10	56	56	45	56	60	83	34	42	15	17	32	35
C	1	8	50	57	44	55	52	75	35	41	15	18	32	42
Sum / Total		28	167	169	136	169	169	242	103	126	46	51	95	142
Mean		9.33	55.6 7	56.3 3	45.3 3	56.3 3	56.3 3	80.6 7	34.3 3	42.0 0	15.3 3	17.0 0	31.6 7	47.3 3
SD			5.51	0.58	1.53	1.53	4.04	4.93	0.58	1.00	0.58	1.00	0.58	15.7

SD = Standard Deviation

Note: For the Neale Analysis of Reading Ability the Year of Schooling is 4. Form B was used for pre-test and Form A was used for post-test. Statistically comparable data for the Neale results in all 3 components for pre and post testing is demonstrated in Table 6 and Appendix 1 Figure 3.

At an independent level of analysis, Student A's Accuracy and Rate, according to the Neale Analysis of Reading Ability (Neale, 1999) had improved from pre to post testing (Table 6). Thus, at post testing, the student was in the average category for all three reading components. Students B and C increased in all three areas of Accuracy, Comprehension and Rate. Their results placed them in the A (average) descriptor for both Accuracy and Comprehension.

Table 6: Pre and Post Test Results in Neale Analysis of Reading Ability

	Student A						Student B						Student C					
	A1	A2	C1	C2	R1	R2	A1	A2	C1	C2	R1	R2	A1	A2	C1	C2	R1	R2
Raw Score	34	43	16	16	31	65	34	42	15	17	32	35	35	41	15	18	32	42
Percentile Rank	13	30	27	36	5	47	13	28	23	39	6	8	14	26	23	42	6	17
Performance Descriptor	BA	A	A	A	VL	A	BA	A	A	A	VL	VL	BA	A	A	A	VL	BA
Reading Age Years & Months	7.8	8.3	8.3	8.3	6.11	9.3	7.8	8.2	8.1	8.5	6.11	6.11	7.7	8.1	8.1	8.8	6.11	7.4

A1: Accuracy Pre-Test; A2: Accuracy Post-Test; C1: Comprehension Pre-Test; C2: Comprehension; R1: Rate Pre-Test; R2: Rate Post-Test. A: Average; BA: Below Average; VL: Very Low

In Rate, Student A went from percentile rank of 5 to 47 (Table 6), demonstrating the most improvement in any category out of the three students. Whereas, Student B seemed to make the least progress of the three, increasing his percentile rank of 6 to 8, but remaining at the same approximate reading age of 6 years and 11 months and still VL (very low), whilst Student C made some progress in Rate that fell between the other two students, but he was still in the performance descriptor of BA (below average) with a reading age of 7 years and 4 months (Table 6).

In the Burt Word Reading Test (Gilmore, Croft, & Reid, 1981), all students increased their score for reading isolated words that were not explicitly connected to the letter clusters taught. Likewise, they also increased the number of words attempted (Table 7).

Table 7: Pre and Post Test Data for the Burt Word Reading Test (Total 110)

	Words Read Accurately		Total Number of Words Attempted (Correct and Incorrect)	
	Pre Test Results	Post Test Results	Pre Test Results	Post Test Results
Student A	47	58	86	110
Student B	45	56	70	83
Student C	44	55	75	82
Mean	45.33	56.33	77	91.66

All three students increased the number of words read correctly by approximately 10%, however, they differed in the growth to the number of words attempted with Student A improving by 22%, Student B by 11% and Student C increasing the number of words attempted by 7%. Overall, the increase in their word accuracy indicated that all 3 students had improved their reading age by approximately one year as seen in Table 8.

Table 8: The Burt Word Reading Test: Raw Scores identifying Equivalent Age Band at Pre and Post Testing compare to actual age at testing

	Age at Pre Testing (years/months)	Pre Test Result	Equivalent Age Band	Age at Post Testing	Post Test Result	Equivalent Age Band
Student A	9.04	47	8.01-8.07	9.05	58	9.02-9.08
Student B	9.06	45	7.11-8.05	9.07	56	8.11-9.05
Student C	9.04	44	7.10-8.04	9.05	55	8.10-9.04

At the end of the program, the Burt Word Reading test indicated that all three students were closer to their actual age for the number of accurate responses. Student A demonstrated a reading age approximate to his actual age, making an improvement of approximately 13 months; Student B, instead of being approximately 13 to 19 months behind in reading age at pre-testing, improved to being between 2 to 8 months behind his reading age at post-testing – an improvement of around 11 months; and, likewise Student C had improved from being 18 to 12 months behind in reading age at pre-testing to being approximately 6 months to 1 month behind in reading age at post-testing, also an improvement of approximately 12 months, even though he had missed two lessons while students A and B had attended all 10 lessons over the three week period. (Appendix 1 Table 2)

Results in the Orthographic Reading Test (Munro, 2011b) also indicate an improvement in word accuracy reflected in the gains made by the students following participation in the study. All three students had increased at post-test the number of one syllable words read correctly increasing the average number of words read correctly by approximately 29% (Table 9).

**Table 9: Orthographic Reading Test:
Raw Score Results for a total of 84 one syllable words.**

	Pre-Test	Post-Test	% growth
Student A	57	84	32%
Student B	60	83	28%
Student C	52	75	27%
Mean	56.33	80.67	29%

Student A demonstrated the highest amount of percentage growth of 32% with Student B and C recording similar results of 28% and 27% respectively, even though the difference of words they read correctly was 8 words, with Student B only making one error. In terms of how the students read those words correctly, there was some variation; reading them quickly or slowly, saying part of the word first, segmenting the whole word, or using analogy to read it as indicated in Table 10.

Table 10: Analysis of Correct responses Pre and Post Test

Student	Correct and Rapid		Correct and slow		Correct and slow, part of it said before reading word		Correct and slow, segmenting whole word and blending		Correct and slow, explicit use of analogy	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
A	47	60	3	10	5	9	1	3	0	2
B	48	65	9	11	3	4	0	0	0	3
C	39	42	1	4	3	1	4	26	0	1

Pre-test and post test results indicate a trend for all students that the greatest amount of correct responses was read quickly, without hesitation. Student B however, differed to the other two students in that he did not segment the whole word into onset and rime, either at pre or post test. Rather, he had the greatest response for correct and rapid (65 words) and for explicitly using analogy at post test (3 words). Student C also differed to the other students in the post test data. Unlike student A and B, his greatest area of growth was in segmenting and blending the whole word, improving by 26%, the greatest percentage growth of any student in any of the areas for correctly reading the words, even though he was absent for two of the sessions. However, he also recorded the least amount of words read correctly and rapidly.

Initial testing indicated a further trend for the group, demonstrating that all students had quite high results in the Self Efficacy Questionnaire (Table 12).

Table 12: Pre and Post Test Results in the Self Efficacy Questionnaire (Total 66)

Students	Section of Questionnaire	Pre Test Results for Self Efficacy		Post Test Results for Self Efficacy	
		Raw Score	% Response	Raw Score	%
Student A	How sure are you that you can ... questions	55/60	91.67%	53/60	88.33%
	Tick one box responses	6/6	100%	6/6	100%
	Total	61/66	92.42%	59/66	89.39%
Student B	How sure are you that you can ... questions	46/60	76.67%	50/60	83%
	Tick one box responses	6/6	100%	6/6	100%
	Total	52/66	78.78%	56/60	84.84%
Student C	How sure are you that you can ... questions	44/60	73.3	51/60	85%
	Tick one box responses	6/6	100%	6/6	100%
	Total	50/66	75.75%	57/66	86.36%

Students B and C recorded similar results in the pre test 52 (78.78%) and 50 (75.75%) out of a total of 66, compared to Student A, who achieved the highest pre test result of 61 out of a total of 66 (92.42%). Although Student C began the program with the lowest score for self efficacy, he achieved the greatest positive change, increasing his pre test result from 50 to 57 out of 66, a growth of 10.61%. Student B's results show a positive growth of 6.06%. However, Student A showed negative growth as his results decreased from 61 out of 66 to 59, showing a decline of 3.03%. Yet, Student A still had the highest result for both pre and post test. Where he scored himself lower in the post test than he had assessed in the pre-test was in his self belief about his ability to "work out new words", to "correct any mistakes you make", and "read smoothly", whilst other elements of the questionnaire were scored equally or higher. As seen in Table 13, Student A increased the number of responses in the 'half and half sure' column but decreased the number of responses in the 'I think I can' column. The number of responses in the 'I know I can' column remained the same.

Table 13: Distribution of responses in the first section of the Self Efficacy Questionnaire (1= I know I can't; 2 = I think I can't; 3 = I'm half and half sure; 4 = I think I can; 5 = I know I can)

Student		1	2	3	4	5
A	Pre	0	0	1	3	8
	Post	0	0	3	1	8
B	Pre	0	2	3	3	4
	Post	0	0	4	2	6
C	Pre	0	2	4	2	4
	Post	0	0	2	5	5
Combined totals	Pre	0	4	8	8	16
	Post	0	0	9	8	19

During post testing, no student assessed themselves in terms of “I know I can’t” or “I think I can’t”. The lowest indicator for their self efficacy was category 3: “I’m half and half sure”. The combined totals indicate a trend to an even higher self efficacy at post-testing. The 4 responses shown at pre-testing for category 2 “I think I can’t” have been replaced with 0 at post testing and the greatest gain is at category 5 “I know I can” going from 16 responses to 19.

Discussion

The results of this study lend support to the hypothesis that teaching post ERIK Year 3 students who continue to display difficulties at the word level, improve their ability to read words in isolation and in prose following explicit teaching of specific letter clusters such as digraphs containing vowels, through a combined phonological, phonemic and orthographic process. This seems to confirm the conclusions made by Berninger, et al., (2006, p. 343) that “the automaticity of verbal coding of single letters or letter clusters may also contribute to the real-word reading rate, which in turn contributes to reading comprehension in these at-risk readers.”

The most encouraging finding of this study is that after only ten lessons, all three students improved approximately one year in their ability to read words in isolation, scored on the Burt Word Reading Test, and approximately six months in their ability to read words in prose, as demonstrated through the Neale Analysis of Reading Ability. This is even more encouraging, considering that for two of the three students, every lesson they expressed in one way or another, disinterest in being there. Motivation was a key factor for these two students and yet, even with some resistance, they have improved their accuracy from a level of ‘below average’ to that of ‘average’ according to the Neale Analysis of Reading Ability (Table 6).

Throughout the program, students were given the opportunity to say, spell and read in isolation and in prose the letter clusters explicitly taught. Students were involved in developing not only their knowledge of digraphs and word structure, but a range of strategies to support their efficiency when reading unfamiliar words. The use of a rhyme (Appendix 7) to help the students remember a way of reading a vowel digraph (vv) proved to be an effective strategy. By the third lesson, all three students were able to say the rhyme from memory, or a paraphrased version of it, and relate it to the vowel digraph (vv) being focussed on. Likewise, the rhyme was flexible enough for students to use it with the split vowel digraph (vcv). At the end of each lesson, the students were able to articulate verbally to the whole group and in writing (in their personal learning journals) what they had learnt in regards to the relationship between the phoneme and the grapheme.

Once the lessons progressed to vowel digraphs that did not match the rhyme, as in the case of the diphthongs (oi, ou), students were required to think of a word they automatically knew that contained that phonemic-graphemic representation. The students could then refer to that word to help transfer what they knew of the sound of that letter cluster to help read an unfamiliar word. The skill of reading by analogy was not evidenced in any of the pre-test data but was explicitly demonstrated by all students at post-test in the Orthographic Reading Test alongside other strategies for reading words in isolation, such as blending and segmenting or partial segmentation. The range of strategies employed by the students reflects Munro’s (1998) findings that the development of orthographic knowledge is a process learnt gradually, so that while some words and letter clusters are read automatically, others require segmentation and blending or the use of analogy.

Each lesson also included a spelling component, following a phonological and phonemic focus involving students articulating the sound and transferring that sound to one syllable words either by segmentation and blending or automatic recognition. Given that all three students demonstrated improved results in the Orthographic Reading Test, which included most of the digraphs covered in the lessons, a possible explanation may support Ehri’s (2005, p.177)

findings in his research that “spellings improved memory for sounds because they were retained as visual symbols preserving the sounds in memory.” That Student C was less consistent with his accuracy in the Orthographic Word Test at post-test, especially with words that contained digraphs covered in the lessons (at which he participated), and required more time to see and then visualise the words before spelling them each lesson, may reflect what Ehri & Saltmarsh (2005; cited in Ehri, 2005) and Reitsma (1983; cited in Ehri, 2005) found: that some students may just require more practice before the reading of words becomes automatic.

Throughout the program, in the first part of the lesson, students were explicitly shown how to use phonological and phonemic strategies to segment and blend and were provided with many practice opportunities. In the final lesson, when the students reviewed what they had learnt overall, all three commented that when they were reading an unfamiliar word, they could now segment the word into ‘chunks’ to help them decode it (Appendix 8). Further evidence of the students’ use of this strategy was seen in the post-test of the Orthographic Reading Test and in the Burt Word Reading Test, with their increased number of attempted words. This concurs with research that has found activities, which focus on the phonological and phonemic structure of words, to be effective (Ball & Blachman, 1988; Bradley & Bryant, 1985; Vellutino & Scanlon, 1987; Byrne & Fielding-Barnsley, 1993; Hurtford, 1990; Share, 1995; cited in Munro, 1998). Within the students’ final entry of their learning journal, they also wrote about their phonemic awareness of vowels; of the sounds they make when they come together as digraphs or how the sound of the vowels can vary depending on the letters that surround or follow them (Appendix 8).

Another group trend was that all three students also reflected in their final entry that they felt more confident with reading. This improvement of their self efficacy combined with improvement in their knowledge and skills at the word level, parallels research that links a positive relationship with self efficacy and “students’ academic achievement, cognitive engagement, and willingness to employ learning strategies” (Linnenbrink & Pintrich, 2003; Pintrich & DeGroot, 1990; cited in Nelson & Manset-Williamson, 2006, p. 214).

In terms of Student A’s decrease in self efficacy as shown in his Self Efficacy Questionnaire, his data seems to correspond with that reported in the research of Nelson and Manset-Williamson (2006). They found that some of the respondents with reading difficulties already had high reading self efficacy prior to the intervention yet this did not match with their abilities. Likewise, Kruger and Dunning (1999; cited in Nelson, & Manset-Williamson, 2006) also found that a group of participants completed their metacognitive training with lower self efficacy; yet the results matched better with their performance than how they had initially assessed themselves. Hence, Student A’s self assessment at the end of the program may reflect a more realistic perception of himself, and one that is more closely aligned to his actual abilities.

By lesson 5, Students A and B were quite articulate about how they were able to connect what they were learning (explicitly and implicitly) through the program to their reading and spelling experiences in the classroom and at home. For example, Student A was able to use his knowledge of vowel digraphs to read unfamiliar words when completing his reading homework. He was also able to apply incidental learning about other letter clusters, not explicitly taught but still seen through the course of the program (such as ‘ph’ in the word digraph).

Results for the three students suggest that as their phonological, phonemic and orthographic knowledge and skills improved, thereby increasing their word accuracy skills, their reading rate also improved. This is supported by the findings of Martin-Chang & Levy (2005; cited in Perfetti, 2007), that an improvement to the speed for reading words may also improve fluency. All three students at pre and post-test recorded similar results for accuracy, however there were some variations in their rate results at post-test when their profiles were quite similar at pre-test. This raises the issue of the relationship between naming speed, phonological and

orthographic knowledge and skills and the amount of practice required by individual students. Whilst relevant, naming speed which incorporates “a complex ensemble of attentional, perceptual, conceptual, memory, phonological, semantic, and motoric subprocesses” (Wolf, Grieg Bowers, & Biddle, 2000, p. 395) goes beyond the scope of this study and further research in this area is merited.

This study also demonstrates some quite conflicting data in the relationship between reading accuracy, rate and comprehension. Different outcomes are indicated in the results from the Neale Analysis of Reading Ability reflecting alternate views in research on this topic. Student A's post results in the Neale Analysis of Reading Ability showed no change in reading age from the pre test for comprehension even though he had the highest comprehension pre test reading age of the participants. He scored the highest post test result for accuracy in the Neale and the highest post test result for the Burt Word Reading Test and the Orthographic Reading Test of the three students (Table 5). This supports research that has found that even though some students may have good decoding skills, it is not enough to support them in their comprehension (Cain & Oakhill, 1999; Oakhill, Cain & Bryant, 2003; Stodhard & Hulme, 1996; Landi & Hart, 2005; cited in Perfetti, 2007). Despite his reading rate result increase, this did not increase his comprehension reading age. Student A's results also seem to contradict the conclusion that because less attention is focussed on decoding, thereby developing fluency, more attention can be invested in comprehension (Perfetti 1985; cited in Sanchez, Garcia, & Gonzalez, 2007; Kuhn, & Stahl, 2003; Therrien, 2004; cited in O'Brien, 2011).

Student B and C's improved results in word accuracy in the Burt Word Reading Test and the Orthographic Reading Test, as well as the accuracy component of the Neale Analysis of Reading Ability, appear to correlate with their improved results in comprehension. Their results in accuracy in all three tests and rate in the Neale Analysis of Reading Ability are lower than Student A's accuracy and rate at post-test, yet their comprehension results are higher than Student A's (Table 5). This appears to contradict the findings that those readers with higher levels of comprehension read faster and more accurately than readers with lower comprehension (Bell & Perfetti, 1994; Perfetti & Hogaboam, 1975; Cuetos, Dominguez, Miera & de Vega, 1997; Martinez & Vega, 1992; cited in Sanchez et al., 2007).

Given the small scale of this study, that all students were male, and that there was no control group, it is somewhat difficult to make generalisations about the data. The data does demonstrate that students with similar needs and similar literacy profiles prior to the study, responded to the same kind of intervention in sometimes, quite individual ways, even given certain group trends. Furthermore, it highlights the variability of outcomes, due to underlying issues that may not be targeted or addressed explicitly through the intervention. In a meta-analysis on children's responsiveness to reading intervention, conducted in 2003, Nelson, Benner and Gonzalez (2003; cited in Duff, Fieldsend, Bowyer-Crane, Hulme, Smith, Gibbs, & Snowling, 2008) found seven variables relating to children's responsiveness: rapid naming, problem behaviour, phonological awareness, alphabetic principle, memory, IQ and demographics (Duff, et al., 2008, p. 320). Given the variation of results in relation to accuracy when matched with fluency and comprehension further investigation is required. All students though would benefit from revising the letter clusters learnt and increasing their automaticity as none were able to read all the words in the Orthographic Reading Test automatically; some words still remained which demanded much of their attention. Student C, in particular, would benefit from continued intervention due to unconsolidated application of skills and knowledge when reading one syllable words that contained some of the letter clusters that were a focus of the program.

The study demonstrates a number of key issues important to the teaching and learning of reading at the word level for students in Year 3 who are thus experiencing difficulties with accuracy. The study supports the combination of a phonological, phonemic and orthographic focus to automatise students' knowledge of letter cluster patterns. Once students have

developed their skills at segmenting and blending and the use of analogy, a future focus might be to extend the use of those skills from one syllable words to multisyllabic words.

With the students in the study, there was a marked increase in their ability to segment multisyllabic words in the Burt Word Reading Test, but inefficiencies were demonstrated in intonation and where stress was placed when they attempted to blend. This has possible implications for moving from one syllable words to multisyllabic words. Students with reading difficulties may continue to require a combined phonological, phonemic and orthographic focus; however, it may also require a semantic focus on vocabulary because when students integrate their phonological, orthographic and semantic knowledge of a word, it then becomes part of the students' sight vocabulary (Perfetti & Hart, 2002; cited in Ricketts, et al., 2008).

Running parallel to improving reading difficulties is the development of the students' self efficacy as a reader. Nelson and Manset-Williamson (2006) raise an important conclusion that is relevant to investigation beyond this study: That for students with reading difficulties, the creation of a high but also accurate positive self efficacy is required to support the students' development in reading. Yet, for each individual student, how much self efficacy would be required for it to be effective? Further study might also investigate what other factors contribute to self efficacy more than others. Additionally, would the results of this male only study reflect any relevant outcomes if only female students or a heterosexual group were the participants?

Although this study was focussed at the word level, the influence of its success was shown to extend to comprehension and fluency. This holds implications for the teaching and learning of reading to students beyond Year 2, particularly for students displaying difficulties with processing text at the word level. Results from the study seem to suggest the need for continuing explicit instruction in phonological, phonemic and orthographic knowledge and skills around letter clusters, blending and segmenting, analogy and self management strategies in the middle years (Year 3 and 4) of primary schooling or until students are efficient in applying these skills and knowledge when reading.

References

- Berends, I. E. & Reitsma, P. (2007). Orthographic analysis of words during fluency training promotes reading of similar words. *Journal of Research in Reading*, 30, 2, 129-139.
- Berninger, V. W., Abbott, R. D., Vermeulen, K. & Fulton, C. (2006). Paths to Reading Comprehension in At-Risk Second-Grade Readers. *Journal of Learning Disabilities*, 39, 4, 334-351.
- Duff, F., Fieldsend, E., Bowyer-Crane, C., Hulme, C., Smith, G., Gibbs, S. & Snowling, M. (2008). Reading with vocabulary intervention: evaluation of an instruction for children with poor response to reading intervention. *Journal of Research in Reading*, 31, 3, 319-336.
- Ehri, L. C. (2005). Learning to Read Words: Theory, Findings and Issues. *Scientific Studies of Reading*, 9, 2, 167-188.
- Gilmore, A. Croft, C. & Reid, N. (1981). *Burt Word Reading Test: New Zealand Revision*. New Zealand Council for Educational Research.
- Hagiliassis, N., Pratt, C. & Johnston, M. (2006). Orthographic and phonological processes in reading. *Reading and Writing*, 19, 235-263.
- Love, E. & Reilly (2000). *A Sound Way: Phonological Awareness – Activities for Early Literacy*. South Melbourne, Australia: Pearson Education Australia Pty Limited.
- Munro, J. (1995). Explaining Developmental Dyslexia: Orthographic Processing Difficulties. *Journal of Remedial Education*, 27, 1, 5-15.
- Munro, J. (1998). The Phonemic-Orthographic Nexus: The Phonemic-Orthographic Literacy Program. *Australian Journal of Learning Disabilities*, 3, 2, 15-21.
- Munro, J. (2000). Phoneme Awareness Span: A Neglected Dimension of Phonemic Awareness. *Australian Developmental and Educational Psychologist*, 17, 1, 76-89.
- Munro, J. (2006). Literacy Intervention: Extending the Evidence Base for Determining Effective Options. Literacy and Numeracy Innovative Projects Initiative: Final project reports for Round Two, Australian Government, Department of Education, Science and Training.
- Munro, J. (2008). The factors that influence the emergence of prose reading by at-risk readers: specific comprehending difficulties. *Australian Journal of Dyslexia and Other Learning Disabilities*, 3, Spring-Summer, 36-48.
- Neale, M. D. (1999). *Neale Analysis of Reading Ability: 3rd Edition* : ACER.
- Nelson, J. M., & Manset-Williamson, G. (2006). The impact of explicit, self-regulatory reading comprehension strategy instruction on the reading-specific self-efficacy, attributions, and affect of students with reading disabilities. *Learning Disability Quarterly*, 29, Summer, 213-230.
- O'Brien, B. A., Wolf, M., Miller, L. T., Lovett, M. W. & Morris, R. (2011). Orthographic processing efficiency in developmental dyslexia: an investigation of age and treatment factors at the sublexical level. *Annals of Dyslexia*, 61, 111-135.
- Perfetti, C. (2007). Reading Ability: Lexical Quality to Comprehension. *Scientific Studies of Reading*, 11, 4, 357-383.

Reschly, A. L. (2010). Reading and School Completion: Critical Connections and Matthew Effects. *Reading and Writing Quarterly*, 26, 67-90.

Rickette, J., Bishop, D. V. M. & Nation, K. (2008). Investigating orthographic and semantic aspects of word learning in poor comprehenders. *Journal of Research in Reading*, 31, 1, 117-135.

Sanchez, E., Garcia, J. R. & Gonzalez, A. J. (2007). Can Differences in the Ability to Recognize Words Cease to Have an Effect Under Certain Reading Conditions? *Journal of Learning Disabilities*, 40, 4, 290-305.

Stuart, M. (2006). Learning to read: developing processes for recognising, understanding and pronouncing written words. *London Review of Education*, 4, 1, 19-29.

Sunseth, K. & Bowers, P. G. (2002). Rapid Naming and Phonemic Awareness: Contributions to Reading, Spelling and Orthographic Knowledge. *Scientific Studies of Reading*, 6, 4, 401-429.

Wolf, M., Grieg Bowers, P. & Biddle, K. (2000). Naming-Speed Processes, Timing and Reading: A Conceptual Review. *Journal of Learning Disabilities*, 33, 4, 387-407.

Resources

Chapman, J. W., & Tunmer, W. E. (2002). Self Efficacy Questionnaire (adapted). *EDUC90247: Literacy Intervention Strategies*, Lecture Notes. The University of Melbourne.

Fry, E. (date unknown). Edward Fry's Readability Graph. *EDUC90247: Literacy Intervention Strategies*, Lecture Notes. The University of Melbourne.

Munro, J. & McCusker, H. (2005). *Early Reading Intervention Knowledge*. Catholic Education Office Melbourne and the University of Melbourne.

Munro, J. (2011a). *EDUC90247: Literacy Intervention Strategies*, Lecture Notes. The University of Melbourne.

Munro J. (2011b). Orthographic Reading Test. *EDUC90247: Literacy Intervention Strategies*, Lecture Notes. The University of Melbourne.

Smith A., Nelly E., & Croft D. (2009). *PM Benchmark Kit 2*. South Melbourne, Victoria Australia: Cengage Learning Australia.

- *Honey Escapes* (Level 16)
- *Harry the Tow Truck* (Level 17)
- *The Holiday Surprise* (Level 18)

Stephanou, A., Anderson, P., & Urbach, D. (2008). *PAT-R Progressive Achievement Tests in Reading: Comprehension, Vocabulary and Spelling 4th edition*. Melbourne: ACER.

Westwood, P. (1999). *Spelling: Approaches to teaching and assessment*. Melbourne: ACER.

APPENDIX 1

Figure 1: Demographic profile of participants in study.

Name	Control = 0 Teaching=1	Age in MONTHS	Gender Male = 0 Female = 1	Year of Schooling	English as a Second Language No=0 Yes=1	Earlier Intervention No=0 RR=1 ERIK=2 SDIP=3	Educational Maintenance Allowance No=0 Yes=1
A	1	112	0	4	0	1, 2 & 3	0
B	1	114	0	4	0	2 & 3	0
C	1	112	0	4	0	1, 2 & 3	1

Note: RR= Reading Recovery, ERIK= Early Reading Intervention Knowledge
SDIP= School Devised Intervention Program

Figure 2: Pre and Post Test raw score results for participants in the study and attendance rate.

Name	Control = 0 Teaching = 1	Atten dance No. of sessions	Self Efficacy PRE	Self Efficacy POST	Burt Word Test PRE	Burt Word Test POST	Ornographic Word Test PRE	Ornographic Word Test POST	Neale Accuracy PRE	Neale Accuracy POST	Comprehension PRE	Comprehension POST	Neale Rate PRE	Neale Rate POST
A	1	10	61	56	47	58	57	84	34	43	16	16	31	65
B	1	10	56	56	45	56	60	83	34	42	15	17	32	35
C	1	8	50	57	44	55	52	75	35	41	15	18	32	42
Sum		28	167	169	136	169	169	242	103	126	46	51	95	142
Mean		9.33	55.6 7	56.3 3	45.3 3	56.3 3	56.3 3	80.6 7	34.3 3	42.0 0	15.3 3	17.0 0	31.6 7	47.3 3
SD			5.51	0.58	1.53	1.53	4.04	4.93	0.58	1.00	0.58	1.00	0.58	15.7

SD= Standard Deviation

Note: For the Neale Analysis of Reading Ability the Year of Schooling is 4. Form B was used for pre-test and Form A was used for post-test. Statistically comparable data for the Neale results in all 3 components for pre and post testing is demonstrated in below in Appendix 1 Figure 3 and in Table 6.

Figure 3: Pre and Post Test Results in Neale Analysis of Reading Ability

	Student A						Student B						Student C					
	A1	A2	C1	C2	R1	R2	A1	A2	C1	C2	R1	R2	A1	A2	C1	C2	R1	R2
Raw Score	34	43	16	16	31	65	34	42	15	17	32	35	35	41	15	18	32	42
Percentile Rank	13	30	27	36	5	47	13	28	23	39	6	8	14	26	23	42	6	17
Performance Descriptor	BA	A	A	A	VL	A	BA	A	A	A	VL	VL	BA	A	A	A	VL	BA
Reading Age Years & Months	7.8	8.3	8.3	8.3	6.11	9.3	7.8	8.2	8.1	8.5	6.11	6.11	7.7	8.1	8.1	8.8	6.11	7.4

A1: Accuracy Pre-Test; A2: Accuracy Post-Test; C1: Comprehension Pre-Test; C2: Comprehension;
R1: Rate Pre-Test; R2: Rate Post-Test. A: Average; BA: Below Average; VL: Very Low

APPENDIX 2

Flashcards used for each lesson.

Lesson 1: ai vowel digraph

Letter cluster cards used by students for segmenting and blending real and pseudo words for the 'ai' vowel digraph:

ail	ain	ait	aid	aim
aint	aist	g	w	t
r	p	m	f	qu
ch	st	tr	gr	str

Word flashcards used for 'ai' vowel digraph:

ail	tail	trail	gain	grain
wait	waist	rain	stain	strain

Lesson 2: ay digraph

Letter cluster cards used by students for segmenting and blending real and pseudo words for the 'ay' digraph:

ay	s	r	l	p
w	d	tr	cl	st
pr	sw	pl	ch	sh
spl	str	spr	thr	scr

Word flashcards used for 'ay' digraph:

say	stay	stray	ray	pay
spray	pray	tray	lay	clay

Lesson 3: oa vowel digraph

Letter cluster cards used by students for segmenting and blending real and pseudo words for the 'oa' vowel digraph:

oat	oak	oan	oad	oach
r	b	s	m	p
c	l	gr	ch	bl
fl	cl	thr	spr	scr

Word flashcards used for 'oa' vowel digraph:

oat	coat	boat	bloat
throat	oak	soak	cloak
moan	groan	coach	poach

Lesson 4: ow digraph

Letter cluster cards used by students for segmenting and blending real and pseudo words for the ‘ow’ digraph:

ow	own	l	t	r
b	sh	gr	fl	bl
sn	kn	st	thr	str

Word flashcards used for ‘ow’ digraph:

tow	low	flow	flown
blow	blown	show	shown
row	grow	grown	thrown

Lesson 5: ea vowel digraph and long o silent e letter cluster (o-e)

Letter cluster cards used by students for segmenting and blending real and pseudo words for ‘ea’ vowel digraph:

eat	ead	ean	eak	each
east	b	w	s	m
l	pl	sp	sn	tr
cl	cr	pr	squ	str

Word flashcards used for ‘ea’ vowel digraph:

eat	seat	bean	clean	each
beach	preach	weak	speak	squeak

Letter cluster cards used by students for segmenting and blending real and pseudo words for **long o silent e** letter cluster (o-e):

ode	oke	one	ome	ope
ose	ote	r	j	c
h	r	n	v	br
th	sp	ch	str	thr

Word flashcards used for **long o silent e** letter cluster (o-e):

rode	joke	cone	home	nose
chose	those	broke	spoke	stroke

Lesson 6: oi vowel digraph and long a silent e letter cluster (o-e)

Letter cluster cards used by students for segmenting and blending real and pseudo words for ‘oi’ vowel digraph:

oil	oin	oist	oilt	oint
oice	j	c	m	p
s	b	t	sp	ch

Word flashcards used for 'oi' vowel digraph:

oil	soil	boil	toil	join
coin	moist	point	spoil	spoilt

Letter cluster cards used by students for segmenting and blending real and pseudo words for **long a silent e** letter cluster:

ale	ate	age	ade	ame
ave	ake	ane	ape	l
r	m	s	n	p
pl	sh	st	fr	scr

Word flashcards used for **long a silent e** letter cluster (a-e):

ale	late	plate	plane	same
save	rage	made	shake	scrape

Lesson 7: ou vowel digraph and long i silent e letter cluster (o-e)

Letter cluster cards used by students for segmenting and blending real and pseudo words for 'ou' vowel digraph:

out	ouch	oud	ound	ouse
l	s	h	sh	cr
cl	gr	bl		

Word flashcards used for 'ou' vowel digraph:

out	shout	ouch	crouch	loud
cloud	sound	ground	house	blouse

Letter cluster cards used by students for segmenting and blending real and pseudo words for **long i silent e** letter cluster (i-e):

ide	ike	ine	ite	ime
s	b	n	w	sp
sl	pr	qu	shr	str

Word flashcards used for **long i silent e** letter cluster (i-e):

side	slide	wide	bike	spike
nine	spine	shrine	site	quite

Lesson 8: aw digraph and long u silent e letter cluster (u-e)

Letter cluster cards used by students for segmenting and blending real and pseudo words for 'aw' vowel digraph:

aw	awl	awn	awk	s
l	b	j	d	cr
dr	br	spr	str	squ

Word flashcards used for 'aw' vowel digraph:

law	saw	straw	jaw	bawl
crawl	sprawl	draw	drawn	dawn

Letter cluster cards used by students for segmenting and blending real and pseudo words for **long u silent e letter** cluster:

ue	use	ute	ube	une
f	c	m	d	t

Word flashcards used for **long u silent e letter** cluster:

use	fuse	ute	cute	mute
cue	cube	due	dune	tune

Lesson 9: ew digraph and ur digraph:

Letter cluster cards used by students for segmenting and blending real and pseudo words for **'ew'** digraph:

ew	ews	ewn	n	d
p	f	dr	cr	st
fl	sp	scr	str	thr

Word flashcards used for **'ew'** digraph :

new	news	dew	drew	crew
screw	stew	strew	strewn	threw

Letter cluster cards used by students for segmenting and blending real and pseudo words for **'ur'** digraph:

ur	urn	urb	urt	urnt
urse	urve	b	c	f
n	h	t	sl	sp

Word flashcards used for **'ur'** digraph :

bur	burn	burnt	cur	curb
curse	curve	spur	spurn	spurt

APPENDIX 3

Lesson 5: ea vowel digraph and long o silent e letter cluster

Sentences created by the students with some teacher support:

- *I went to the sea with Dean. Our boat had a leak. We strove to return and were close to the beach when it sank like a stone.*
- *For tea, I had a heap of peas and meat. After dinner I chose a peach.*
- *There was a mean man who shot the seal, even though we pleaded with him not to. The seal's outcome seemed bleak but then the wound healed.*
- *Can you teach me how much yeast to add and how to beat and then knead the dough so that each loaf will rise? How long does it stay like that before we place it in the stove?*

Lesson 6: oi vowel digraph and long a silent e letter cluster

Sentences created by the students with some teacher support:

- *The boat chased the huge whale to a known place with hardly any water. They stayed close behind without making much noise.*
- *One day, some beastly hunters caught a snake. They boiled it in a clay pot. While it boiled, it started to coil. The hunters quickly placed the blade in the flames to make it easier to remove the scales before they spoil.*

Lesson 7: ou vowel digraph and long i silent e letter cluster

Sentences created by the students with some teacher support:

- *The boy skated alone to Funfields. He wanted to go down the slide for an hour. When he finally got on, he shouted so loudly, our side of the ride was shaking.*
- *Mike sliced some ham for his wife because she quite liked it. She enjoyed it so much she had it twice. Mike felt proud of his prize- winning ham.*
- *Under the house there was a hide-out. Beneath that, from deep underground, there was a faint sound we strained to hear. Just then, the ground started to shake. We crouched down under the table as things around us were falling and crashing down.*

APPENDIX 4

Text only of the teacher created text used for lesson 8:

‘Holidays at the Snow’.

Narrative of 327 words. Fry’s Readability: end of grade 3.

Letter clusters contained: ai, ay, oa, ow, ea, ou, aw, ew, ur, long o silent e, long a silent e, long i silent e, long u silent e.

Holidays at the Snow

Bruce and Luke had been waiting for the snow season to start. Their teacher had explained that he would give them more details by June. First, they had to know the road conditions to be safe. Till then, it would mean lots of long days. They couldn’t wait for the exciting outing.

By the time of the trip, their excitement was quite high. Nothing could disappoint them. Nothing could spoil their hopes and dreams for their snow holiday.

The first half of the trip was flawless, with fine weather and safe roads. The bus driver started to slowly follow the road up the slope of the mountain. The children became quite silent, in awe of the beautiful scenery. Trees looked frozen in time and the air seemed to sparkle.

Once they passed by the sawmill, the drive seemed to change as more ice began to appear on the road’s surface. The bus went much slower than before and began to groan as it strove to climb the mountain. The wind started to blow a gale and Luke and Bruce became very scared. Luke could see how close the bus was to the edge of the road and the drop to the valley below was very high. Bruce saw that the teacher’s face was white as he was talking to the driver. Snow was starting to fall and the noise of the wind grew and grew. The children became worried about ever reaching the lodge.

Little, by little the bus crawled up the mountain, as the teacher and children sang songs to stave off any fear. By the time the bus reached the ski house it had turned dark and cold. Luke and Bruce however, felt safe and warm once they were inside and could curl up beside a warm fire. They were so pleased that the five hour trip was finally over and they could look forward to a fine winter feast and put the awful bus trip behind them.

Text only of the teacher created text used for lesson 10:

‘Kate and Jean’s Wheat Project’.

Narrative of 360 words, Fry’s Readability: grade 3.

Letter clusters contained: ai, ay, oa, ow, ea, ou, aw, ew, ur, long o silent e, long a silent e, long i silent e, long u silent e.

Kate and Jean’s Wheat Project

The day was warm and the rain fell silently on the plains. Kate and Jean had ploughed the soil and sowed the seeds. They waited for the weeks to pass. Each day they went to see if little green shoots had appeared. As part of a class project they had chosen to grow a crop of wheat. It was their hope to make flour that others could use to make cakes for the class party. The party was at the end of the year.

After school, they rode their horses along the stream to collect water. It had been a while since it rained and the soil was quite dry. The containers were an awkward load to carry, but they knew that the plants needed the water to grow. When they got there, they tied their horses to a tree so they could collect the water. The heat of the day burned down on them, but they did not stop. As a rule, they watered the plants at the end of the day, so that the soil could soak it up.

At school, their teacher asked them to keep a record of what they were doing. Each day they would write down what they did, what the crops needed and drew pictures of how it kept changing. Their class were in awe of what they had so far grown. They chose Kate and Jean to be the school’s assistant gardeners.

One day, when returning to water the crops, they saw a goat grazing around their site. It looked very scrawny. They screamed out, trying to chase it away. They were worried if it had eaten the crops. It took quite a while for the goat to go back to its home.

With hope in their hearts, they returned to view the site. Some plants had been eaten but a lot still remained. The goat had not destroyed all of it. That afternoon they worked hard for many hours to fix the fences. When they returned home that night, they knew that the wheat was now safe from other prowling animals. Their dream of making their own flour was still alive.

APPENDIX 5

Lesson: 1 Level: **Grade 3** (small group) Duration: **50 minutes**
 Focus: **ai digraph** (improve letter cluster knowledge within one syllable words)

TIME	FOCUS	CONTENT	ANECDOTAL
10 mins	Set Protocols Review Prior Learning Identify Learning Focus	<ul style="list-style-type: none"> • Welcome students and explain structure of meetings and overall focus. With students establish protocols for working together. • Review previous work they have undertaken, looking at their knowledge of word structure in terms of: onsets and rimes, syllables and compound words. • Establish focus for today: ai vowel digraph. What is a digraph? What is a vowel digraph? 	•
5 mins	Introduce Digraph Phonological Focus	<ul style="list-style-type: none"> • Introduce the rhyme: “Two vowels go walking; the first one does the talking”. Chart with lesson focus displayed prominently in class. • Look at the ‘ai’ digraph and discuss how it is said in relation to the rhyme. Discuss the sound of the ‘a’ as a long sound. 	•
10 mins	Creating words Segmenting and Blending	<ul style="list-style-type: none"> • 1. a) Modelling: display ‘ai’ with cards to make v v c structure, then c v v c structure, then c c v v c, c c c v v c and c v v c c structure creating one syllable words. Teacher demonstrates segmenting and blending of letter clusters to form ‘ai’ words. Point to each letter/ letter cluster and say each, then blend. Students repeat. • 1. b) Show students a set of flashcards with 1 syllable words containing ‘ai’: ail, tail, trail, gain, grain, wait, waist, rain, stain, strain. Teacher says each word and students repeat. Do this quickly 2 or 3 times. Each student then reads the words individually. Refer to focus rhyme to check if words are said as it indicates. • 2) Practice: using letter cluster cards, students individually create words with the ‘ai’ digraph attempting to identify how they would be said, using the rhyme to support their attempts. Letter cluster cards include up to 3 letters to use before or after 	•

		<p>the ‘ai’ digraph. At this stage students may create real and pseudo words as the focus is on their attempt to recognise how to say one syllable words with the digraph ‘ai’. Teacher looks to see if students are automatically saying the self created words, or are segmenting and blending the words and if they can identify which are real or pseudo words.</p>	
10 mins	Spelling	<ul style="list-style-type: none"> • Independent use by students of the introduced rhyme on digraphs, as a strategy, to help spell 1 syllable words of increasing length that contains the ‘ai’ digraph. Teacher says the word, then says the word in sentence and then repeats the word for the students. Should students have difficulty recalling the spelling of the word, indicate the word on the flashcard to support their visual image of it. 	<ul style="list-style-type: none"> •
10 mins	Text Reading	<ul style="list-style-type: none"> • Independent use of strategy to help read words, in prose, that contain the ‘ai’ digraph, and other letter clusters, that will be a focus for the intervention program. • Text: PM Benchmark 2 Level 16 <u>Honey Escapes</u> (Narrative of 328 words, Fry’s Readability: middle of grade 2). Letter clusters contained: ai, ea, ee, ou, (qu)ie, ay, a-e, i-e. • Before students take turns to read the text, discuss with the students what they can do if they come to a word they are not sure of, in particular, words with a vowel digraph. Teacher asks: “What do you know that could help you? What could you do to help yourself? What might you do when you come to a word you’re unsure of with ‘ai’ in it?” • Whilst students are reading, teacher takes a running record of the text for each student. There are 328 words, students read approximately 109 words each (student A to page 6 “shut it” - 114 words; student B to page 12 “the blocks” – 112 words; student C to page 16 “for Honey” – 102 words) 	Student A
			Student B
			Student C
5 mins	Review and Consolidate	<ul style="list-style-type: none"> • Students identify what they have learnt today about digraphs and the ‘ai’ digraph in particular. 	Student A
			Student B

		<ul style="list-style-type: none"> • Question to prompt discussion: “Tell me what you might do when you come to a word with ‘ai’ in it?” or “What have you taught yourself today?” • Students after sharing with the group what they have learnt today, write a reflection in their learning journals. 	Student C
--	--	--	-----------

Lesson: **2**
minutes

Level: **Grade 3** (small group)

Duration: **50**

Focus: **ai and ay digraph** (improve letter cluster knowledge within one syllable words)

TIME	FOCUS	CONTENT	ANECDOTAL
10 mins	Review Protocols Review Prior Learning Identify Learning Focus	<ul style="list-style-type: none"> • Welcome students and review protocols for meeting. Add any ‘new ones following yesterday’. • Review previous work they have undertaken, looking at the ‘ai’ digraph. Ask students: “What did you learn yesterday? What is a digraph? What is a vowel digraph?” • Teacher asks: “What is the rhyme that we used to help us remember how to read vowel digraphs?” Students say rhyme from memory or read if required from group chart displayed prominently in room. • Using flashcards from lesson 1, students individually read words with the ‘ai’ digraph. • Introduce ‘ay’ digraph. 	•
5 mins	Introduce Digraph Phonological Focus	<ul style="list-style-type: none"> • Look at the ‘ay’ digraph and discuss how it is said. Review the long a sound. • Review the rhyme: “Two vowels go walking; the first one does the talking” and how it relates to the new digraph in terms of why the ‘i’ has changed to ‘y’ (usually ai for initial and medial sounds and ay for final sounds; therefore the y in this case acts like a vowel). 	•
10 mins	Creating words Segmenting and Blending	<ul style="list-style-type: none"> • 1. a) Modelling: display ‘ay’ with cards to make c v (v) structure. Then c c v (v) and c c c v (v) structure creating one syllable words. Students demonstrate segmenting and blending of letter clusters to read words. 	•

		<ul style="list-style-type: none"> 1. b) Show students a set of flashcards with 1 syllable words containing 'ay': say, stay, stray, ray, pay, pray, spray, tray, lay, clay. Teacher says each word and students repeat. Do this 2 or 3 times. Each student then reads the words individually. Refer to focus rhyme to check if words are said as it indicates. 2) Practice: students individually create words with the 'ay' digraph attempting to identify how they would be said, using the rhyme to support their attempts. Letter cluster cards include up to 3 letters to use before the 'ay' digraph. At this stage students may create real and pseudo words as the focus is on their attempt to recognise how to say one syllable words with the digraph 'ay'. Teacher looks to see if students are automatically saying the self created words, or are segmenting and blending the words and if they can identify which are real or pseudo words. 	
10 mins	Spelling	<ul style="list-style-type: none"> Independent use by students of the rhyme strategy to help spell 1 syllable words, of increasing length, that contain the 'ay' digraph. Should students have difficulty recalling the spelling of the word, the teacher indicates the word on the flashcard to support student's visual image of it. Students are also referred to the focus rhyme for the lesson. 	<ul style="list-style-type: none">
10 mins	Text Reading	<ul style="list-style-type: none"> Independent use of strategy to help read words, in prose, that contain the 'ai' and 'ay' digraphs, and other letter clusters, that are a focus for the intervention program. Repeated reading of narrative, different passage for each student: PM Benchmark 2 Level 16 <u>Honey Escapes</u> (Narrative of 328 words, Fry's Readability: middle of grade 2). Letter clusters contained: ai, ea, 	Student A

		<p>ee, ou, (qu)ie, ay, a-e, i-e.</p> <ul style="list-style-type: none"> • Before students take turns to read the text, remind the students of what they need to do, if they come to a word with a vowel digraph that they are not sure of, especially ‘ai’ and ‘ay’. Question to prompt discussion before reading: “Tell me what you might do when you come to a word with ‘ai’ or ‘ay’ in it?” • Whilst students are reading, teacher takes a running record of the text for each student. There are 328 words, students read approximately 109 words each (student C to page 6 “shut it” - 114 words; student A to page 12 “the blocks” – 112 words; student B to page 16 “for Honey” – 102 words). 	<p>Student B</p>
			<p>Student C</p>
5 mins	Review and Consolidate	<ul style="list-style-type: none"> • Students identify what they have learnt today about digraphs and the ‘ai’ and ‘ay’ digraph • Discuss: “What have you taught yourself today?” • Students write a reflection in their learning journal, after sharing with the group. Teacher poses the following questions: “What do you now know that can help you when reading? What can you now do to help yourself when reading unfamiliar words?” • Words reviewed today are displayed around learning focus for future reference in addition to the ‘ai’ words from lesson 1. 	<p>Student A</p>
			<p>Student B</p>
			<p>Student C</p>

Lesson: **3**
minutes

Level: **Grade 3** (small group)

Duration: **50**

Focus: **oa digraph** (improve letter cluster knowledge within one syllable words)

TIME	FOCUS	CONTENT	ANECDOTAL
10 mins	Review Prior Learning	<ul style="list-style-type: none"> • Review previous work they have undertaken, looking at the ‘ai’ and ‘ay’ digraph. Ask students: What is a digraph? What is a vowel digraph? Students review what they wrote in their journals from the two previous lessons and in their own words review what they have learnt so far. • Chart with lesson focus/rhyme still 	<ul style="list-style-type: none"> •

	Identify Learning Focus	<p>displayed prominently in class. Students say the rhyme to help them remember how to read a vowel digraph. Then, using flashcards, students each read words from lessons 1 and 2 with the ‘ai’ and ‘ay’ digraph.</p> <ul style="list-style-type: none"> • Introduce ‘oa’ digraph. 	
5 mins	<p>Introduce Digraph</p> <p>Phonological Focus</p>	<ul style="list-style-type: none"> • Look at the ‘oa’ digraph and discuss how it is said. • Review the rhyme: “Two vowels go walking; the first one does the talking”, therefore ‘oa’ makes the long o sound. 	•
10 mins	<p>Creating words</p> <p>Segmenting and Blending</p>	<ul style="list-style-type: none"> • 1. a) Modelling: display ‘oa’ with cards to make v v c structure. Then c v v c then c c v v c, then c c c v v c and c v v c c structure creating one syllable words. Students demonstrate segmenting and blending of letter clusters to read words. Alternatively, students may read the words automatically, not needing to segment and then blend. Teacher to note down who is reading the words automatically and who is segmenting and blending and which types of words are they segmenting and blending. • 1. b) Show students a set of flashcards with 1 syllable words containing ‘oa’: oat, coat, boat, bloat, throat, oak, soak, cloak, moan, groan, coach, poach. Teacher says each word and students repeat. Do this 2 or 3 times. Each student then reads the words individually. • 2) Practice: students individually create words with the ‘oa’ digraph attempting to identify how they would be said, using the rhyme to support their attempts. Letter cluster cards include up to 3 letters to use before or after the ‘oa’ digraph. At this stage students may create real and pseudo words as the focus is on their attempt to recognise how to say one syllable words with the digraph ‘oa’. 	•
10 mins	Spelling	<ul style="list-style-type: none"> • Independent use by students of the rhyme strategy to help spell 1 syllable words, of increasing length, 	•

		that contain the ‘ oa ’ digraph. Should students have difficulty recalling the spelling of the word, the teacher indicates the word on the flashcard to support student’s visual image of it. Students are also referred to the focus rhyme for the lesson.	
10 mins	Text Reading	<ul style="list-style-type: none"> Independent use of strategy to help read words, in prose, that contain the ‘oa’ digraph, and other letter clusters, that are a focus for the intervention program. Text: PM Benchmark 2 Level 18 <u>The Holiday Surprise</u>. (Narrative of 395 words, Fry’s Readability: end of grade 2/ start of grade 3). This text contains the following digraphs: oa, ay, ea, ee, oo, ie, oi, ou, ow, aw, ur. Before students take turns to read the text, remind the students of what they need to do, if they come to a word with a vowel digraph that they are not sure of, especially ‘ai’, ‘ay’ and ‘oa’. Question to prompt discussion before reading: “Tell me what you might do when you come to a word with ‘ai’ or ‘ay’ or ‘oa’ in it?” Whilst students are reading, teacher takes a running record of the text for each student. There are 396 words, students read approximately 132 words each (student B to page 6 “shed” - 140 words; student A to page 11 “my eggs” – 133 words; student C to page 16 “go home” – 123 words). 	Student A
			Student B
			Student C
5 mins	Review and Consolidate	<ul style="list-style-type: none"> Students identify what they have learnt further about digraphs and the ‘oa’ digraph. Discuss: “What have you taught yourself today?” Students write a reflection in their learning journal, after sharing with the group. Teacher poses the following questions: “What do you now know that can help you when reading? What can you now do to help yourself when reading unfamiliar words?” Words reviewed today are displayed around learning focus for future 	Student A
			Student B
			Student C

		reference in addition to the words from previous lessons. Each group of digraphs is distinguished clearly from the others.	
--	--	--	--

Lesson: **4** Level: **Grade 3** (small group) Duration: **50 minutes**
Focus: **oa and ow digraph** (improve letter cluster knowledge within one syllable words)

TIME	FOCUS	CONTENT	ANECDOTAL
10mins	Review Prior Learning Identify Learning Focus	<ul style="list-style-type: none"> Review previous work they have undertaken, looking at the ‘oa’ digraph. Ask students: “What do these words have in common?” Students also review what they wrote in their journals from the previous lessons and in their own words review what they have learnt so far. Students say the rhyme to help them to remember it and thus support them when trying to read an unfamiliar word with a vowel digraph. Then, using flashcards, students read words from the previous lesson with the ‘oa’ digraph. Students repeat the words after the teacher. Introduce ow digraph. 	•
5 mins	Introduce Digraph Phonological Focus	<ul style="list-style-type: none"> Look at the ow digraph and discuss how it is said. Link the sound of ow to the oa digraph in terms of the long o sound. Different letter cluster but with the same sound. Ask students how this is similar to something they have already learnt. (Note: similar to ai and ay where <u>usually</u> ai for initial and medial sounds and ay for final sounds. Also, <u>usually</u> oa for initial and medial sounds and ow for final sounds.) Show students a set of flashcards with 1 syllable words containing ‘ow’: low, tow, row, show, shown, grow, grown, flow, flown, blow, blown, thrown. Teacher says each word and students repeat. Each student then reads the words individually. 	•
10 mins	Creating words Segmenting and Blending	<ul style="list-style-type: none"> Display ‘ow’ with cards of different letter clusters to make one syllable words of increasing length from v v 	•

		<p>c structure to c v v c then c c v v c, then c c c v v c structure.</p> <ul style="list-style-type: none"> • Students individually create real and/or pseudo words with the ‘ow’ digraph. Students progress through one, two and three letter cluster cards to use with the ‘ow’ digraph. Students read each letter cluster and blend or, if they feel they can, they read the words automatically. 	
10 mins	Spelling	<ul style="list-style-type: none"> • Independently, students spell 1 syllable words, of increasing length that contain the ‘ow’ digraph. Should students have difficulty recalling the spelling of the word, the teacher indicates the word on the flashcard to support student’s visual image of it. For one student who is already displaying difficulty recalling the letter structure he reads each word, closes his eyes and makes a mental picture of the word before writing it. • Students then write other real and/or pseudo ‘ow’ words and read them aloud. Note if any students add suffixes to the words or use compound words, extending the number of syllables and if they read their created words automatically or are still blending and segmenting. 	<ul style="list-style-type: none"> •
10 mins	<p>Text Writing and Reading</p> <p>Independent use of knowledge of digraph, through segmenting and blending or automaticity, to help write and read words, in prose, that contain the ‘oa’ and ‘ow’ digraph, and other letter clusters, that are a focus for the intervention program.</p>	<ul style="list-style-type: none"> • Independent use of strategy to help read words, in prose, that contain the ‘ow’ digraph, and other letter clusters, most of which are a focus for the intervention program. • Text: PM Benchmark 2 Level 17 <u>Harry the Tow Truck</u>. (Narrative of 339 words, Fry’s Readability: End of grade 2/start of grade 3.) This text contains the following digraphs: oo, ay, oa, ow, oi, ee, ie, ea, ou, ur, ir, ar, aw. • Before students take turns to read the text, remind the students of what they need to do, if they come to a word with a digraph that they are not sure of, especially ‘ai’, ‘ay’ and ‘oa’ and ‘ow’. Question to prompt discussion before reading: “Tell me what you might do when you come to a word with ‘ai’ or ‘ay’ or ‘oa’” 	<p>Student A</p> <hr/> <p>Student B</p>

		<p>or ‘ow’ in it?”</p> <ul style="list-style-type: none"> • Whilst students are reading, teacher takes a running record of the text for each student. There are 341 words, students read approximately 113 words each (Student C reads to page 6 “side” – 112 words; Student B reads to page 10 “called” – 116 words; Student A reads to page 16 “away” – 113 words.) • After reading, students list all the words they can find with the ai, ay, oa and ow digraphs. Students generate other words with the same digraphs, but ones that haven’t been taught. Note if any students are including suffixes, compound words. Students read out their lists to the group and these words are added to the other words on the focus board. 	Student C
2 mins	Review and Consolidate	<ul style="list-style-type: none"> • Students identify what they have learnt today about digraphs and the ‘oa’ and ‘ow’ digraph. • Discuss: “What have you taught yourself today? How can you use this to help you read other words?” • Students write a reflection in their learning journal, after sharing with the group. • Words reviewed today are displayed around learning focus for future reference. 	Student A Student B Student C

Lesson: **5** Level: **Grade 3** (small group) Duration: **50 minutes**
 Focus: **ea vowel digraph and long o silent e letter cluster (o-e)** (improve letter cluster knowledge within one syllable words)

TIME	FOCUS	CONTENT	ANECDOTAL
5 mins	Review Prior Learning Identify Learning Focus	<ul style="list-style-type: none"> • Review previous work they have undertaken, looking at the ‘ow’ and ‘oa’ digraphs. Review word chart for each and ask students: “What do these words have in common? What is a vowel and what usually happens when two vowels are together in a word? How can we describe the sounds that vowels make when there are two together?” • Using flashcards, students individually read words from the 	•

		<p>previous lessons, with the ‘oa’ and ‘ow’ digraph.</p> <ul style="list-style-type: none"> • Introduce ea vowel digraph. 	
5 mins	<p>Introduce Digraph</p> <p>Phonological Focus</p>	<ul style="list-style-type: none"> • Look at the ea digraph and discuss how it is said in terms of the long e sound. • Show students a set of flashcards with 1 syllable words containing ea: eat, seat, bean, clean, each, beach, preach, weak, speak and squeak. Teacher says each word and students repeat. Each student then reads the words individually. 	•
10 mins	<p>Creating words</p> <p>Segmenting and Blending</p> <p>Or</p> <p>Automatic Recognition</p>	<ul style="list-style-type: none"> • Display ea with cards of different letter clusters to make one syllable words of increasing length from v v c structure, to c v v c, then c c v v c and c c c v v c structure. • Students individually create real and/or pseudo words with the ‘ea’ digraph. Students progress through one, two and three letter cluster cards to use with the ‘ea’ digraph. Students read each letter cluster and blend or, if they feel they can, they read the words automatically. • Repeat steps above now for the long o silent e letter cluster words. Words are: rode, joke, cone, home, nose, broke, those, spoke, chose, stroke. Introduce rhyme for new focus: Silent e, say vowel name please. Discuss with students similarity between vowel digraphs learnt and this letter cluster, in terms of the first vowel ‘still does the talking’ and it is the long sound. 	•
10 mins	Spelling	<ul style="list-style-type: none"> • Independently, students spell 1 syllable words, of increasing length that contain the ea digraph, then the long o silent e letter cluster. Should students have difficulty recalling the spelling of the word, the teacher indicates the word on the flashcard to support student’s visual image of it. For one student who is already displaying difficulty recalling the letter structure, he reads each word, closes his eyes and makes a mental picture of the word before writing. • At this stage students create other real and now, pseudo words, as the focus is on their attempt to recognise 	•

		how to say one syllable words with the digraphs taught. At this stage, students may also read the whole word automatically.	
10 mins	Text Writing and Reading	<ul style="list-style-type: none"> Teacher and students write sentences that contain the two letter clusters focussed on today: the 'ea' vowel digraph and long o silent e. Students read the sentences containing some of the words reviewed and other words with the letter cluster pattern. Words of more than one syllable, containing the focus letter clusters, may be included in the sentences. Words may be lengthened through the use of suffixes or compound words. 	Student A
			Student B
			Student C
10 mins	Review and Consolidate	<ul style="list-style-type: none"> Students identify what they have learnt today. Discuss: "What have you taught yourself today? How can you use this to help you read other words? What do you know about the letter cluster patterns we have looked at?" Students write a reflection in their learning journal. Words reviewed today are displayed around learning focus for future reference. 	Student A
			Student B
			Student C

Lesson: **6** Level: **Grade 3** (small group) Duration: **50 minutes**
 Focus: **oi digraph and long a silent e letter cluster** (improve letter cluster knowledge within one syllable words)

TIME	FOCUS	CONTENT	ANECDOTAL
5 mins	Review Prior Learning Identify Learning Focus	<ul style="list-style-type: none"> Review previous work they have undertaken, looking at the ea digraph and long o silent e letter cluster. Revise how they are said to review new learnings and to update student previously absent. Using flashcards, students individually read words using either of the letter patterns. Student who was absent reads words after the other two. Introduce 'oi' digraph. Discuss with the students that today, they will create their own way of remembering how to say, spell the 'oi' vowel digraph. 	•
5 mins	Introduce Digraph	<ul style="list-style-type: none"> Look at the 'oi' digraph and discuss how it is said. "How is it different 	•

	Phonological focus	<p>to other vowel digraphs learnt?" Identify the sound "oi" would make in these words. Discuss how we can use the sound from the word known to one that is unknown.</p> <ul style="list-style-type: none"> Show students a set of flashcards with 1 syllable words containing 'oi': oil, soil, boil, toil, join, coin, moist, point, spoil, spoilt. Teacher says each word and students repeat. Each student then reads the words individually. 	
10 mins	<p>Creating words Segmenting and Blending</p> <p>Or</p> <p>Automatic Recognition</p>	<ul style="list-style-type: none"> Display 'oi' with cards to make v v c structure. Then c v v c then c c v v c, then c c c v v c structure creating one syllable words. Students individually create the words with the 'oi' digraph. Students progress through one, two and three letter cluster cards to use before the 'oi' digraph. Students read each letter cluster and blend or, if they feel they are able to, they read the words automatically. Repeat steps above now for the long a silent e letter cluster words. Review rhyme for 'silent e' focus. Words are: ale, late, rage, made, same, save, plate, shake, plane, scrape. 	•
10 mins	Spelling	<ul style="list-style-type: none"> Independently, students spell 1 syllable words, of increasing length that contain the oi digraph, then the long a silent e letter cluster. Should students have difficulty recalling the spelling of the word, the teacher indicates the word on the flashcard to support student's visual image of it. For one student who is already displaying difficulty recalling the letter structure, he reads each word before spelling, closes his eyes and makes a mental picture of the word before writing. 	•
10 mins	Text Writing and Reading	<ul style="list-style-type: none"> Teacher and students write sentences that contain the two letter clusters focussed on today: the oi vowel digraph and long a silent e. Students read the sentences containing some of the words 	<p>Student A</p> <hr/> <p>Student B</p>

		<p>reviewed and other words with the letter cluster pattern.</p> <ul style="list-style-type: none"> Words of more than one syllable, containing the focus letter clusters, may be included in the sentences. Words may be lengthened through the use of suffixes or compound words. 	Student C
10 mins	Review and Consolidate	<ul style="list-style-type: none"> Students identify what they have learnt today. Discuss: “What have you taught yourself today? What new knowledge do you have now? How can you use this to help you read other words? What do you know about the letter cluster patterns we have looked at?” Students write a reflection in their learning journal, after sharing with the group. Students also share and note down what they are going to do to help them to remember how to read ‘oi’. 	Student A
			Student B
			Student C

Lesson: 7 Level: **Grade 3** (small group) Duration: **50 minutes**
 Focus: **ou digraph and long i silent e letter cluster** (improve letter cluster knowledge within one syllable words)

TIME	FOCUS	CONTENT	ANECDOTAL
5 mins	<p>Review Prior Learning</p> <p>Identify Learning Focus</p>	<ul style="list-style-type: none"> Review previous work they have undertaken, looking at the ‘oi’ vowel digraph and long a silent e letter cluster. Revise how they are said to review new learnings and to update student previously absent. Using flashcards, students individually read words using both letter patterns. Student who was absent reads words after the other two. Introduce ‘ou’ vowel digraph. Students are directed to look for a way throughout the lesson that will help them to remember how to read and spell ‘ou’. 	•
10 mins	<p>Introduce Digraph</p> <p>Phonological focus</p>	<ul style="list-style-type: none"> Using flashcards demonstrate the ‘ou’ vowel digraph in one syllable words: out, shout, ouch, crouch, loud, cloud, sound, ground, house and blouse. Ask the students if they recognise any words. “What sound does ‘ou’ make in the word/s you know?” Review the discussion from lesson 7 about how we can use 	•

		<p>the sound from a word known to one that is unknown. The teacher discusses with the students that, “If I know ‘ou’ in out then, I can say shout.”</p> <ul style="list-style-type: none"> • Look at the ‘ou’ digraph and discuss how it is different to the vowel digraphs of oa, ai, ea. “How is it different to other vowel digraphs learnt? How is it similar to oi? How would you describe the sound it makes?” • Show students a set of flashcards with 1 syllable words containing ‘ou’: out, shout, ouch, crouch, loud, cloud, sound, ground, house and blouse. Teacher says each word and students repeat. Each student then reads the words individually. 	
10 mins	<p>Creating words</p> <p>Segmenting and Blending</p> <p>Or</p> <p>Automatic Recognition</p>	<ul style="list-style-type: none"> • Display ‘ou’ with cards of different letter clusters that make a variety of one syllable words of increasing length. • Students individually create the words with the ‘ou’ vowel digraph. Students progress through one, two and three letter cluster cards to use before and after the ou digraph. Where required, students read each letter cluster and blend or may read each word automatically. • Repeat steps above now for the long i silent e letter cluster words: side, slide, wide, bike, spike, nine, spine, shrine, site, quite. Review rhyme for ‘silent e’ focus. 	•
10 mins	Spelling	<ul style="list-style-type: none"> • Independently, students spell 1 syllable words, of increasing length that contain the ou digraph, then the long i silent e letter cluster. Should students have difficulty recalling the spelling of the word, the teacher indicates the word on the flashcard to support student’s visual image of it. For one student who is already displaying difficulty recalling the letter structure, he reads each word before spelling, closes his eyes and makes a mental picture of the word before writing. 	•

10 mins	Text Writing and Reading	<ul style="list-style-type: none"> Teacher and students write sentences that contain words with the two letter clusters focussed on today. Students read the sentences containing some of the words reviewed and other words with the letter cluster pattern. Words of more than one syllable, containing the focus letter clusters, may be included in the sentences. Words may be lengthened through the use of suffixes or compound words. 	Student A
			Student B
			Student C
5 mins	Review and Consolidate	<ul style="list-style-type: none"> Students identify what they have learnt today. Discuss: “What have you taught yourself today? What new knowledge do you have now? How can you use this to help you read other words? What do you know about the letter cluster patterns we have looked at?” Students write a reflection in their learning journal, after sharing with the group. Students also share and note down what they are going to do to help them to remember how to read ‘ou’. 	Student A
			Student B
			Student C

Lesson: **8** Level: **Grade 3** (small group) Duration: **50 minutes**
Focus: **aw digraph and long u silent e letter cluster** (improve letter cluster knowledge within one syllable words)

TIME	FOCUS	CONTENT	ANECDOTAL
10 mins	Review Prior Learning	<ul style="list-style-type: none"> Review purpose of why we are meeting. “What is the overall aim of working and learning together? Why are we here?” Review what the students have learnt so far in terms of knowledge about certain digraphs and letter clusters and the skills of segmenting and blending, and making analogies. Review the digraphs and letter clusters covered thus far and associated rhymes/ mnemonic devices they use to recall them. In particular, review the ‘ou’ vowel digraph and the long i silent e letter cluster. Using flashcards, students individually read words from the previous lesson. 	•
5 mins	Identify Learning Focus:	<ul style="list-style-type: none"> Introduce the aw digraph. Using flashcards, demonstrate the aw 	•

	<p>Introduce Digraph</p> <p>Phonological focus</p>	<p>digraph in one syllable words: law, saw, bawl, jaw, crawl, sprawl, draw straw, dawn, drawn. Ask the students if they recognise any words. “What sound does aw make in the word/s you know?” Identify same structure in other words and the sound it would make in those words. Discuss how we can use the sound from the word known to one that is unknown. Teacher says, “If I know aw in saw then, I can say”</p> <ul style="list-style-type: none"> • With the set of flashcards of 1 syllable words containing aw, teacher says each word and students repeat. Each student then reads the words individually. 	
10 mins	<p>Creating words</p> <p>Segmenting and Blending</p> <p>Or</p> <p>Automatic Recognition</p>	<ul style="list-style-type: none"> • Display ‘aw’ with cards of different letter clusters to make one syllable words of increasing length. • Students individually create real and/or pseudo words with the ‘aw’ digraph. Students progress through one, two and three letter cluster cards to use before and after the ‘aw’ digraph. Where required, students read each letter cluster and blend or may read each word automatically. • Repeat steps above now for the long u silent e letter cluster words: use, fuse, ute, cute, mute, cue, cube, due, dune, tune. Review rhyme for ‘silent e’ focus. 	•
10 mins	Spelling	<ul style="list-style-type: none"> • Independently, students spell 1 syllable words, of increasing length that contain the ‘aw’ digraph, then the long u silent e letter cluster. Should students have difficulty recalling the spelling of the word, the teacher indicates the word on the flashcard to support student’s visual image of it. 	•
10 mins	Text Reading	<ul style="list-style-type: none"> • Students read a short text, created by the teacher that contains the two letter clusters focussed on today, as well as including previously learnt letter clusters and the two from the next lesson. • Teacher created text: ‘Holidays at the Snow’. Narrative of 327 words, 	Student A

		<p>Fry's Readability: end of grade 3. Letter clusters contained: ai, ay, oa, ow, ea, ou, aw, ew, ur, long o silent e, long a silent e, long i silent e, long u silent e.</p> <ul style="list-style-type: none"> • Before students take turns to read the text, discuss with the students what they can do if they come to a word they are not sure of. Teacher asks: “What do you know that could help you? What could you do to help yourself? What might you do when you come to a word you're unsure of?” • Whilst students are reading, teacher takes a running record of the text for each student, noting the strategies they use for reading and if they are able to accurately decode words containing the letter clusters reviewed together. There are 328 words, students read approximately 109 words each (Student A to “in awe of the beautiful scenery” – 105 words; Student C to “talking to the driver” – 114 words; Student B to “bus trip behind them” – 109 words). 	<p>Student B</p> <hr/> <p>Student C</p>
5 mins	Review and Consolidate	<ul style="list-style-type: none"> • Students identify what they have learnt today. Discuss: “What have you taught yourself today? What new knowledge do you have now? When you were reading, what did you do to help read words you weren't sure of? How can you use this to help you read other stories?” • Students write a reflection in their learning journal. • Students also share and note down what they are going to do to help them to remember how to read 'aw' 	<p>Student A</p> <hr/> <p>Student B</p> <hr/> <p>Student C</p>

Lesson: **9** Level: **Grade 3** (small group) Duration: **50 minutes**
 Focus: **ew and ur digraphs** (improve letter cluster knowledge within one syllable words)

TIME	FOCUS	CONTENT	ANECDOTAL
5 mins	Review Prior Learning	<ul style="list-style-type: none"> • Review previous work they have undertaken, looking at the 'aw' digraph and long u silent e letter cluster. Revise how they are said to review new learnings. 	<ul style="list-style-type: none"> •
	Identify	<ul style="list-style-type: none"> • Using flashcards, students 	

	Learning Focus	<p>individually read words using both letter patterns.</p> <ul style="list-style-type: none"> • Introduce ew digraph. 	
5 mins	<p>Introduce Digraph</p> <p>Phonological focus</p>	<ul style="list-style-type: none"> • Using flashcards, demonstrate the ew digraph in one syllable words: new, news, dew, drew, crew, screw, stew, strew, strewn, threw. Ask the students if they recognise any words. “What sound does ew make in the word/s you know?” Identify same structure in the other words and the sound it would make in those words. Discuss how we can use the sound from the word known to one that is unknown. Look at the ew digraph and discuss how it is different to the vowel digraphs. “How is it different to other digraphs learnt? What can you do to help you to remember how it is said?” • Show students a set of flashcards with 1 syllable words containing ew. Teacher says each word and students repeat. Each student then reads the words individually. 	•
10 mins	<p>Creating words</p> <p>Segmenting and Blending</p> <p>Or</p> <p>Automatic Recognition</p>	<ul style="list-style-type: none"> • Display ‘ew’ with cards of different letter clusters to make one syllable words of increasing length. • Students individually create real and/or pseudo words with the ‘ew’ digraph. Students progress through one, two and three letter cluster cards to use before and/or after the ‘ew’ digraph. Where required, students read each letter cluster and blend or may read each word automatically. • Repeat steps above now for the ‘ur’ digraph: bur, burn, burnt, cur, curb, curse, curve, spur, spurn, spurt. 	•
10 mins	Spelling	<ul style="list-style-type: none"> • Independently, students spell 1 syllable words, of increasing length that contain the ew digraph, then the ur digraph. Should students have difficulty recalling the spelling of the word, the teacher indicates the word on the flashcard to support student’s visual image of it. 	•

10 mins	Text Writing and Reading	<ul style="list-style-type: none"> Students re-read a short text, created by the teacher that contains the two letter clusters focussed on today, as well as including previously learnt clusters. Students read a different section to yesterday, looking at different words but the same letter clusters. Teacher created text: ‘Holidays at the Snow’. Narrative of 327 words, Fry’s Readability: end of grade 3. Letter clusters contained: ai, ay, oa, ow, ea, ou, aw, ew, ur, long o silent e, long a silent e, long i silent e, long u silent e. Before students take turns to read the text, discuss with the students what they can do if they come to a word they are not sure of. Teacher asks: “What do you know that could help you? What could you do to help yourself? What might you do when you come to a word you’re unsure of?” Whilst students are reading, teacher takes a running record of the text for each student, noting the strategies they use for reading and if they are able to accurately decode words containing the letter clusters reviewed together. There are 328 words, students read approximately 109 words each (Student B reads to “in awe of the beautiful scenery” – 105 words; Student A reads to “talking to the driver” – 114 words; Student C reads to “bus trip behind them” – 109 words). 	Calvin
			Connor
			Nathan
5 mins	Review and Consolidate	<ul style="list-style-type: none"> Students identify what they have learnt today. Discuss: “What have you taught yourself today? What new knowledge do you have now? How can you use this to help you read other words? What do you know about the letter cluster patterns we have looked at?” Students write a reflection in their learning journal. 	Student A
			Student B
			Student C

Lesson: **10** Level: **Grade 3** (small group) Duration: **50 minutes**
 Focus: **Revision** (improve letter cluster knowledge within one syllable words and improve self efficacy)

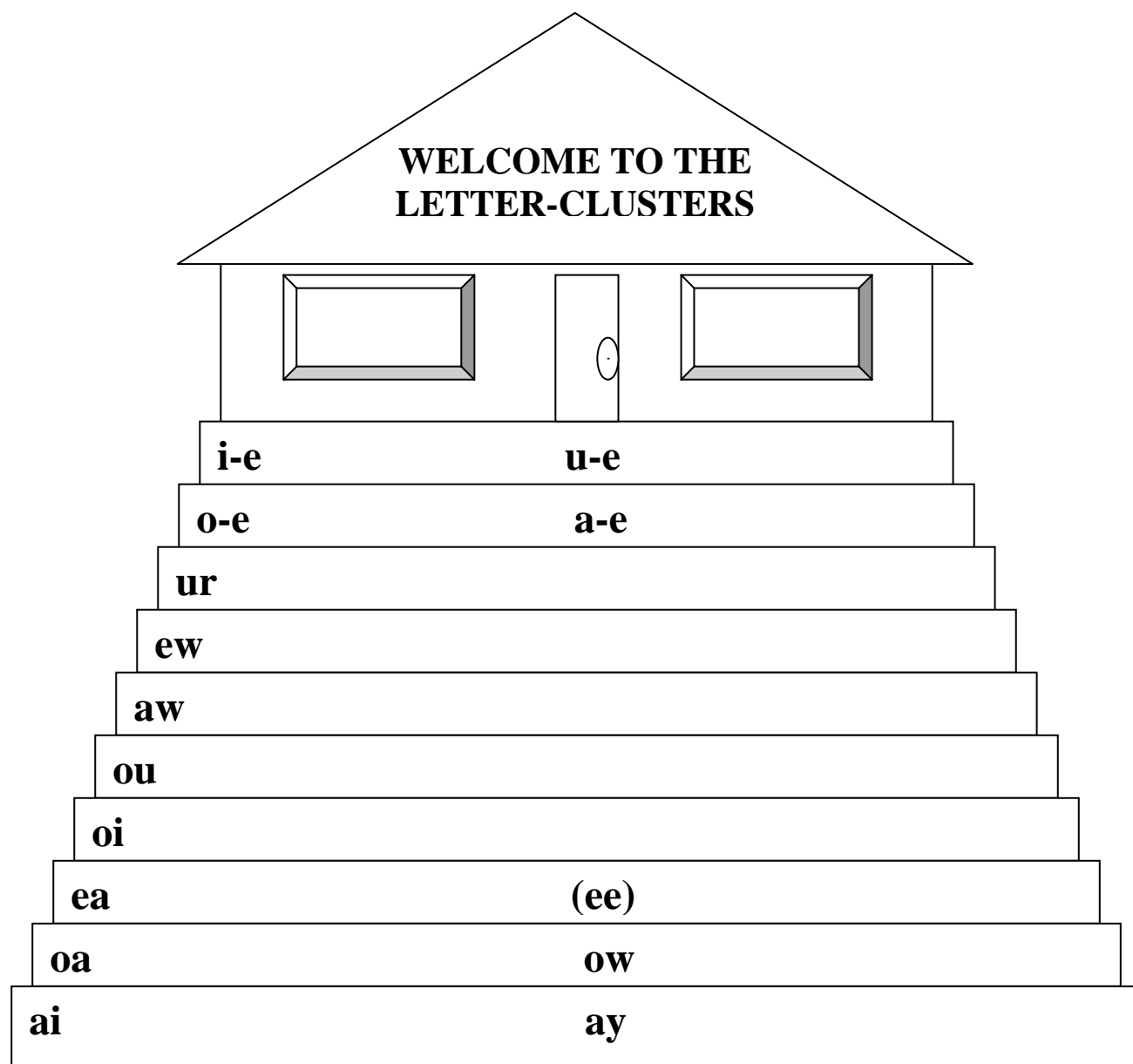
TIME	FOCUS	CONTENT	ANECDOTAL
10 mins	Review Prior Self Learning	<ul style="list-style-type: none"> • Review with the students what they have learnt about vowels and vowel digraphs or vowels attached to silent e, w and r. Review that vowels can have long or short sounds or can change to a different sound when a particular letter is attached. • Students share what they have learnt about letter clusters or other things they have learnt about letters and words, as a result of working together. • Students reflect on the 3 components of knowledge, skills and self efficacy in terms of answering the following sentence starters in their learning journal: <ul style="list-style-type: none"> ○ I have learnt... ○ I can now ○ When reading unfamiliar words I feel 	•
20 mins	Creating links and building self efficacy	<ul style="list-style-type: none"> • Students create a tool to help them recall the link between certain letter clusters and their sound by identifying key words that they confidently know that contain them. They can then refer to their personalised chart in class or at home, when they encounter one of the letter clusters in an unfamiliar word, in order to assist developing their orthographic knowledge and the skill of analogy. • Each step is divided into one or two of the letters clusters reviewed with words that the students have chosen themselves. • Tool used is an adaption of page 189 from <u>A Sound Way</u>. 	•
10 minutes	Text Reading Identifying letter clusters in words that are in prose	<ul style="list-style-type: none"> • Students read a short text, created by the teacher, which contains the letter clusters focussed on throughout the program. Letter clusters are contained within one, two and three syllable words. • Teacher created text: 'Kate and Jean's Wheat Project'. Narrative of 360 words, Fry's Readability: grade 3. Letter clusters contained: ai, ay, oa, ow, ea, ou, aw, ew, ur, long o silent e, 	•

		<p>long a silent e, long i silent e, long u silent e.</p> <ul style="list-style-type: none"> • Whilst students are reading, teacher takes a running record is taken to see if the students are applying what they have learnt through the program, to the text. There are 360 words; students read approximately 120 words each. Student B reads to “awkward load to carry” – 118 words; Student A reads to “the school’s assistant gardeners” – 122 words; Student C reads to “flour was still alive” – 120 words). 	
10 minutes	Consolidation and practical application for words in isolation	<ul style="list-style-type: none"> • Game of Word Bingo. Teacher calls out a word from the program and students look on their bingo card to see if it appears. Winner is the first to complete a row or a column. • Alternate turns between the students for calling out the words. Teacher takes student’s card while they are the caller. 	•

APPENDIX 6

Tool for students to help recall the sound of learnt letter clusters after the 10 lessons.

(Adapted from Love, E. & Reilly, S. (2000). *A Sound Way: Phonological Awareness – Activities for Early Literacy*, p. 189)



APPENDIX 7

Poster created with the following rhyme to introduce the vowel vowel (vv) digraph:

Focus:
Two vowels go
walking,
The first one does
the talking.

APPENDIX 8

Students' overall learnings recorded in their personal learning journals. The sentences are recorded with students' incorrect spelling and incorrect grammatical structures. Incorrect spelling is followed by correct spelling in brackets:

Student A:

I have learnt that Y is a vowel.

I have learnt that a vowel digraph sometimes disobeys the rolls (rules) that's like oa makes o (but) when they disobey the rolls (rules) like oi makes oi but you can change (change) it into oy.

I can now match other words with it.

To help myself when reading new words I can chunk the words.

I feel exstremily (extremely) confdened (confident).

Student B:

I have learnt that y is a vowel.

I also have learnt that when to (two) vowels are togher (together) the first one says its name but sometimes their (there) are bosse (bossy) letors (lettors) like r w y e.

I can now when I am reading a book and I am stuck on a word chunk it out.

When reading now I fell (feel) more cofent (confident).

Student C:

I have learnt I have lirt (learnt) that evary (every) werd (word) has a vowel and letters can be put into digraphs

Digraphs are 2 letters

Valls (vowels) are a e i o u and sometimes y is a vall (vowel) to (too)

In vall (vowel) digraphs the sekend (second) letter is a sillent (silent) you hear the first vall (vowel)

Sometimes the letters can change (change) for ansampil (example) a in saw

And sometimes e can be silent at the end of a word.

So when reden (reading) i (I) can naw (now) loke (look) fore (fore) silint (silent) e at the end of an (a) word if it dosent (doesn't) have a silent e I will loke (look) for to (two)

valls (vowels) I can all so (also) brake (break) up the word into chonks (chunks)

When reden (reading) i (I) am more confert (confident) in my selfe (myself).