Explicitly instructing Year Three and Four students with reading difficulties to segment and blend words with three to six sounds leads to an improvement in reading words in isolation and in prose.

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Abstract

A successful journey through an early years' literacy program incorporates high expectations of reading achievements for all students, including L1 and L2 learners. However, for an identifiable group of Year Three and Four students their success in reading isolated words or reading prose falls well below their peers. Various factors for decreased automaticity in word recognition include poor articulation, weaker awareness of sound patterns, and unfamiliarity with phonological and orthographic strategies that can assist their reading.

The hypothesis of this study is that explicitly instructing Year Three and Four students with reading difficulties to segment and blend words with three to six sounds leads to an improvement in reading words in isolation and in prose. Research on the development of phonological processing and phonemic awareness states that these skills are fundamental to the development of reading from pre-school children to students in higher grade levels, especially for word reading strategies. Many studies have found that efficient word recognition requires both phonological and orthographic knowledge to recognise letter patterns. Teaching students how to phonemically re-code words and to apply analogy between known and unknown words are considered effective strategies to improve word recognition.

In this study students were taught how to segment and blend individual sounds in words with a variety of letter length and letter/sound features. Analysis of the pretest measures including prose reading, a Phonological Assessment Test, an Orthographic Reading Test and a Rime Unit Reading Test, informed the phonological teaching strategies and the nature of words used in the Intervention lessons.

The study compared the results of two groups of students; a Control group, and an Intervention group who were taught how to segment and blend words and apply analogical strategies to unknown words. Results indicated support for the hypothesis for word reading accuracy as the word test scores significantly correlated with increased phonological /phonemic skills. Prose reading results showed nominal improvement.

The study's findings indicated explicit phonological instruction influenced significant gains in improved isolated word recognition and minor positive change in prose reading accuracy. Teaching of phonemic awareness is recommended to continue improving automatic word recognition and decoding skills within reading programs, in addition to instruction of comprehension skills, to ensure that meaning –making strategies and orthographic knowledge together improve text reading accuracy.

Introduction

Lower- performing students in literacy in Years Three and Four often demonstrate a lack of accuracy in reading words and prose in comparison to their peers. These word errors prevent independent reading of more complex texts without teacher assistance and also decrease their text comprehension. Word errors are characterised by difficulties in saying and blending letter clusters, non-transference of knowledge from known words to unknown words and using distinctive visual features. The multiple levels of text processing model (MLOTP) attribute these word level reading difficulties to undeveloped phonological knowledge and processing skills (Munro, 2007).

Phonological research contains various descriptors for key concepts. In this study, 'phonological processing' will refer to how we use knowledge about the sound properties of language; 'phonemic knowledge' refers to our knowledge of individual speech sounds or phonemes, and 'phonemic awareness' – our awareness of sound patterns in speech (Munro, 1998a).

Current research identifies phonological knowledge and phonemic awareness as fundamental to the development of reading skills from pre-school children to students in higher grade levels. According to Adams (1990), Stanovich, (1988) and Hurry and Sylva (2007) the mental processing of phonological information can present as a core deficit for many children's difficulties in learning to read. Yeh and Connell (2008) find that undeveloped phonemic segmentation and blending skills of Year One students determine that they are more likely to be poor readers by their fourth year of schooling. Anthony et al. (2007), Hulme et al. (2002) and Hutchinson, J. et al.(2004) cite early effects of undeveloped phonological and phonemic awareness in older preschoolers, whose inabilities to detect or manipulate sounds in words, became directly associated with their lower word reading skills.

If explicit instruction of segmentation and blending, and manipulation of sounds are key phonemic awareness skills for young children learning to read, (Munro 1998a, 2007,Yeh and Connell, 2008) – then they remain equally important for students in their fourth, or more, year of schooling whose reading still indicates poor phonemic awareness and inefficient word reading strategies. As the participant selection criteria includes pre and posttest measurement of a range of phonological skills, the study will be able to discuss if phonological processing Intervention improves phonemic awareness to the degree necessary to assist improved word reading strategies.

Phonological knowledge, during pre –literate stages of young children, is concerned with the development of recognition and saying separate words, building a word bank and sequencing words into oral sentences- processes that require semantic and syntactical skills. Throughout this period, early detection of inaccurate representations of spoken words may later be associated with word recognition difficulties (Munro, 1998a). Research by Anthony et al. (2007) appears to concur with this perspective, when he states that children's general cognitive abilities do not directly predict their emergent literacy skills- as their skills prove to be more accurately predicted by assessments of their phonological processing abilities. This study may support a similar finding. If the post- Intervention phonological results show that improved articulation of words, and recognition and production of individual sounds in words, has occurred alongside improved reading accuracy levels -positive connections between the phonology and reading skills will be possible.

In contrast, Hurry and Sylva's (2007) research concludes that early intervention of phonological training for Year One students was effective for improvement in phonological awareness but did not immediately improve reading at post-intervention. Improvement in participants' reading and spelling was not evident until one to three years later. Hurry and Sylva believe that this demonstrated how phonological awareness is critically essential for the development of decoding skills. As the participants of this study are already within this older age bracket, a prediction about gains in reading accuracy after receiving Intervention in phonemic awareness instruction, will assume that formal assessment will collect evidence of improved reading, immediately after, and not beyond, the Intervention stage.

The degrees of accuracy in developing recognition and articulation of sound clusters also impacts significantly on recognition of written words, especially with regard to the ability to effectively use initial letters and context to predict unknown words and/or to apply orthographic analogy to read unfamiliar words (Munro 1998a). In other words, efficient word recognition also requires the ability to recall both phonological and orthographic knowledge to recognise letter patterns (Lesaux & Seigal, 2003; Hulme et al. 2002; Anthony et al.2007; Jongejan, W. et al. 2007). Problems with phonological processing can, therefore, affect the acquisition of printed words that can include orthographic irregularities. The study will address the word reading difficulties of the participants by including Intervention strategies outlined by Munro (2007) that includes phonemic re-coding and making analogies between words.

It is important to note that Munro (1998a) also acknowledges that it can be problematic associating phonemic awareness to difficulty to read words (dyslexia), due to the broad nature of word reading

difficulties and the range of definitions of the term 'dyslexia'. His subsequent explanations of three major types of dyslexia- phonological, surface and deep -assist possible identification of children at risk of reading abilities, and support his belief that it is reasonable to expect the possibility of a link between phonemic awareness and dyslexia. In the event of students reading skills showing little or no significant gains after phonological Intervention- referral to other causes for students' reading problems may be necessary.

Some studies also include the effects of phonological processing and first (L1) and second language (L2) acquisition. Lesaux & Seigal (2003) cite research that links phonological awareness skills to predictors of speed and efficiency of reading acquisition and also to its transference from L1 to L 2. Jongejan et al (2007), states that children who are exposed to more that one phonological system have heightened levels of phonological awareness, even in the early stages of L 2 acquisition. As six participants in this study are L2 students, four of whom are in the Intervention Group, the results of their participation may contribute to further discussion about the claims put forward in the forementioned studies.

The present study will investigate if the implementation of a phonological intervention process that emphasises phonemic awareness will improve the reading skills of Year Three and Four students who have been identified as underachievers in reading.

The hypothesis is: Explicitly instructing Year Three and Four students with reading difficulties to segment and blend words with three to six sounds leads to an improvement in reading words in isolation and in prose.

Method

Design

The study uses a case study OXO design. Gains in word reading accuracy in isolation and in prose, following phonological and phonemic teaching of words that contain up to six sounds, is monitored for Year Three and Four students who have reading difficulties. The study compares two groups of students, an Intervention group and a Control group.

Participants

A total of eight Year Three and Four students, aged from 8.1 to 10.1 were selected from three multiage classes, participated in the study. For seventy –five percent of the group English was their second language. All students had reading difficulties associated with frequent inaccurate word

attempts and were at an instructional text reading level of 27. They achieved low levels of phonemic awareness in their pretest. Four females were in the Intervention group; three females and one male were allocated to the Control group. All participants attend a primary school in the western region of Melbourne. Their grade level, years of schooling, language backgrounds, EMA (socio/economic indicator), AIM Reading /Text Level and details of formal Educational or Medical assessments are shown in Table 1.

Table 1.	Student Backg	round Information	n	
Intervention	Student 1	Student 2	Student 3	Student 4
Group				
Age	10.1	8.5	8.8	8.1
Grade	4	3	3	3
Yrs. of Schooling	6	4	4	4
ESL	Maltese	Italian	Maltese	Vietnamese
EMA	\checkmark	\checkmark	-	\checkmark
AIM Reading 07	Below Stand.	NA	NA	NA
Text Level Dec	27	26	25	24
07				
Developmental History	Speech delayed until 20 months. Early speech difficult to understand '05 Referred -Low Phonological awareness & word recognition. 06 Oral Lang normal range. Auditory memory Wears glasses		Has been under since' 05 for phonological development required speech therapy 05-'06. for receptive oral lang. Age appropriate speech in 07. Discharged from CEO Speech Pathology '05	'05 Referral for Speech Assessment –articulation problems. Difficulty in pronouncing words in L1. '06-Assessment-age appropriate for speech
<u>a</u> , 1a	Wears glasses.	G (1) (Hearing test –normal	
Control Group	Student 5	Student 6	Student 7	Student 8
Age	8.1	9.1	8.9	8.6
Grade	3	4	3	3
Yrs. of Schooling	4	5	4	4
ESL	-	-	Vietnamese	Vietnamese
EMA	✓	√	√	\checkmark
AIM Reading 07	NA	NA	NA	NA
Text Level Dec 07	26	22	25	26
Developmental History		06-Hearing test – normal Retaining and recalling information verbally-below age group. Receives Spec. Ed support in groups for language. In 07 participated in ERIC program Short term auditory skills-below		

Table 1.Student Background Information

Pre and Post Measures

The pretest and posttest measures consisted of:

- A Running Record of an unfamiliar factual text <u>'Preparing for a Day in the Forest'</u>, (Level 27, *PM Benchmark Kit No. 2*) The researcher provided this text orientation: *'This text tells us about what we need to do to get ready for a walk in the forest. The characters on the front cover have already started their walk. Let's see what they had to know about before they set off on their walk.'*
- <u>Two Word Tests</u>: Orthographic Reading Test and Rime Unit Reading Test (Munro J, 2007)
- <u>Assessing and Teaching Phonological Knowledge</u>,(Munro, J.1998a)
 Item 5.1, which tested knowledge of letter recoding was excluded from analysis as in the pretest all alphabet letter names, sounds and words were known by the participants.

Procedure

Following completion of the pretests to all students, the Intervention group was administered ten lessons over a two week period. Two lessons, 1 and 2, and 6 and 7, were each conducted over one day.

The students were withdrawn from their regular classroom program by the researcher for 40 - 45 minute sessions. Students in the Control group continued to participate in their regular classroom program. Following the Intervention period, all students of each group were posttested.

The Intervention lessons were informed by Munro's research on how to teach students to read 1syllable words (Munro, J. 2007). The teaching content of the Intervention lessons evolved from the analyses of the students' phonological and orthographic difficulties highlighted in their pretests, which indicated that each student struggled to have an accurate phonemic segmentation span beyond 3-4 sounds. Inaccurate reading of 4-6 letter words occurred due to insufficient phonological knowledge about:

- 1:1 mapping sound mapping
- regular (vc, vv, vcv) and irregular (vc,vv) vowel and consonant letter patterns in high, middle and low frequency words and
- short and long vowel sounds

*Note: Onset and rime was not a major teaching focus as all students could accurately recognise and say these sound structures in all one syllable words in the pretest.

For Lessons 1-10 Lessons -See Appendix 4, Sample of teaching material –Appendix 3

Instruction: Each lesson followed the format described below:

PART ONE: Phonological and phonemic skills.

These included the students being able to:

- <u>say</u> words accurately,
- <u>hear /segment</u> individual sounds in a word –through clapping, tapping and counting sounds
- recognise the other words can share sound patterns
- discriminate different sounds in words
- blend a sequence of individual sounds to make a word
- manipulate sounds in a word (delete and or substitute sounds in Lessons 8-10)

Teacher observations during this oral activity provided information about students' capacities to 1. articulate words

- 2. segment and or blend words into individual sounds with or without teacher support.
- 3. recognise same /dissimilar sounds in words

PART TWO- Writing words

Each lesson addressed the students' orthographic skills as they:

- wrote specific dictated words and /or attempted to transfer letter/ sound patterns to other words
- visualised words and aspects of the pattern
- identified how words were similar/dissimilar in sound and letter pattern
- discriminated the word type from similar words and
- read groups of letter clusters and words (real and nonsense words)

Teacher observations during this oral activity provided information about students' capacities to:

1.write letters that matched alphabetical sounds in words

- 2. write letter patterns that matched individual sounds in words
- 3. represent all sounds in words with letters or letter patterns
- 4. experiment with plausible letter combinations that might create particular sounds in words.

PART THREE- Reading targeted words in isolation and in prose

Reading separate words and a short text contextualized the students' new knowledge. This part of the lesson created a link between the students' phonological recoding and their reading.

EXPLICIT META -PHONEMIC KNOWLEDGE

Direct meta –phonemic knowledge teaching remained constant throughout each lesson stage as the students were encouraged to:

- *identify and talk about what they had learnt about letter /sounds and patterns,*
- *describe the strategies that helped them to say/hear, read and write –letters and sounds, and words more effectively and*
- explain why and how this learning was important to them.

Results

Support was found in the results for the prediction that explicit teaching of segmenting and blending words with three to six sounds increases the ability of Year Three and Four students to accurately read words in prose. The difference in the percentage mean gains (% gains) between the Intervention and Control Groups for text reading accuracy was nominal, (1%); however, four Intervention students obtained individual gains from 1%-4 % gains, compared to two Control students recording gains of 1% and 2%.

TABL	E 1		Text Accuracy					
		Pre	Post	% Gain				
	Student 1	93%	97%	4%				
Intervention	Student 2	92%	95%	3%				
Group	Student 3	93%	94%	1%				
	Student 4	90%	91%	1%				
	Mean	92%	94%	2%				
	Student 5	93%	95%	2%				
Control	Student 6	91%	91%	0%				
Group	Student 7	93%	92%	-1%				
	Student 8	92%	93%	1%				
	Mean	92%	93%	1%				

Table 1: Text Accuracy

Of all assessment scores, the Phonological Knowledge Test and Orthographic Reading Test provided the strongest evidence of statistical % gains after Intervention for increases in the ability of Grade Three and Four students to accurately read words- within and between the groups as shown in the following information. In the Phonological Knowledge test, the Intervention Group achieved a 24% gain, which corresponded to a 6% gain of the Control Group. (Figure 1; for Group means and individual scores see Table 1-Appendix 1)

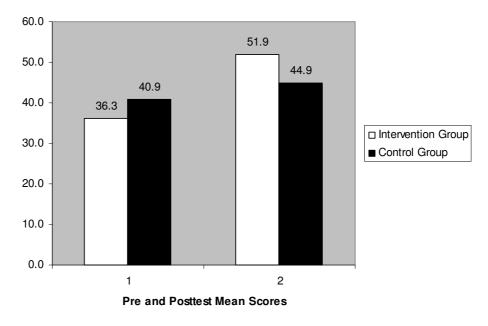


Figure 1: Phonological Knowledge Test

For the Orthographic Reading test the Intervention group yielded a post- treatment within group improvement score of 19% that represented a 15% gain over the Control Group's 4% gain. (Fig. 2; for Group means and individual scores see Table 1 -Appendix 1)

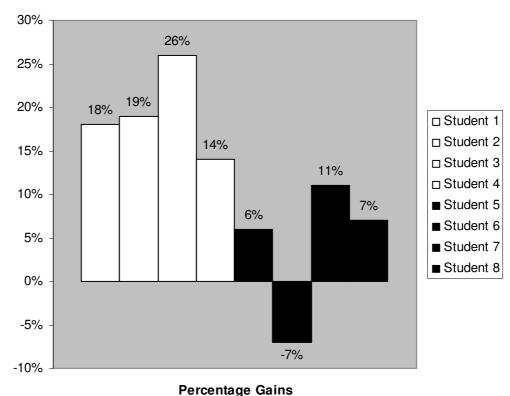


Figure 2: Orthographic Reading Test

The Rime Reading Test results indicated a nominal gain of 1% for the Intervention Group over the Control Group (Table 2) All individual trends within the groups were positive; however of the three students who had the lowest pretest scores and later achieved the highest posttest % gains, two had received intervention. (For Group means and individual scores see Table 1-Appendix 1)

TABL	E 2	RIME	E Unit Rea	ading Test
		Pre	Post	% Gain
	Student 1	131	143	8%
Intervention	Student 2	144	147	2%
Group	Student 3	126	139	9%
	Student 4	135	136	1%
	Mean	134	141.3	5%
	Student 5	142	147	3%
Control	Student 6	137	142	3%
Group	Student 7	114	126	8%
	Student 8	144	147	2%
	Mean	134.3	140.5	4%

Table 2: RIME Unit Reading Test

A closer study of the Phonological Knowledge Test results reveal further trends in gains made by students who received intervention. Figure 3 shows the % gains of both Groups in specific test items. These have been extracted from the whole test as these tasks were found to be the most challenging by all students. The Intervention Group's skills across these selected test items indicate improvement rates of between 28% - 43%. In comparison, the Control Group's improvement varies from 4% - 19%. The Intervention Group's % gains over the Control Group for segmenting individual sounds and blending individual sounds was 38% for each skill; saying letter clusters -12% and for saying groups of letter clusters - 9%.

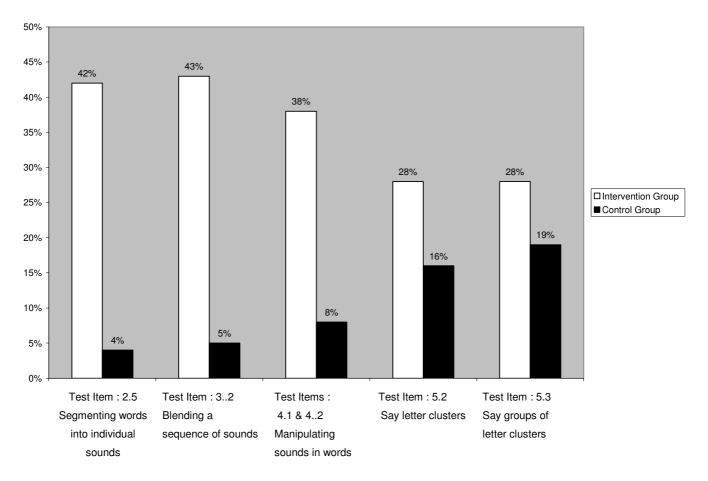


Fig. 3: Phonological Knowledge Test Items

(* For the Group Mean Scores for Figure 3- see Table 2 in Appendix 1)

Test Item 4.3.which tested segmentation of multi-syllabic words into single sounds remained universally difficult for all participants in the Intervention and Control Groups, especially in 3-and 4-syllable words. The phonological processing required for this task was not met by this study. These skills would need to be included in future teaching for these students.

At this point it is relevant to focus on the individual trend data of Student 4 of the Intervention Group in the fore-mentioned Phonological Knowledge Test items in Fig.3. Table 3 below shows a significant disparity between Student 4's results to the combined mean score of the three other students in her group -Students 1, 2 and 3.

Phonological Test Items	Student 4 % gain	Students' 1-3 % mean gain
2.5 Segment sounds into individual sounds	13%.	100%.
3.2 Blend sounds to make words	12.5%.	96%.
4.1 & 4.2 Manipulate sounds in words	16%	78%
5.2. Say letter clusters	0%	79%
5.3. Say groups of letter clusters	0%	89%.
Sist Suf Groups of fetter clusters	0.0	0, 10.

Table 3: Phonological Test Items: 2.5,3. 2, 4.1 & 4.2, 5.2 and 5.3

The results of these specific Phonological Test items largely explain how Students 1-3 achieved whole test posttest % gains of 26% -32%, compared to Student 4's 8% gain. Her whole test posttest raw score of 27/65 represented a 50% deficit compared to the mean Posttest score of Students 1-3. Apart from a -7% gain, by Control Group Student 6, in the Orthographic Reading Test, no other student's results in the study represent such a dramatic trend as the one presented in the Phonological Test of Student 4. Her posttest scores in the Orthographic Reading Test and Rime Word Test were also less than those of Students 1 – 3. However her constant reading speed in the Orthographic Reading Pre and Posttest test did represent a 30% and 50% gain over the mean reading pace of her group members in the same test.

(see Table 1, in Appendix 1).

Closer investigation of Group trends within the Orthographic Test in Table 4 also highlight the Intervention Group's stronger % gains over the Control Group when reading 3-6 letter words of high, medial and low frequency levels, that contain a range of letter/sound mapping-from single sound mapping, through to regular and irregular vowel /consonant (vc), vowel/vowel (vv) vowel/consonant vowel (vcv) and consonant/consonant (cc) letter/sounds.

Table: 4	Orthographic Reading Test: All words and Letter/Sound ranges
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All Letter/Sound	Pre and	Intervention	Control
Combinations	Posttests	Group	Group
		Mean	Mean
3 Letter Words	Pretest	15.5	14.8
/21	Posttest	17.5	16
	% Gain	10%	6%
4 Letter Words	Pretest	12.7	13.5
/21	Posttest	17	15.3
	% Gain	20%	8%
5 Letter Words	Pretest	12.7	12
/21	Posttest	16	14.8
	% Gain	15%	13%
6 Letter Words	Pretest	7	8.6
/21	Posttest	12.5	11.5
	% Gain	26%	16%

Strongest overall % gains by the Intervention Group were achieved in the reading of four and six letter words that contained a range of individual letter sounds and letter patterns.

From a second perspective, the Orthographic Reading Test also identifies changes in students' capacities to read 3-6 letter words with specific letter/sound features and of high, middle and low frequency.. (Fig.4) Both Groups improved their scores in all letter/sound areas. However, the Intervention Group % gains in knowing vc regular and irregular words, vv regular and irregular words ranged from 21% - 25%. In comparison, the Control Groups % gains for accurate reading of the same words 8% to 16%. The % gains made by the two Groups when reading words with 1:1 mapping and cc regular 3-6 letters were between 8% and 15 %, in favour of the Intervention Group. The Control group's 7% gain in reading vcv words is their highest gain, although their posttest mean of 7 is 0.5 less than that of the Intervention Group.

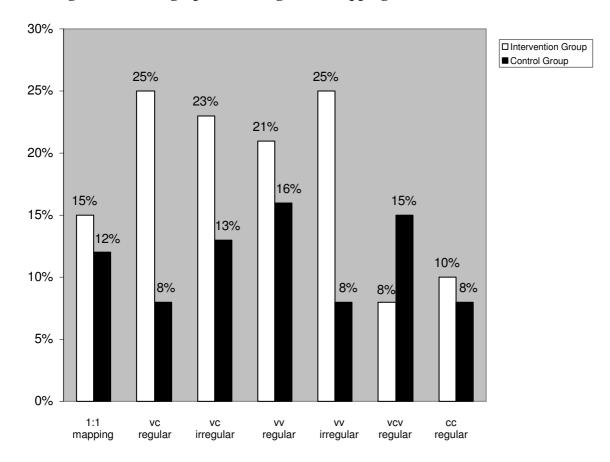


Figure: 4 Orthographic Reading Test- Mapping of letters /sounds in all words

The results indicate that the Intervention Group within group % gains were more than the Control Group's % gains in processing 3-6 letter words across a range of letter and sound features- except for vcv regular words. (For Group means see Table 3 -Appendix 1)

Discussion

The findings in the study demonstrate that instruction about phonological processing and phonemic awareness improved the accuracy of reading words in isolation and correlate with the research of Anthony et al. (2007), Hulme et al. (2002) and Hutchinson, J. et al. (2004). The Intervention students' results in the Orthographic Reading Test revealed their increased capacity to automatically say unfamiliar words, and /or to apply segmenting and blending or analogical strategies to successfully decode unknown words. However, their results still show that continued teaching of phonemic awareness remains necessary to assist increased accuracy of reading words in the 4-6 letter-length range, especially with words containing 1:1 sound mapping in high to low frequency 6 letter words and low frequency vcv regular letters. Overall, the results for this word test are consistent with Munro's (1998b) research that Year Three and Four students with reading difficulties can be effectively supported by explicit phonological instruction that increases their ability to recognise, segment, delete and substitute phonemes as they make comparisons between words.

The lower student gains in the Rime Reading compared to the gains made in the Orthographic Reading Test initially appear to be an anomaly. Reading of the fore-mentioned test supports reading accuracy as all the listed words are grouped in same sound rime units, varied only by letter length. However, a contributing factor for the discrepancy between the % gains of the two Word tests could be the tendency of the middle year students, to revert to a familiar reliance on memorising orthographic units, rather than consciously checking all phonemic/ letter/sound cues in the words (Munro, 1998b). Another factor could be a 'ceiling effect' in these results- the low 2% gain for one Intervention participant does not indicate that this student was actually within 1% of 100% accuracy in the Rime test.

Following intervention, the low rate of improvement in the two Word Reading Tests of Student 4, highlight reading difficulties that have persisted in spite of targeted phonological teaching. Consequently, her results remain correlated with the studies of much younger children whose lower word reading skills are caused by insufficient phonological progress (Munro, 1998b; Anthony et al. (2007); Hulme et al. (2002) and Hutchinson, J. et al. (2004). The study's prediction that was based on studies that reported improved reading of Year Three and Four students with phonological intervention, seem to have a weak correlation to Student 4's reading gains. As her miscues continue to be due to incorrect segmenting and blending, using distinctive visual features and lack of confidence in the use of analogy, her difficulties point to the negative impact that undeveloped phonological processing has on orthographic skills (Munro, 1998a; Anthony et al, 2007; Jongejan,W. et al. 2007 Lesaux & Seigal, 2003; Hulme et al. 2002).

Information from teacher observations during the Intervention period and the pre and posttest measures has highlighted a probable major cause for Student 4's delayed learning that requires further investigation – her frequent difficulties in correctly articulating words. Most errors in her spoken words were noted in the omission and substitution of initial consonants containing 2-3 phonemes and in final 2 consonant blends. Furthermore, the phonemes represented in her orthographic errors matched her inaccurate word articulations. According to Munro (1998a) the difficulty in retaining or adding sounds in words may be suggestive of a student having a restricted short-term working memory for sound-based information, not having automatised the ability to manipulate sounds or not having a sufficiently flexible knowledge of sound links. Student 4 delayed literacy learning may be an example of Munro's link between phonemic awareness and dyslexia; however further formal inquiries will need to instigated to clarify what other causes, apart from phonology, may be attributed to her word reading problems.

Student 4's results also appear to partially correlate with the studies of Jongejan et al. (2007) and Lesaux & Seigal, (2003). During the Intervention period, Student 4 connected her English articulation problems to those she also experienced when speaking her first language-Vietnamese. Therefore, while aspects of her of phonological behaviours have transferred from L1 to L2, the term 'heightened' in the studies assumes such transference as being advantageous to L2 acquisition. This may not be the case for Student 4. Formal education assessments are needed to clarify how Student 4's phonological development in L1 and L2 could be maximized more to improve her literacy learning.

In this study, only nominal gains in prose reading accuracy were achieved, which raises the question of whether 'Does phonological awareness directly impact oral reading?' Studies by Hurry and Sylva, (2007) and Munro, (1998b) have questioned its limited influence on the skill of reading aloud at an early age, while other previously mentioned studies refer to its effects being more observable in the reading of individual words and in spelling attempts. In other words, research consensus appears to find that phonological processing and phonemic awareness in reading is essential but confined to decoding. It is likely that the prose reading results of this study also verify this analysis.

An alternative view by Venezky (1998) identifies the development of higher – level reading and thinking skills, and not phonological processing, as being more pertinent to reading beyond the early grade levels. Munro's (2007) MLOTP also contains an evolving emphasis on explicit comprehension skills that places high expectations on students, as they move through and beyond the early years of schooling, to be able to articulate and implement comprehending strategies that assist their understanding of texts. Such viewpoints challenge the present study to extend its investigation. A plausible extension would be to explore how explicit instruction, that includes both phonemic awareness and meaning- making strategies,

affects the reading accuracy and comprehension of Year Three and Four students with reading difficulties.

References

Adams, 1990, and Stanovich, 1998, cited in Anthony, Jason L, Williams, Jeffery M, MacDonald Renee, Francis, David, J, 'Phonological processing and emergent literacy in younger and older preschool children'. Annals of Dyslexia. Baltimore: Dec.2007 Vol. 57, Issue 2: pp.113 -138

Anthony, Jason L, Williams, Jeffery M, MacDonald Renee, Francis, David, J, 'Phonological processing and emergent literacy in younger and older preschool children'. Annals of Dyslexia. Baltimore: Dec.2007 Vol. 57, Issue 2: pp.113 -138

Blake Education, 2005. Non -fiction Reading Comprehension, Middle Primary Book 1 'The Magic Touch" pp.136

Blake Education, 2005. Non -fiction Reading Comprehension, Middle Primary Book 1 'From Farm Animals to Fame' pp.140

Blake Education, 2005. Non -fiction Reading Comprehension, Middle Primary Book 1 'Fun Roller Coasters' pp 14

Ehri,1999 cited by Hurry J. and Sylva, K., 'Long-term effects of early reading intervention', Journal of Research in Reading, Volume 30, Issue 3, 2007, pp.227-248

Hurry J. and Sylva K., 'Long-term effects of early reading intervention', Journal of Research in Reading, 2007, Volume 30, Issue 3, pp.227-248

Hutchinson, J., Whitely, H, Smith, C., Connors, L. 'The early identification of dyslexia: children with English as an additional language'. Psychology and Behavioral Sciences Collection, 2004, Dyslexia 10, pp179-195

Hulme, C., Hatcher, P, Nation K., Brown A., Adams, J., Stuart, G, 'Phoneme awareness is a better indicator of early reading skill than onset –rime awareness', Journal of Experimental Child Psychology', 2002, 82, pp2-28

Jongejan, W. and Verhoven L. & Seigal, L. S., 'Predictors of reading and spelling abilities in first- and second language learners', Journal of Educational Psychology, 2007, pp.243-256

Lesaux N and Seigal L, 'The development of reading in children who speak English as a second language', Developmental Psychology, 2003. Vol. 39, No 6, pp 1005-1019

Munro, John K, 1998a, 'Assessing and Teaching Phonological Knowledge', Australian Council of Educational Research, Ltd, Victoria

References Continued

Munro, John K, 1998b, 'The phonemic-orthographic-nexus: The Phonemic –Orthographic Literacy Program', Australian Journal Of Learning Disabilities 3. 2, pp15-21

Munro, J, 2007, Literacy Intervention Strategies Course 472697, Lecture notes

Smith, A, 'Preparing for a day in the forest', PM Benchmark Kit No. 2, 2003. Nelson Thomas Learning

Venezky, 1998. cited by Hurry Jane and Sylva, Kathy, 'Long-term effects of early reading intervention', Journal of Research in Reading, Volume 30, Issue 3, 2007, pp.227-248

Yeh, Stuart S. and Connell, David B. 'Effects of rhyming, vocabulary and phonemic awareness instruction on phonemic awareness', Journal of Research in Reading, Vol. 31, Issue 2, 2008. pp 243-256

Teacher	Orthographic Teacher Reading Test							RIME Unit Reading Test						Text Accuracy		
Group	Pre	Time	Post	Time	% Gain	Pre	Time	Post	Time	% Gain	Pre	Post	% Gain	Pre	Post	% Gain
Student																
1	52	2.5	67	3.18	18%	131	2.5	143	2.57	8%	39.5	60.5	32%	93%	97%	4%
Student																
2	52	1.5	68	5.05	19%	144	2.56	147	3.12	2%	41.5	58.5	26%	92%	95%	3%
Student																
3	43	4.47	65	2.22	26%	126	3.52	139	3.6	9%	37	56	29%	93%	94%	1%
Student																
4	45	1.53	57	1.54	14%	135	2.49	136	2.31	1%	27	32.5	8%	90%	91%	1%
Mean	48	2.50	64.25	3.00	19%	134	2.77	141.3	2.90	5%	36.3	51.9	24%	92%	94%	2%

TABLE 1 PRE AND POSTTEST ASSESSMENT SCORES OF ALL TESTS

	Ort	hographi	ic			RIME Unit Reading											
Control	ntrol Reading Test						Test					Phonological Test			Text Accuracy		
					%					%							
Group	Pre	Time	Post	Time	Gain	Pre	Time	Post	Time	Gain	Pre	Post	% Gain	Pre	Post	% Gain	
Student																	
5	55	2.32	55	2.13	6%	142	2.36	147	3	3%	47.5	50.5	5%	93%	95%	2%	
Student																	
6	52	2.12	46	2.43	-7%	137	4.05	142	2.49	3%	39.5	43	5%	91%	91%	0%	
Student																	
7	45	4.26	54	4.2	11%	114	4.32	126	2.05	8%	32.5	36	5%	93%	92%	-1%	
Student																	
8	69	2.59	75	2.13	7%	144	2.55	147	2.1	2%	44	50	9%	92%	93%	1%	
Mean	55.25	2.82	57.5	2.72	4%	134.3	3.32	140.5	2.41	4%	40.9	44.9	6%	92%	93%	1%	

TABLE 2: PHONOLOGICAL TEST OF SPECIFIC ITEMS

	2.5 Segment Individua	ing Words Il sounds	into	Blendin	ound Blen g a Seque to make a	nce of	4.1+ 4.2 Manipu sounds			5.2 Say Lettter Clusters		6	5.3 Say Groups of Letter Clusters		
Mean	Pretest	Posttest	% Gain	Pretest	Posttest	% Gain	Pretest	Posttest	% Gain	Pretest	Posttest	% Gain	Pretest	Posttest	% Gain
Intervention Group	4.6	9.2	42%	1.5	3.2	43%	1.6	3.9	38%	1.5	2.6	28%	3.5	6	28%
Control Group	3.6	4.4	4%	3.1	3.3	5%	3.4	3.9	8%	1.25	1.9	16%	4.75	6	19%

TABLE 3: GROUP MEANS OF ORTHOGRAPHIC TEST:

LETTER /SOUND MAPPING ACROSS ALL WORD LENGTHS-3-6 LETTERS

Group	1:1 map	ping	vc regular		vc irregu	lar	vv regular		vv irregular		vcv regular		cc regular	
Mean	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest	Pretest	Posttest
Intervention	6.5	8.3	5.0	8.0	6.5	9.3	7.0	9.5	7.5	10.5	6.5	7.5	8.5	9.8
Control	7.3	8.8	5.5	6.5	6.8	8.3	6.8	8.3	7.8	8.8	5.3	7.0	8.5	9.5

The Teaching Unit

Eight Year Three and Four students who are experiencing reading difficulties at the word level will be part of a study to investigate the hypothesis:

Explicitly instructing Year Three and Four students with reading difficulties to segment and blend words with three to six sounds leads to an improvement in reading words in isolation and in prose.

- Four students will be provided with explicit instruction to improve their phonological knowledge and phonemic awareness. The other four students will be in the Control Group.
- Each lesson will include an emphasis on the students to: segment, blend, write and read 3-6 sound words containing up to six letters, including 1:1 mapping and a variety of letter clusters and patterns
- The words selected for each lesson have been initially chosen from analysis of the word errors that the students recorded in their pretest measures
- Other words in the lessons were included for phonological and orthographic purposes as the lessons progressed as indicated by the students' learning needs
- Each proceeding lesson will briefly revise the content and skills of the previous lesson(s) before the teaching of new material.

OUTCOMES

The Intervention tasks are designed to improve segmenting and blending of individual sounds and letter cluster /pattern knowledge in mainly in-syllable words containing 3-6 sounds. Through intervention the students will be able to:

- Say words in isolation and prose
- Segment words by individual sounds
- Blend words from individual sounds
- Identify specific letter clusters/letter patterns in words
- Categorise words by same/different sounds
- Visualise and write the specific words in isolation, within dictated sentences or in their own created sentences
- Transfer specific letter clusters /letter patterns to other words(real or pseudo)
- Manipulate sounds in words by deleting or substituting phonemes
- Use analogy to help them make links between known words and unknown words

 Meta –cognitive language will be recorded as explicit teacher language throughout the lesson plans to prompt students to use this kind of language to explain/describe their own learning actions.

Assessment Procedures

Pre and Posttesting administered individually

- Running Record PM Benchmark Kit, Level 27 Factual Text
- Orthographic Reading Test
- Rime Unit Reading Test
- Phonological Assessment and Knowledge Test (John Munro, 1998a)

Procedure

Lessons 1-4

- <u>Review of previous letter clusters/patterns</u> through segmentation, blending, writing, reading words and in prose
- <u>Segmentation of new word types</u>-teacher demonstrates phonemic segmenting of separate sounds.
 students continue with other teacher dictated words
- <u>Blending of new words.</u> Teacher demonstrates how to say a whole word from segmented phonemes. Students continue with other dictated segmented words.
- <u>Visualise and Write words</u>. Students attempt to write example of dictated new words. After each
 new word type teacher demonstrate correct spelling
- <u>Applying Analogy</u>. Teacher demonstrates how analogy can assist writing/reading of other words. Students suggest their own analogies.
- <u>Read each word.</u> Students read listed words on a prepared sheet
- <u>Reading Prose</u>. Teacher presents prepared prose that includes targeted words. Students read parts individually and together.
- <u>Identifying Targeted words in text.</u> Students together and individually locate targeted word in the text
- <u>Meta-Cognition</u>. Students say what they have learnt, what they know about words and how they
 will remember them. *Explicit teacher/student language throughout the lesson also prompts metacognition throughout the lesson segments.

Lesson 5

Review of the skills and content of Lesson 1-4 using picture prompts and word cards for:

- for segmentation,
- blending,
- writing,
- reading listed words and differentiating between like words

• Categorising of word sound

Prose reading of texts from Lesson 4, which also included a review of Lessons 1-3 words

Lessons 6-7

<u>Same process as in Lessons 1-4</u> with the addition of picture cards and word cards for classification /categorisation of sounds /letters

Lesson 8-9

<u>Same process as in Lessons 6-7</u> with the addition of skills in how to:

- increase word length by adding suffixes and prefixes
- deleting and substituting sounds
- writing words and changing with deleting and substituting initial/medial and final phonemes / letters

Lesson 10

Review of the skills and content of Lesson 1-10 using picture prompts and word cards for:

- for segmentation,
- blending,
- deleting and substituting sounds
- increasing word length by prefixes and suffixes
- writing words and changing with deleting and substituting initial/medial and final phonemes / letters
- reading words
- Categorising of word sounds
- Prose reading of text which also included a review of Lessons 1-9 words.

APPENDIX 3:

Lesson One 1:1 Sound	l/letter Mappimg of words- with 3	3-6 letters and sounds
ACTIVITY	TEACHER	STUDENTS
Saying /Tapping	Listen to how I say "stop'-	Students repeat each task
/Clapping/then Counting each	"s-t-o-p". I say /tap/clap/	following the teacher's prompts,
sound in order	count/ each sound in the word.	making sure they say each word
*Groups of words (real &	Now you do it	correctly before they segment
pseudo) are presented to do each	* Correct articulation of words	into separate sounds
separate task	are stressed	
Blending each sound in order	Listen to how I put these sounds	Students repeat each task
to make a whole word	together to make a word, 'l-o- glog.	following the teacher's prompts
	You do this with'	to include all segmented sounds
* words (real & pseudo) are	Which sounds can you hear?	into the blended words
presented to blend	easily? Which sounds do you find	
	are harder to blend? When is it	
	important to hear blend sounds in	
	words?	
Writing Dictated Whole	Say the word. I can hear and write all the	Students attempt writing the
Words (real & nonsense words)	sounds in the word.	words by saying the word out
	I can write a letter for each sound.	aloud, stretching out the sounds
	Does this look right?	and responding to the teachers
	<i>Have I written a letter for every sound?</i>	question prompts.
	If I stretch out the word as I say	
	it-I can hear all the sounds	
	I have to try and hear all the sounds in words because	
Dooding Words		Students read words individually
Reading Words	Look at these words. Some of the words are real. Many of them are	Students read words individually
Reading a list of real and pseudo	nonsense words. I want you to say	and together
words on a individually	each one.	Their responses to the teacher's
provided sheet	What did you notice about all of these words? (Fach letter has a	questions helps them to articulate
	these words? (Each letter has a sound)	what they are doing
	The words I find sam thandon to	Students attempt to make
	The words I find easy/harder to say are	analogies to other known words

ACTIVITY	TEACHER	STUDENT
Reading Words (cont.)	I need to remember to look at in the harder words to help me to This word reminds me of because	
Reading Prose that includes words with 1:1 mapping	Teacher invites students to predict ideas that might be in the text from the title and from their own experiential knowledge. Teacher then provides a summary sentence about the ideas in the prose. <i>I can read this paragraph.</i> <i>After reading I will look for the</i> <i>words that have a letter for every</i> <i>sound.</i> <i>Which words remind me of other</i> <i>words?</i>	Students read prose individually and together Students locate words that have 1:1 mapping and make analogies to other known words
* Meta – Cognitive responses are	Tell me what you know about the	All the words had a sound for
encouraged throughout the	kind of words we have been	every letter.
lesson parts	working on today?	When I say longer words I have to be careful to When words that begin with str I have to remember to say the 'r'

Lesson One

Date: 19/05/08

Segmentation/Blending of individual sounds in 3-6 letter one syllable words with 1:1 mapping

Part A Phonological & Phonemic

Skills: Saying /Tapping /Counting each sound in order

*Listen to how I say "stop'- "s-t-o-p". I say /tap/can count/... each sound in the word. Now you do it... What helps me to hear the sounds the best? (say/tap/count)

Why do I need to be able to hear sounds in word?

Which sounds do you have trouble hearing in words?

To hear the sounds in a word, I need to say the word properly.

Say	Clap /Tap	Count
crab	span	frond
snub	swam	swift
crib	prank	grand
scant	slump	frump
swept	frost	trust
scrum	plump	sprat
clank	cleft	croft

Part B Phonemic knowledge

Skill:Blending each sound in order to make a whole word:

*Listen to how I put these sounds together to make a word, 'l-o-g...log. You do this with...' Which sounds can I hear easily? Which sounds do I find are harder to hear? When is it important to hear sounds in words?

t-r-a-p	p-l-i-t	t-r-i-p
<i>г-и-т-р</i>	r-e-n-d	l-a-m-p
s-p-l-i-t	l-a-n-d	r-i-n-k
с-l-а-т-р	r-a-n- k	s-t-r-i-p
b-r-i-n-k	s-t-r-a-p	t-r-e-n-d
b-l-a-n-d	t-r-u-m-p	c -r-a-n-k
s-t-r-u-m-p	s-t-r-e-n-d	s- l-a-m-p

Part C Comprehend the meaning of words

Skill: Writing Dictated Whole Words (real & nonsense words)

Say the word. What sounds can I hear in the word? I can hear all the sounds in the word. I can write a letter for each sound. Does this look right? Have I written a letter for every sound?

If I stretch out the word as I say it- I can hear all the sounds

I have to try and hear all the sounds in longer words.

Which sounds do I have trouble hearing? How can I improve hearing sounds in words? It is important to hear sounds because...

sprag	strut	crimp
blond	spend	plump
drift	skimp	blunt
sprang	frond	slump

Skill: Reading Words

Part D Phonemic knowledge

*Look at these words. Some of the words are real. Many of them are nonsense words. I want you to say each one.

What did you notice about all of these words? (Each letter has a sound)

The words I find easy/harder to say are...

I need to remember to look at _____ in the harder words to help me to _____

This word______ reminds me of ______ because___

				-	
sump	slump	plumps	spat	sprat	strats
wept	swept	strepts	lank	clank	tranks
rust	trust	drusts	limp	skimp	strimps
test	blest	strest	crib	scrib	stribs

Part E Phonemic knowledge

Reading Prose that includes words with 1:1 mapping

I can read this paragraph.

After reading I will look for the words that have a letter for every sound.

Which words remind me of another word?

As the lost camper crept into the cleft of the cliff for shelter from the cold, strong wind he suddenly felt a cramp in his left leg. The pain was so strong that he couldn't move, so he had to slump against the damp rock wall. Was this cave now a trap? He tried to rub his sore leg but he was too cold and began to shiver. He felt he was on the brink of giving up. If he let himself drift off to sleep he could be lost forever. With a jolt he knew there was one more plan he could try. He sprang to his feet with a yelp of hope!

LESSON TWO 19/05/08

REVISION OF LESSON ONE

- 3-6 letter words with 1:1 mapping
- Segmentation of words into individual sounds /Blending a sequence of individual sounds into whole words
- Writing words
- Reading words and prose that contain 1:1 mapping

LESSON TWO

Part A Phonological & Phonemic

Segment each word into individual sounds

Skills: Listen to how I say "newt'- "n-ew-t". I say /tap/can count/... each sound in the word. Now you do

it...

What helps me to hear the sounds the best? (say/tap/count)

Why do I need to be able to hear sounds in word?

Which sounds do you have trouble hearing in words?

To hear the sounds in a word I need to say the word properly

Say	Tap/Clap	Count
newt	mew	spew
ark	yarn	clarks
prawns	scraw	craw
stew	Jew	few
stark	lark	stars
bird	girls	clirts
claw	dirt	strawn
flirt	drawls	slirts

Part B Phonemic knowledge

Skill: Blending each sound in order to make a whole word:

*Listen to how I put these sounds together to make a word, 's-t-ew'. You do this with...' Which sounds can I hear easily? Which sounds do I find are harder to hear? When is it important to hear sounds in words? Which words sound the same? Different?

f-ew	p-l-ir-t	d-aw-n
p-ar-k-s	s-m-ew	g-ir-d-s
p-r-aw-n-s	b-ar-n-s	s-c-r-ar-d
s-t-ew	s-t-r-aw-s	g-ir-l-s
f-l-ar-k-s	j-ew	s-t-ir-t-s

Part C Comprehend the meaning of words

Skill: Writing Dictated Whole Words (real & nonsense words)

Say the word. What sounds can I hear in the word? I can hear all the sounds in the word. I can write a letter(s) for each sound. Does this look right? Have I written a letter for every sound ?If not, why? What do I know about some sounds Have I written the sounds/letters in the right order? If I stretch out the word as I say it I can hear all the sounds I have to try and hear all the sounds in longer words. Which sounds do I have trouble hearing? How can I improve hearing sounds in words? It is important to hear sounds because... Which word can I think of to remember how to write ____(analogy)

stew	clark	prawns
bird	few	harms
saw	flew	

Part D Phonemic knowledge

Skill: Reading Words

*Look at these words. Some of the words are real. Many of them are nonsense words. I want you to say each one.

What did you notice about all these words? (Each letter has a sound,)

The words I find easy/harder to say are...

I need to remember to look at _____ in the harder words to help me to _____

This word_____ reminds me of _____ because_

new	spew	stews	spat	sprat	strats
law	slaw	straw	plawn	crawl	scrawn
fir	firp	flirt	ark	mark	strark
car	slar	strarm	sir	slirt	swirts

Part E Phonemic knowledge

Reading Prose that includes words with 1:1 mapping, and with regular vc digraphs -ar, ew, ir, aw

I can read this paragraph. I can talk about what the words/sentences mean. After reading I will look for the words that have letter/sounds we have been learning about... Which words remind me of another word?

Quietly, the dawn of the new day arrived. However so few saw it, except for the busy, dark brown birds that were digging their sharp claws into the firm, damp dirt of the farm yard as they looked for the fresh straw that was so wet with dew. Overhead the tiny larks flew freely in wide sweeping arcs across the soft pink morning sky. Yet, it would not be long before the barking of the hungry sheep dogs and the bawling of the newborn babies would soon draw everyone out of their deep, peaceful slumber.

LESSON THREE DATE 20/05/08 Segmentation/Blending of 3-6 letter one syllable words with 1:1 mapping, regular vv digraph ai & irregular vc digraph- ow

REVISION OF LESSON ONE & TWO

- 3-6 letter words with 1:1 mapping and regular vowel/consonant digraphs-ar, ew, ir, aw
- Segmentation of words into individual sounds / Blending a sequence of sounds into whole words (including *hearing 'm' in rime, 'tp' letter order kin rime, omitted second letters in onset-eg 'l 'in ' bl', short vowel confusion –a/u i/u*)
- Writing
- Reading words and prose that contain 1:1 mapping, regular vc digraphs -ar, ew, ir, aw and cc blends

LESSON THREE

Part A Phonological & Phonemic

Segment each word into individual sounds

Skills: Listen to how I say "rain- "r-ai-n". I say /tap/can count/... each sound in the word. Now you do it...

What helps me to hear the sounds the best? (say/tap/count)

Why do I need to be able to hear sounds in word?

Which sounds do you have trouble hearing in words?

To hear the sounds in a word I need to say the word properly

rain	flow	pawn	trail	crow	new	brawl	yarn
strait	mown	lawn	grain	sown	plain	flown	stark
claim	grown	drawn	stain	low	strain	slow	harm

Part B Phonemic knowledge

Skill: Blending each sound in order to make a whole word:

*Listen to how I put these sounds together to make a word, 'g-r-ow-n'. You do this with...' Which sounds can I hear easily? Which sounds do I find are harder to hear? When is it important to hear sounds in words?

Which words sound the same? Different?

qu-ai-n-t	b-l-ow	c-l-aw	p-r-ai-se	s-t-r-ow-n	d-r-ai-n	g-l-ow-s	s-p-ar-k-s
g-r-ow-n	s-t-r-ai-n	s-ow-n	s-t-r-ai-n	s-ow-n	t-r-ai-n	d-aw-n	S-t-r-aw

Part C Comprehend the meaning of words

Skill: Writing Dictated Whole Words (real & nonsense words)

- I can explain what this word means...
- I can say this word in a sentence
- Say the word. What sounds can I hear in the word? I can hear all the sounds in the word. I can write a letter(s) for each sound. Does this look right? Have I written a letter for every sound ? If not, why?
- What do I know about some sounds
- *Have I written the sounds/letters in the right order?*
- If I stretch out the word as I say it I can hear all the sounds
- I have to try and hear all the sounds in longer words.
- Which sounds do I have trouble hearing? How can I improve hearing sounds in words?
- It is important to hear sounds because...
- Which word can I think of to remember how to write _____(analogy)

strain	snark	mown	prain	harms	slain	straw	flown
SOW	stow	stows	row	crow	drain	grown	Clart

Part D Phonemic knowledge

Skill: Reading Words

*Look at these words. Some of the words are real. Many of them are nonsense words. I want you to say each one.

What did you notice about all these words?

Some letters join together to make a new sound.

The words I find easy/harder to say are...

I need to remember to look at _____ in the harder words to help me to _____

This word______ reminds me of ______ because_____

bow	frow	blown	raid	fraid	straid
raw	traw	straw	plaw	crawl	strawn
arm	larm	slarm	lark	glark	strark

Part E Phonemic knowledge

Reading Prose that includes words with 1:1 mapping, regular vv digraph ai & irregular vc digraph- ow and with regular vc digraphs –

I can read this paragraph. I can talk about what the words/sentences mean. After reading I will look for the words that have letter/sounds we have been learning about... Which words remind me of another word?

In the soft glow of the moonlight, the old lady could just see the faint light coming from the old church of Saint Paul's in the hills ahead of her. As she strained her eyes in the darkness she could just make out the faint white trail of the stony path that led up to holy place where people for so many years had been drawn to attend. Tonight it was her time to be there. Yet it was plain to see that the strain of her long trip marked the lines on her face with weariness. The strain on her body as she took each painful step towards the path was plain to see. She was frail and slow but she would not let her weakness cause her to fail. Step by step she walked up the slippery rocky steps. Just as the snow started to fall to cover the trail with a stark white blanket she took her final step into the porch of the church. "Praise be to the Lord!" she exclaimed.

REVISION OF LESSONS ONE, TWO & THREE

- 3-6 letter words with 1:1 mapping and regular vc digraphs-ar, ew, ir, aw,
- Regular vowel vv ai & irregular vc digraph-ow
- Segmentation of words into individual sounds blending a sequence of sounds into whole words

 (including *hearing 'm' in rime, 'tp' letter order in rime, omitted second letters in onset-e.g. 'l 'in ' bl', short vowel confusion –a/u i/u*)

 Writing words
- Reading words and prose that contains 1 :1 mapping and regular vc digraphs-ar, ew, ir, aw & ai

LESSON FOUR

Part A Phonological & Phonemic

Segment each word into individual sounds

Skills: Listen to how I say "soil- "s-oi-l". I say /tap/can count/... each sound in the word. Now you do

it...

What helps me to hear the sounds the best? (say/tap/count)

Why do I need to be able to hear sounds in word?

Which sounds do you have trouble hearing in words?

To hear the sounds in a word I need to say the word properly

toil	joint	pound	foil	brain	point	proud	sStround
soil	bound	saint	grown	round	grain	boil	blow
sound	moist	bout	flail	mound	trail	loud	SCrOW

Part B Phonemic knowledge

Skill: Blending each sound in order to make a whole word:

*Listen to how I put these sounds together to make a word, 'g-r-ow-n'. You do this with...'

Which sounds can I hear easily? Which sounds do I find are harder to hear? When is it important to hear sounds in words?

Which words sound the same? Different?

b-l-ow	s-n-ou-t	s-p-r-ou-t	c-l-ai-m	s-p-r-ou-t	d-r-ai-n	c-l-ou-d	g-l-ow-s
t-r-ai-n	b-oi-l	f-l-ow-n	s-p-oi-l	f-oi-l	s-t-ou-t	g-l-oi-n	w-ou-n-d

Part C Comprehend the meaning of words

Skill: Writing Dictated Sentence

- I can say this word in a sentence...
- Say the word. What sounds can I hear in the word? I can hear all the sounds in the word. I can write a letter(s) for each sound. Does this look right? Have I written a letter for every sound? If not, why?
- What do I know about some sounds?
- Have I written the sounds/letters in the right order?
- If I stretch out the word as I say it I can hear all the sounds
- I have to try and hear all the sounds in longer words.
- Which sounds do I have trouble hearing? How can I improve hearing sounds in words?
- It is important to hear sounds because...
- Which word can I think of to remember how to write _____(analogy)

The crow flew onto the moist snout of the proud plain bold pig as it sat in the new mound of dark soil in the farm yard.

Part D	Phonemic knowledge
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Skill: Reading Words-Which words have the same letter patterns /sounds?

*Look at these words.

What did you notice about all these words?

This word_____ reminds me of _____ because___

When I r	When I read words I need to check each letter quicklythink of the sounds the letter patterns make											
moist	mail	stomp	soil	mast	spoil	tromp	joint					
bound	sound	ground	braid	drop	cloud	found	nod					
train	tramp	brain	strain	new	nana	plain	quaint					
grow	grew	mown	flow	grand	raid	stow	stow					

Part E Reading Prose

Reading Prose that includes words with 1:1 mapping, regular vv digraph-oi and irregular vv digraph- ou

I can read this paragraph. I can talk about what the words/sentences mean. After reading I will look for the words that have letter/sounds we have been learning about... Which words remind me of another word?

The sound of the loud bell from the old quaint school near the highest point of the small mountain flowed across the valley. The farmers stopped digging in their fields to see if they could also hear the happy shouts of the children as they bounded out of their classrooms into the school yard to join in their noisy games.

LESSON FIVE

REVISION OF LESSON ONE- FOUR- Using a set of 24 Picture cards/words

- 3-6 letter one syllable words with 1:1 mapping and regular vc digraphs-ar, ew, ir, aw, regular vv ai , oi /& irregular vc digraphs- ow & ou
- Segmentation of words into individual sounds /blending a sequence of sounds into whole words
- Writing words/ sentences to match pictures

LESSON FIVE

Part A Phonological & Phonemic

Segment each word into individual sounds

Skills: Listen to how I say 'clump' "c-l-u-m-p". I say /tap/can count/... each sound in the word. Now

you do it...

What helps me to hear the sounds the best? (say/tap/count)

Why do I need to be able to hear sounds in word?

Which sounds do you have trouble hearing in words?

To hear the sounds in a word I need to say the word properly.

crab	trap	strap	wept	swept	clump	stew	clump
screw	bird	girls	drink	crab	star	train	mound
sprout	trail	points	soil	snow	row	straw	scar

Part B Phonemic knowledge

Skill: Blending each sound in order to make a whole word:

*Listen to how I put these sounds together to make a word, 'b-l-ow'. You do this with...' Which sounds can I hear easily? Which sounds do I find are harder to hear? When is it important to hear sounds in words?

Which words sound the same? Different?

b-l-ow	s-n-ou-t	s-p-r-ou-t	c-l-ai-m	s-c-r-ew	s-qu-ir-m	c-l-ou-d	g-l-ow-s
t-r-ai-n	s-t-ar-k	f-l-ow-n	s-p-oi-l	f-oi-l	s-t-ou-t	g-l-oi-n	w-ou-n- d

Part C Writing –Oral sentences Modelled by Teacher, then generated by Students Students write their own sentences –prompted by the picture cards-identifying features of the sounds contained in key words

- I can say this word in a sentence...
- Say the word. What sounds can I hear in the word? I can hear all the sounds in the word. I can write a letter(s) for each sound. Does this look right? Have I written a letter for every sound? If not, why?
- What do I know about some sounds?
- Have I written the sounds/letters in the right order?
- If I stretch out the word as I say it I can hear all the sounds
- I have to try and hear all the sounds in longer words.
- Which word can I think of to remember how to write _____(analogy)

eg. After the rain, the mound of soil was very damp. The crab was caught in the trap...

Part D Phonemic knowledge

Skill: Reading Words-Which words have the same letter patterns/sounds

*Look at these words.. I want you to say each one. What did you notice about all these words? This word

This word_____ reminds me of _____ because____

When I read words I need to check each letter quickly...think of the sounds the letter patterns make...

points	mail	stomp	soil	mast	spoil	tromp	joint
mound	sound	ground	braid	drop	cloud	found	nod
train	tramp	brain	strain	new	nana	plain	quaint
snow	grew	mown	flow	grand	raid	stow	snow
swept	wept	pat	weep	lets	slept	west	strept
screw	row	crew	rest	flew	stew	west	score
sprout	out	pout	mound	span	spun	loud	pot
joint	job	jet	oil	boil	soil	foil	jot
pout	put	house	top	pot	mouse	round	sprout
dirt	flirt	squirm	drip	fir	firm	girl	stir

Part D 2 Phonemic knowledge

Skill: Categorising Words by sound

Viewing/ Reading 24 picture cards & words and then categorising cards by 'like sounds'/ words

Part E Reading Prose- Revision of Texts- Lesson One to Four- Students reading in pairs

Reading Prose that includes words with 1:1 mapping, and regular vc digraphs-ar, ew, ir, aw, regular vv ai, oi /& irregular vc digraphs- ow & ou

I can read this paragraph. I can talk about what the words/sentences mean. After reading I will look for the words that have letter/sounds we have been learning about... Which words remind me of another word?

Lesson 4 text:

The sound of the loud bell from the old quaint school near the highest point of the small mountain flowed across the valley. The farmers stopped digging in their fields to see if they could also hear the happy shouts of the children as they bounded out of their classrooms into the school yard to join in their noisy games.

REVISION of Lessons One-Five using Picture Card set from Lesson 5 to segment/blend /create rhyming words and substitute /delete sounds

• 3-6 letter words with 1:1 mapping and *vc* digraphs ar, ew, ir, aw, regular vv digraphs ai, oi & irregular vc digraphs- ow, ou

LESSON SIX

DATE: 24/05/08

Part A Phonological & Phonemic

Segment each word into individual sounds

Skills: Listen to how I say 'gloat'' "g-l-oa-t". I say /tap/can count/... each sound in the word. Now you

do it...

What helps me to hear the sounds the best? (say/tap/count)

Why do I need to be able to hear sounds in word?

Which sounds do you have trouble hearing in words?

To hear the sounds in a word I need to say the word properly.

gloat	clead	pread	tread	squeak	stread	droat	cread
croat	scleam	floam	bread	stream	snoat	gread	Beak

Part B Phonemic knowledge

Skill: Blending each sound in order to make a whole word:

*Listen to how I put these sounds together to make a word, 'b-l-ow'. You do this with...' Which sounds can I hear easily? Which sounds do I find are harder to hear? When is it important to hear sounds in words? Which words sound the same? Different?

b-l-ea -k	r-oa-s-t	s-n-ea-d	s-c-l-ea-m	f-oa-m	d-r-ea-d	b-ea-s-t	s-t-r-oa-t
g-r-oa-n	t-r-ea-d	s-c-r-ea-m	b-ea-t	c-oa-s-t	d-r-ea-m	l-oa-s-t	g-oa-l

Part C Comprehend the meaning of words

Skill: Writing Dictated Whole Words (real & nonsense words)

- I can explain what this word means...
- I can say this word in a sentence
- Say the word. What sounds can I hear in the word? I can hear all the sounds in the word. I can write a letter(s) for each sound. Does this look right? Have I written a letter for every sound ? If not, why?
- What do I know about some sounds
- *Have I written the sounds/letters in the right order?*
- If I stretch out the word as I say it I can hear all the sounds
- *I have to try and hear all the sounds in longer words.*
- Which sounds do I have trouble hearing? How can I improve hearing sounds in words?
- It is important to hear sounds because...
- Which word can I think of to remember how to write _____(analogy)

clead	sloat	bloat	scream	bleast	stread	scoal	squeal
dean	froat	ploat	strean	fleast	head	pread	

Part D Phonemic knowledge

Reading words

Skill: Reading Words-Which words have the same letter patterns/sounds & * create rhyming words and substitute /delete sounds

*Look at these words.. I want you to say each one.

What did you notice about all these words?

This word_____ reminds me of _____ because_

When I read words I need to check each letter quickly...think of the sounds the letter patterns make...

gloat	clead	pread	tread	squeak	stread	droat	cread
croat	scleam	floam	bread	stream	snoat	gread	beak

Part D 2

Reading picture card words and matching words with the same letter sounds/patterns

head	feast	spread	cream	beak	croak	meat	goal
cloak	toast	coast	beast	bread	thread	steam	roast

Part E Reading Prose

I can read this paragraph. I can talk about what the words/sentences mean. After reading I will look for the words that have letter/sounds we have been learning about... Which words remind me of another word?

"Hey, Mum! Have a listen to my new story." should Kevin. Then he started to read.

The wild beast from the bleak coast of the south spread out its dreadful claws and let out an awful scream. The sound filled everyone with deepest dread. They froze where they stood and feared for their lives.

What could they do? Where could they go?

As it opened its sharp beak-like mouth he...

"STOP!" said Mum. "You can't read that sort a story like that to your baby sister. She'll have awful dreams and never get to sleep".

Just make up a pleasant happy story about the things she likes.

"Oh, no?" groaned Kevin.

"I'm not going to make up stuff about a mouse that lives in a meadow and rows in a boat and thinks that a feast is toasted bread and jam."

What about one about a cat then? said Mum

"No. I'm not even going to try and think of a story about a squealing, squeaking cat, even if he does like to wear gleaming cloaks and painted leather boots!

"Sounds like you've already started to work on one", said Mum with a smile.

LESSON SEVEN DATE 24/05/08 Segmentation/Blending of 3-6 letter words with 1:1 mapping, long and short vowels a, e and u, (including vc –ay, vcv a-e, regular vv digraphs ai, ee and irregular vv digraph ea)

REVISION of Lessons One-Six using selected Pictures/Words from Card sets from Lesson 5& Six to segment/blend /create rhyming words and substitute /delete sounds including

• 3-6 letter one syllable words with 1:1 mapping and *vc* digraphs ar, ew, ir, aw, regular vv digraphs ai , oi & irregular *vv* and *vc* digraphs- ow and ou

Lesson Seven

Part A Segment each word into individual sounds

Skills: Listen to how I say 'roast' "r--oa-s-t". I say /tap/can count/... each sound in the word. Now

you do it...

What helps me to hear the sounds the best? (*say/tap/count*)

Why do I need to be able to hear sounds in word?

Which sounds do you have trouble hearing in words?

To hear the sounds in a word I need to say the word properly.

roast	slate	pread	cute	squeak	stand	tube	scrub
sprung	fray	grant	scleam	gang	clunk	gread	strap
rake	jade	slate	bread	chant	stray	slake	flate

Part B Phonemic knowledge

Skill: Blending each sound in order to make a whole word:

*Listen to how I put these sounds together to make a word, 'b-l-ow'. You do this with...' Which sounds can I hear easily? Which sounds do I find are harder to hear? When is it important to hear sounds in words?

Which words sound the same? Different?

b-l-ea -k	r-oa-s-t	s-n-ea-d	s-c-l-ea-m	p-l-a-n-e	d-r-ea-d	b-ea-s-t	p-l-ai-n
g-r-oa-n	t-r-ea-d	s-c-r-ea-m	b-ea-t	b-l-a-d-e	d-r-ea-m	c-r-ee-k	u-te

Part C Comprehend the meaning of words

Skill: Writing Dictated Whole Words (real & nonsense words)

- Say the word. What sounds can I hear in the word? I can hear all the sounds in the word. I can write a letter(s) for each sound. Does this look right? Have I written a letter for every sound ? If not, why?
- *Have I written the sounds/letters in the right order?*
- If I stretch out the word as I say it I can hear all the sounds
- I have to try and hear all the sounds in longer words.
- Which sounds do I have trouble hearing? How can I improve hearing sounds in words?
- It is important to hear sounds because...
- Which word can I think of to remember how to write _____(analogy)

clead	strain	strake	scream	bleast	stread	crust	squeal
dean	skunk	slave	strean	fleast	head	pread	deal

Part D Phonemic knowledge

Reading words Skill: Reading Words-Which words have the same letter patterns/sounds & * create rhyming words and substitute /delete sounds

*Look at these words.. I want you to say each one. What did you notice about all these words? This word_____ reminds me of _____ because____ When I read words I need to check each letter quickly...think of the sounds the letter patterns make...

flame	preen	pread	tread	flube	stread	slump	clunk
stray	scleam	floam	bread	stream	chant	gread	swept

Part D 2

Reading picture card words and matching words with the same letter sounds/patterns

tube	street	stake	tent	brain	plate	shrub	screen
grub	mule	ритр	jump	fleet	crack	slept	tape

Part E Reading Prose

Revision of Texts Lessons 1-6- & Identifying Long & short vowels- a-e-u, ai, ea,ee a-e, u-e,ay,

I can read this paragraph. I can talk about what the words/sentences mean. After reading I will look for the words that have letter/sounds we have been learning about... Which words remind me of another word?

"Hey, Mum! Have a listen to my new story." should Kevin. Then he started to read.

The wild beast from the bleak coast of the south spread out its dreadful claws and let out an awful scream. The sound filled everyone with deepest dread. They froze where they stood and feared for their lives.

What could they do? Where could they go?

As it opened its sharp beak-like mouth he...

"STOP!" said Mum. "You can't read that sort a story like that to your baby sister. She'll have awful dreams and never get to sleep".

Just make up a pleasant happy story about the things she likes.

"Oh, no?" groaned Kevin.

"I'm not going to make up stuff about a mouse that lives in a meadow and rows in a boat and thinks that a feast is toasted bread and jam."

What about one about a cat then? said Mum

"No. I'm not even going to try and think of a story about a squealing, squeaking cat, even if he does like to wear gleaming cloaks and painted leather boots! "Sounds like you've already started to work on one", said Mum with a smile. **REVISION of Lessons One-Seven using selected Pictures/Words from Card sets from Lessons Five- Seven to segment/blend /create rhyming words and substitute /delete sounds including**

• 3-6 letter one syllable words with 1:1 mapping, long and short vowels *vc* digraphs ar, ew, ir, aw, ay regular vv digraphs ai, oi irregular *vc* digraphs- ow, ou and *vcv* graphs- a-e

Lesson 8

Part A Segment each word into individual sounds

Skills: Listen to how I say 'roast'' "r--oa-s-t". I say /tap/can count/... each sound in the word. Now you

do it...

What helps me to hear the sounds the best? (say/tap/count)

Why do I need to be able to hear sounds in word?

Which sounds do you have trouble hearing in words?

To hear the sounds in a word I need to say the word properly.

roast	quilt	flock	pipe	chop	bowl	squint	stroke
kite	doe	whisk	bloke	frill	toast	smoke	quite
vine	frock	foe	cloak	skite	spot	croak	pie

Part B Phonemic knowledge

Blending each sound in order to make a whole word-* each student being allocated a sound – to then get into an order after first sound is identified Experiment with deleting and substituting sounds

*Listen to how I put these sounds together to make a word, 'b-l-ow'. You do this with...'

Which sounds can I hear easily? Which sounds do I find are harder to hear? When is it important to hear sounds in words?

Which words sound the same? Different?

s-t-r-ing	r-oa-s-t	<i>t-r-o-t</i>	t-ie	g-r-i-ll	f-r-o-st	c-oa-t	s-t-r-i-de
g-r-oa-n	c-l-o-ck	sh-i-f-t	s-m-o-ck	s-t-r-o-ke	p-ie	c-l-ing	d-r-ie-d

Part C 1. Writing identification of the letter clusters that make the sounds

2. Write the words and experiment in adding letter to make the word longer (suffixes- plural s, ing, er, ed)

	(Serres Pres						
roast	frill	whisk	bowl	smoke	pie	flow	stroke
squint	low	stride	glow	pipe	kite	grill	scribe
snow	trot	low	chop	croak	show	row	smile

Part D

Reading all picture card words with the long and short e and o vowel sounds

chop	bowl	quilt	whisk	pie	flock	bloke	
frill	kite	vine	pipe	foe	spot	frock	squint

Part E Prose- 'The Magic Touch'

Blake Education,2005. Non -fiction Reading Comprehension, Middle Primary Book 1,pg. 136 I can read this paragraph. I can talk about what the words/sentences mean. After reading I will look for the words that have letter/sounds we have been learning about... Which words remind me of another word?

No one can explain the magic of Walt Disney. He started out like many boys. He lived on a farm. He helped his father with jobs. Then he started to draw farm animals.

When Walt grew up, he drew animals for animated cartoons. He drew a mouse named Mickey. He drew a duck named Donald. He drew a dog named Goofy.

His cartoons had a touch of magic. Other cartoons were silent. He had music and characters that talked. Other cartoons were filmed in black and white. Walt added colour to his cartoons. Other cartoons were just a group of jokes. Walt's told real stories.

One of Walt's ideas seemed like magic to him. He wanted to make a full-length cartoon film. Noone had done that. Many people thought it was a bad idea. When people saw *Snow White and the seven Dwarfs*, they cheered.

Walt made cartoon magic all throughout his life. He even built a magical kingdom called Disneyland. No one can explain the Disney magic. But millions have been touched by it.

LESSON NINE :

DATE 27/05/08 Segmentation/Blending of 3-6+ letter words including 1 and 2 syllable words with 1:1 mapping and a variety of long and short vowel sounds

REVISION of Lessons One-Eight using selected Pictures/Words from Card sets from Lessons Five- Eight to segment/blend /create rhyming words and substitute /delete sounds including:

- 3-6 letter one syllable words with 1:1 mapping, long and short vowels vc digraphs ar, ew, ir, aw, regular vv digraphs ai, oi, irregular vv & vc digraphs- ow, ou ay oe and ie and vcv graphsa-e
- Which sound could follow this sound (generating words from initial letter/blends) •
- Which words can you make longer?

LESSON NINE

Part A

Segment each two syllable word into individual sounds (*Syllable Picture Cards) and identifying how initial sounds in words are same/ different

Say Tap Clap Count

pocket	locket	carpet	puppet	packet	jacket
cricket	ticket	circle	cycle	chaplain	chapel
bangle	tangle	channel	flannel	tunnel	kennel

Part B 1. (a). Say & Blending each sound in order to make a whole word (word pairs)

	1		1	 	
win-dow	wid-ow	sprock-et	pock-et	speed-y	seed-y
w-i-n-d-ow	w-i-dow	s-p-r-o-ck-e-t	p-o-ck-e-t	s-p-ee-d-y	s-ee-d-y
stream-er	steam-er	sta -ble	ta-ble	sleep-ing	seep-ing
s-t-r-ea-m-	s-t-ea-m-er	s-t-a-b-le	t-a-b-le	s-l-ee-p-ing	s-ee-p-ing
er					
wigg-le	wrigg-le	splitt-ing	spit-ing	back-board	black-board
w-i-gg-le	wr-i-gg-le	s-p-l-i-tt-ing	s-p-i-tt-ing	b-a-ck-b-oar-	b-l-a-ck-b-oa-d
				d	

Part C

1. Writing -identification of the letter clusters that make the sounds

2. Write the words and experiment in adding/ substituting /deleting letters to change the words 3. Add more letters to make them longer

sprout	strain	split	sweep	trail	sweet	groom	clink
snail	flock	slump	trump	smile	brash	drain	cream

Part D

- **1.** Reading all picture card words with the long and short e and o vowel sounds (from Lesson Eight words)
- 2. Orally add more letters to make selected words longer
- 3. Create oral sentences to illustrate word meanings

roast	frill	whisk	bowl	smoke	pie	flow	
squint	low	stride	glow	pipe	kite	grill	
snow	trot	low	chop	croak	show	row	
*Letter(s) clusters to increase word length: Final sounds: s, ed, ing, ly, y							

Part E Prose- 'From Farm Animals to Fame'

Blake Education 2005. Non-fiction Reading Comprehension, Middle Primary Book 1,pg. 140

It might not seem possible that drawing farm animals could lead to fame and fortune. For Walt Disney, it did. Walt spent much of his childhood on a farm. He had to help feed and care for the farm animals. They would come when he called. He liked to watch them and play with them. He even named the animals. They would come when he called. A hen named Martha would even lay an egg right in his hand.

At six years old. Walt wanted to draw a pig named Porker. His family was very poor. He did not have paper to draw on. He dipped a brush into a bucket of tar and drew a pig on the side of the house. He got into a lot of trouble. After that, he drew on toilet paper. His aunt bought him paper when she found out he could draw.

When Walt grew up, he still liked to draw animals. He began to make animated short films. To make an animated film, an artist must make many drawings. Each drawing shows a character in a slightly different position. Every drawing is photographed. When these photos are run through a projector, the characters look like they are moving.

One of Walt's characters was a mouse. The mouse starred in its first film in 1928. The mouse was named Mickey. Mickey Mouse went in to become one of the best –loved animal characters ever created. With the help of Mickey Mouse, Walt Disney found fame and fortune.

LESSON TEN IS A REVISION of Lessons One- Nine using selected Pictures/Words to segment/blend /create rhyming words, substitute /delete sounds, write and read :

- 3-6 letter one syllable words with 1:1 mapping, long and short vowels *vc* digraphs ar, ew, ir, aw, regular vv digraphs ai, oi, irregular *vv* & *vc* digraphs- ow, ou ay oe and ie and *vcv* graphs-a-e
- Which sound could follow this sound (generating words from initial letter/blends)
- Which words can you make longer?

Part A

Words from Lessons One -Four with Picture cards : 3-6 letter one syllable words with 1:1 mapping, regular vc digraphs: aw ar words

Segment each one syllable word into individual sounds

Say	Tap Clap Count	
lamp	frost	land
park	camp	claws
farm	steps	crow

Part B 1

Words from Lessons Two-Five Words with Picture Cards : regular vc digraphs aw, ew, ir, oi regular vv digraph- ai , irregular vv digraph-oi & irregular vc digraph- ow , **Say & Blending each sound in order to make a whole word**

stew	bird	train	girls	trail	points	sprout	straw
swept	mound	snow	screw	wept	row	clump	stump

Part B 2

Words from Lessons Six with Picture Cards: irregular vv digraphs – oa & ea

(a) Tch. instructs students to substitute or replace individual sounds with another sound

(b) Students suggest other words they know that could contain these sounds , prompted by initial lett and blends

	Substitute		Delete		Substitute		Delete
beak	b with l	croak	r	meat	m with scr	cloak	l
cream	c with d	spread	r	spread	sp with b	steam	t

Part C

Words from Lessons Seven and Eight with Picture Cards: long and short vowels a, e, i, o and u (including vcv-a-e, i-e, o-e, vc digraphs-ay and irregular vv digraphs oe, oa, ow ie,ee 1. Writing identification of the letter clusters that make the sounds

2. Add more letters to make them longer

crack	doe	screen	spot	pie	squint	kite	slept
float	frock	tape	pipe	tube	stroke	jump	grub

*Letter(s) clusters to increase word length: Final sounds: s, ed, ing, ly, y

Part D

Read words from Lesson Nine- 2 syllable words (and pictures)

cket	Locket	carpet	puppet	packet	jacket
cricket	ticket	circle	cycle	chaplain	chapel
bangle	tangle	channel	flannel	tunnel	kennel

Part E

Prose- 'Fun Roller Coasters' Blake Education, 2005. Non-fiction Reading Comprehension, Middle Primary Book 1, pg. 144

Fun Roller Coasters

Roller coasters are designed for fun! That fun begins with gravity. The fun starts at the top of the first hill. Gravity pulls the coaster down. It plunges into valleys. It whips around curves. It may even loop upside down. Hold on to your hat. The fun has just begun!

Wooden roller coasters came in two basic designs. One design is the twister. Twisters have many turns. They have steep drops. Their tracks cross over and under each other. The second design is the out-and- back. It starts at one point and goes to another point. Then it comes back where it began.

Steel roller coasters come in many more types. Some of them loop upside down. Some have trains that hang below the track. Others allow riders to stand up as they swoop and loop around the track.

Some people think the ride is too smooth on a steel coaster. They like the way wooden coasters jerk and jar them. Whether a coaster is built of wood or steel, you can bet it was designed for fun!

stew	trap	sprout	wept	girls	clump
crab	stump	screw	snow	swept	drink
prawn	star	soil	train	mound	strap
trail	points	scar	bird	row	Straw

