Action Research

Explicit teaching in the phonological awareness area of blending and segmenting a sequence of sounds improves prose reading.

Abstract

It is widely reported that an area of phonological awareness, which has contributed to reading difficulties in children, is that of blending and segmenting words efficiently. This affects the reading speed and accuracy at the word level. Research has also shown that focused teaching in this area greatly improves reading ability.

Few early intervention programs target directly the explicit teaching of blending and segmenting. This study investigates the relationship between explicit and systematic instruction in blending and segmenting at the word level and the transferability of these skills into reading prose.

The study uses the case of Jimmy, a six year old boy who presented with poor results on the Sutherland Phonological Awareness test and the Marie Clay Observation Survey. He was making minimal progress and lacked confidence and the strategies to approach the basic tasks fundamental to achieving a level of competence parallel to that of his peers.

The results of the study support the view that the explicit teaching in the phonological awareness area of blending and segmenting a sequence of sounds improves prose reading. Jimmy at the end of 10 sessions showed marked improvements on both the Sutherland Phonological Awareness test and the Marie Clay Observation Survey. The strategies employed through this study greatly assisted his progress in reading generally. He was able to isolate the sounds, and although requiring more time than that in the study period, he showed strong indications that he is using these skills to read.

Introduction

Reading is a complex process requiring many skills and strategies. This is particularly so for children with reading difficulties. The "*key to the process of learning to read is the student's ability to identify the different sounds*"(Munro 1998) that makes words. In order for students to be able to develop this, they need to be able to break apart and then blend together sounds to create the words. The use of explicit teaching in the phonological area of segmenting and blending sounds leads to improvement in prose reading.

Phonological awareness is the ability to hear rhymes, syllables and larger chunks of words (e.g. c/at, r/ug). Phonemic awareness is the ability to hear all the phonemes or sounds in a word and includes the skills of segmenting, blending and manipulating sounds in words (Correll, 2001). Phonological processing is important to early reading

development (Chard &Dickson 1999) and a child's phonemic awareness when first entering school is linked to reading ability (Adams, 1990, Stanovich, 1989, Chard & Dickson 1999). Children develop an awareness of sounds from an early age, well before they start school (Adams, 1990). As children become aware of sounds in words, they will be able to use this knowledge to help them learn to read. It is this ability to be aware of sounds in words and to reflect of how sounds work together to make words that is known as phonological awareness.

An awareness of phonemes is required to make sense of the alphabetical principle, which makes up our system of the written language (Adams, 1990, Liberman, Shankweiler, Fischer, & Carter, 1974) and explicit teaching of the correspondence between the letter and the sound is crucial (Ball and Blachman 1991). There is strong evidence that students' inability to break the sound symbol code leads to poor word recognition (Love, in Wordswork, 1994) and they are hindered in learning the written words patterns (Fletcher 1994).

There are a number of phonemic awareness levels, although they are not necessarily taught in any particular sequential order. One area is segmenting and blending. Understanding that words can be divided into single sounds (phonemes) and that sounds can be blended into words will enable students to use the letter-sound knowledge to read and build words. (Lyon, 1995, as cited by Podhajski 2000). The easiest step in segmenting is segmenting syllables in words, then segmenting words into onset and rimes (f-at), and then being able to segment all the sounds in a word. Blending is the ability to take sounds and put them together in a word –that is –being able to say the sounds as f – *a* – *t* and then join together to say the word 'fat'. Hence students' reading capacity will improve due to the ability to segment and blend words more rapidly thus leading to more fluid prose reading.

Even the "at risk" students who have difficulty learning to read will "*by being taught the required skills and strategies to identify words and make meaning from the text learn to read"(*Adams, Treiman and Pressley 1998, Graves, J and others, as cited in Westwood 2001). They will need many opportunities to practise the new learning so that it can be incorporated into their existing knowledge. All children, but in particular, the students who are not making satisfactory progress in the area of literacy, need strong, focused and stimulating teaching (Liberman and Liberman, 1992 cited in Podhajski, 2000).

Children's ability to hear and produce the separate sounds in the spoken words has a large influence on their ability to learn and recognise the written letter or clusters of letters (Munro1998). For children who experience difficulties in reading, the area which with explicit and consistent teaching, (Lyon, 1995) delivered in short spurts, is blending and segmenting. This allows students to make vast gains (Castle, 1999 as quoted in Westwood, 2001).

Students can use their knowledge of the letter-to-sound correspondence to make progress their reading ability. They can be explicitly taught to break whole words into individual phonemes – hearing each separate sound and then blending them back together to form words (Adams 1990) – making the connection between the speech sounds and the letter symbols (Ayres 1995, Torgesen, Wagner and Rashotte 1997 as quoted in Westwood 2001). These skills will enable the students to decode unfamiliar words in isolation, and in continuous prose reading. This is a strategy that allows the reluctant reader, or the reader who lacks confidence, to attempt unknown words. Simple three and four letter phonic words can be used to re-enforce the listening skills of isolating sounds within words. They are also useful for sound segmentation and blending activities to demonstrate to the child how sound addition and deletion skills help to make new words (Pinnell and Fountas, 1998).

In a recent US review (National Reading 2000) an independent panel found that *'effective reading instruction includes teaching children to break apart and manipulate the sounds in words (phonemic awareness), teaching them that these sounds are represented by the letters of the alphabet which can then be blended together to form words (phonics)…"* (National Reading April 2000). Due to the fact that the blending and segmenting at the phoneme level are most used in decoding and spelling they are necessary and therefore should be taught explicitly. Frequent practise of the application of these skills in a supportive environment over period of time leads to improvement in reading (Torgesen 1994).

Instruction has to be matched to the needs of the student. Assessing the level of proficiency in phonological awareness by using prepared tests such as the Sutherland Phonological Awareness Test (Neilson 1995), Marie Clay Observation Survey (1993), Assessing Phonological Awareness, (Munro, 1998), and planning a course of action will scaffold the children at risk (Vygotsky 1978, as cited in Elliot 2000) and create the opportunity for advancement. These tests provide a good indication of performance and can be used to pinpoint areas of weakness and then can be similarly used to evaluate success of relevant intervention using explicit, targeted teaching.

Once the student's strengths and weaknesses have been assessed, a profile of the student can be devised (Greaves, 2001). Integrated instruction in segmenting and blending seems to provide the greatest benefit in reading acquisition (Snider 1995). This involves making the goals explicit. It requires active monitoring and provision for immediate feedback and evaluation by the teacher. The teacher needs to be clear as to the areas of learning to be targeted and the order of the action. It will involve breaking the tasks into small and meaningful steps and following a sequence of steps in order to reach the goal (Elliot 2000). Children with reading difficulties need explicit and systematic teaching using *modeling, direct explanation and sufficient and guided practice* (Westwood, 2001).

Teachers greatly impact student learning when they employ a variety of strategies to model and demonstrate reading knowledge, strategies, and skills (Braunger & Lewis, 1997). *Children who do not remember information easily need to use visual aids to help them form a visual image. They need to use a variety of sensory materials* (Knight 2000). The literature suggests that the use of visual aids and kinesthetic materials aided by the novelty of using things such as pictures, tokens, sound boxes, whiteboard and other tools assists students to see and manipulate the letters to imprint the sounds in their minds. The use of this style of interactive teaching is crucial to engaging the passive student experiencing difficulty with reading.

The student with reading difficulties must be provided with systematic and explicit instructions in the sound-symbol relationship. Few early intervention programs target directly the explicit teaching of blending and segmenting. This study investigates the relationship between explicit and systematic instruction in blending and segmenting at the word level and the transferability of these skills, added to the development of a willingness to 'have a go", into reading prose.

Methodology

Case Study

The methodology uses the OXO case study, where the participant is assessed prior to participation; the program is implemented using explicit teaching in the phonological awareness area of blending and segmenting a sequence of sounds. Following the program the student is re assessed to check progress. The tests used were the Sutherland Phonological Awareness Test and the Marie Clay Observation Survey including the BURT Word Reading Test.

The Participant

The participant in this study is Jimmy (pseudonym), a 6 year old boy who presented with poor results on the Marie Clay Observation Survey and low text reading level on the Year 1 Literacy Pre-test. He was making minimal progress and lacked confidence and the strategies to approach the basic tasks fundamental to achieving a level of competence parallel to that of his peers. He was identified as being able to benefit from the Reading Recovery Program and his history indicated that he would be a suitable candidate for this study.

Design

Jimmy did not have a developed vocabulary, which impacted on his writing and reading skills. His poor knowledge of letters to sounds, and how to manipulate these sounds to make words, was having an impact on his reading and writing. A strategy of explicit teaching in the phonological awareness area of blending and segmenting a sequence of sounds was developed to improve Jimmy's prose reading.

The strategy developed included 10- half-hour sessions of interactive non-passive program based activities that focused on phonological awareness- specifically blending and segmenting. (Appendix One).

The use of the visual aids and kinesthetic materials aided by the novelty of using pictures, counters, sound boxes, magnetic letters "magna-doodle", whiteboard and other tools were used to assist the student to see and manipulate the letters to imprint the sounds in his mind.

The sessions were carried out in a quiet supportive environment outside of the classroom. The teaching style was active with continuous feedback, demonstration, repetition, and specific instructions with the expectation of success interspersed with encouragement and praise.

Materials

Actual materials used for this study included:

- pre-test & Post-test using the Marie Clay Observation Survey including the BURT Word Reading Test,
- pre-test & Post-test using the Sutherland Phonological Awareness Test.
- picture cards
- alphabet Cards
- alphabet Wall Chart
- counters,
- sound boxes,
- magnetic letters
- games,
- "magna-doodle",
- whiteboard,
- Phonological Awareness Language Programs(Catholic Ed. Speech Pathology Dept.)
- activity sheets from "Learning About Sounds" (1999),
- activity sheets from "Sounds Abound" (1993),
- activity sheets from "A Sound Wave" (1995), and
- Teacher devised games and activities.

Examples are included in Appendix Two.

Results

Prior to commencing the program, Jimmy was assessed using the Sutherland Phonological Awareness Test (SPAT) and the Marie Clay Observation Survey (Clay) and found to be performing well below grade average.

On the Sutherland Phonological Awareness Test (SPAT) pre-tests, Jimmy was able to count syllables, match and produce rhyming words, and identify the sound he could hear at the start of the word. He had difficulty identifying the sound at the end of the word, although he could do so with repetition and practice. He was unable to segment a word into individual sounds and to count the number of sounds he could hear in a word. He blended two but not three sounds to form a word. He could only read two of the non-words although he attempted to spell non-words and was successful with 'rog' and 'af'.

As shown in Chart 1, 2 and Chart 3 below, Jimmy's total SPAT score on the two pre-tests are almost one standard deviation below the mean for Grade One, which indicates a significant weakness in phonological awareness. He is within the norm for his grade level in the sub-tests 1-7, however in test 8-11, seen on Chart 1, he failed to score, which indicates difficulty with blending and segmenting. The two pre-tests were carried out 5 days apart. The chart indicates the difference between the two pretests and shows a slight drop in his scores demonstrating the inconsistency in performance.

Chart One SPAT Pre-Tests

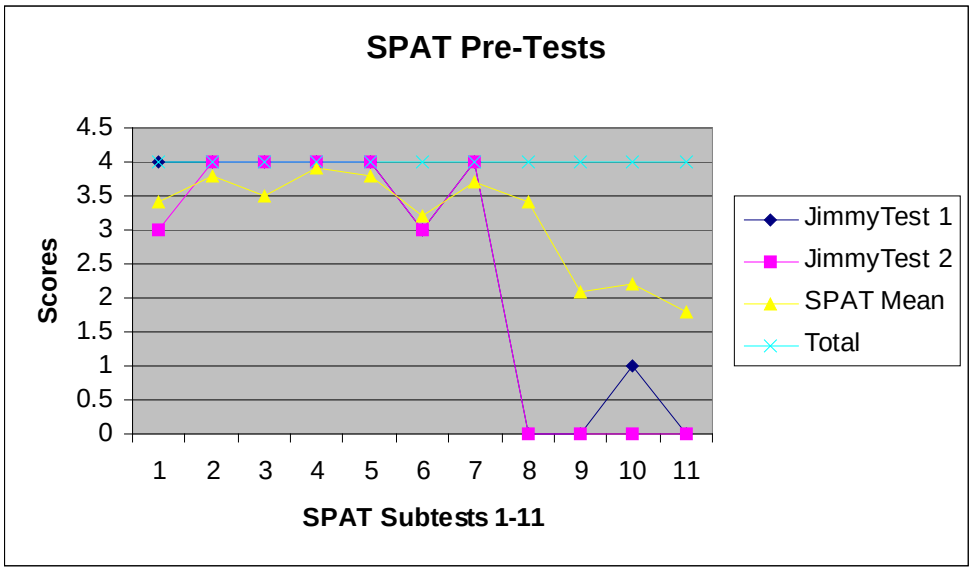


Chart Two Spat Comparisons

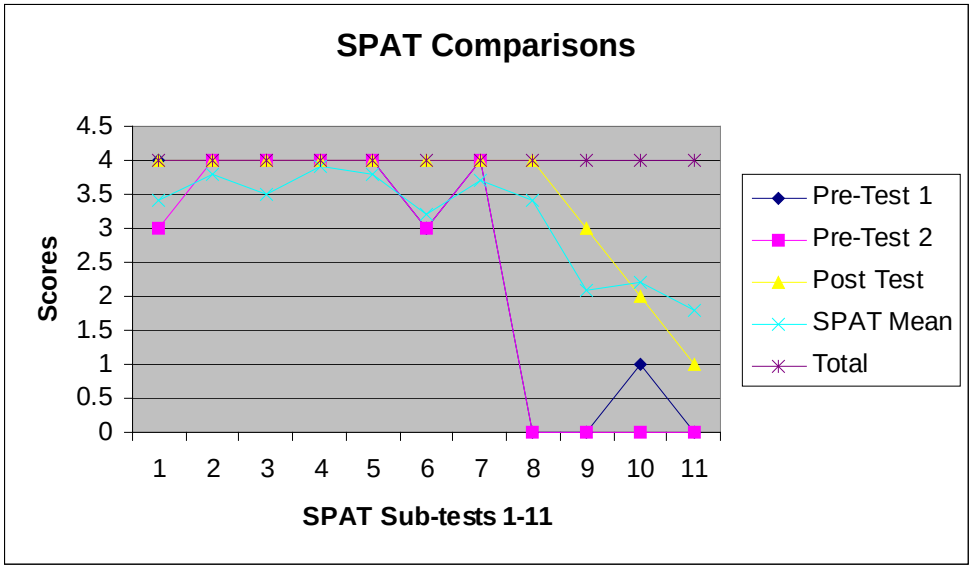
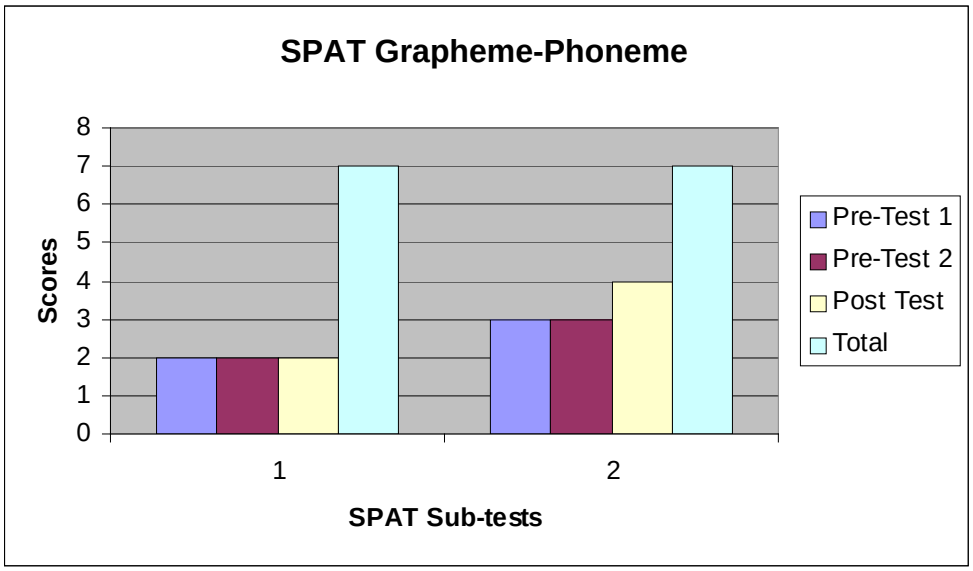


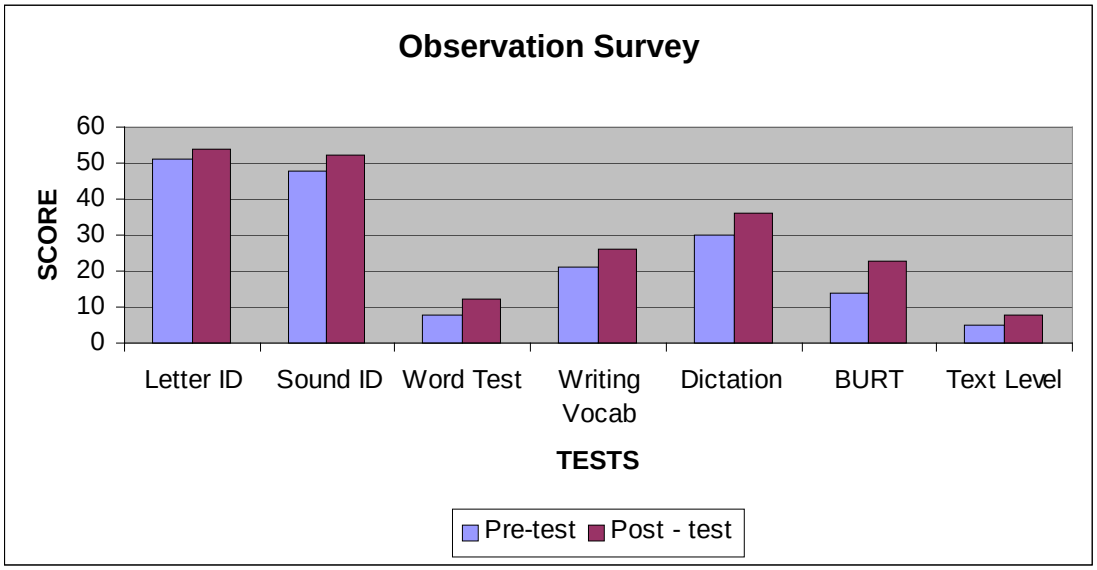
Chart two indicates his performance following the intervention. Jimmy has been able to maintain his level for sub-test 1-7 and shown marked improvement in sub-test 8-11, a 20% improvement on an average on his previous performances.

Chart Three SPAT Grapheme-Phoneme (Sub-Tests)



On the non-word reading and non-word spelling pre-tests, Jimmy scored 2 and 3 respectively out of a possible score of 7 for each. This indicated that the knowledge of the grapheme phoneme correspondence is weak. He also confused the letter templates for 'q', 'p', 'b', 'w' and 'm'. Chart Three shows Jimmy's progress. Jimmy can now sound out individual sounds in words but is still not able to blend more than three sounds. He still has difficulty with non-word reading and non-word spelling.

Chart Four Observation Survey



On the Clay Letter/Sound ID test, even though he could name most of the letters and produced forty-eight matching sounds, he was only able to produce forty-two words. He had difficulty producing words that started with a number of the sounds. However as is evident in Chart Four there has been a marked improvement in Jimmy performance in all areas. As a result of his intense training in matching the letter to the sound, he is able to identify the sounds more rapidly. As indicated in the Chart above this skill has enabled him to use his knowledge to attempt unknown words by blending and segmenting sounds in words more efficiently and thus his reading has improved.

On the Burt and Clay Word Reading Tests he was reluctant to have a go and then with much encouragement, effort and several attempts at each word, was only able to read fourteen on the Burt Word Reading Test and eight on the Clay Word Reading Test. Most of these were the two and three sound high frequency words. He decoded single

sounds slowly but was not able to blend sounds together. On reassessment on the Burt Test, he read 23 words and on the Clay he was able to read 12. The improvement as shown in Chart Four indicates he has a strategy to attempt unfamiliar words and is using blending and segmenting more effectively. His text reading showed a similar pattern using the PM readers, which contain a predictable story line and decodable text.

On Hearing and Recording Sounds in Words (Clay) Jimmy was slow at articulating the words and sounds. However he could, after repetition and stretching, record 30 sounds out of a possible 37. There was also evidence of visual memory of some high frequency words. On the Writing Vocabulary Test, Jimmy wrote twenty-one two and three letter words, which is below the year level expectation. The improvement on post testing to 36 out of 37 is significant, as shown on Chart Four. He is able to stretch the word so that he can identify the individual sounds and write the corresponding letter.

At the end of the 10-session program Jimmy was reassessed using the Sutherland Phonological Awareness Test and the Marie Clay Observation Survey. The results show that he has moved up in his text level (from level 5→level 8). His attitude has improved from shrugging his shoulders to 'having a go' at unfamiliar words. As is evidenced in the results, with minimal prompting he uses self-talk to work through the steps necessary to help himself and is able to self-correct more consistently. This is a significant improvement, his level of confidence has grown and he has also expressed pleasure at his progress.

Jimmy has also experienced a change in attitude and general willingness to participate. Feedback from the class teacher indicates that his confidence has spilled in to the classroom with Jimmy actively attempting literacy activities. He no longer relies solely on the teacher for assistance and direction but is willing to take the risk himself. His parents have reported that Jimmy now wants to read at home.

Discussion

The critical element of any intervention program for a child with reading difficulties is the integrated inclusion of explicit and systematic teaching. A child who has difficulty with segmenting and blending needs to be able to break two and three letter words into their single sound components so that they can hear and analyse all the sounds. Once the process using the regular VC and CVC words is grasped then longer and more complex words can be taught given sufficient time.

When teaching segmenting and blending it is better to begin which phonemically short words. It is important for the teacher to model correct pronunciation of words and to demonstrate what the learner is expected to do. It is also useful to ask the student to repeat the instructions. The language of the instruction should also be consistent. For example when segmenting say "*say each sound slowly, talk like a robot, and then quickly join them together. Now say the word"*. For blending it is a similar pattern. It is obvious from the gains made by Jimmy that he benefited from these explicit teaching processes as evidenced in the results support this.

It was essential to specifically teach Jimmy to segment words into sounds and then teach him to blend the sounds back so this would lead to more successful decoding. It was decided to first use two and three sound words before moving to four or more as the results of the phonological awareness tests indicated that he had difficulty with more than 3 sounds. However by the end of the program although not yet able to manage four sounds, Jimmy was able to achieve a sound load of three competently and there are strong indications that he is grasping the concept of four sounds.

Counting, pictures, repetition, specific instructions, positive reinforcement, sounding out, "robot talk" used throughout the program in varying intensities improved his success rate. Jimmy was able to segment and blend 2 and 3 sound words successfully. He could segment 4 sounds but he had difficulty blending back the sounds in order – often omitting the second sound. However, using visual prompts, and with repetition he did better.

The lessons must be intense and fast with lots of demonstration, modeling and repetition. The use of this style of interactive teaching is crucial to engaging the passive student experiencing difficulty with reading. The mixture of the activities and an animated, enthusiastic teaching style engaged Jimmy's interest.

After doing blending and segmenting activities, Jimmy was not only prepared to attempt unfamiliar words but he was more careful in his attempts whilst reading prose. He has made steady progress from being a passive, non-strategic learner to one who is attempting new words. This clearly demonstrates a verification of the study premise.

As part of the program, to firm up his letter-sound knowledge, and practise using this knowledge in reading decodable text, it was necessary to teach Jimmy to more effectively 'have a go' at reading unfamiliar words, that is, to firstly use the initial letter as a cue. This required a lot of practise using a predictable text. Then he was instructed to use the knowledge of the sounds to look beyond the first letter.

According to Braunger & Lewis, (1997), a balance of activities designed to improve word recognition, including phonics instruction and reading meaningful text, is necessary for creating effective beginning reading instruction. Jimmy's progress supports this view. As part of the daily intervention lesson, two books are read; one at the start and one at the end. In order to practise the skills taught – specifically those of blending and segmenting, it is important to provide the opportunity for prose reading. The child needs to be able to cope with the text level. The books should contain a number of high frequency words, easily decodable text and have predictable story patterns. Using quality books assist the child to develop a wider vocabulary and more sophisticated sentence structure (Adams, 1990).

The self-correction rate on reading towards the end of the program was better. Initially he had difficulty containing the letter strings in his head. He was using the first letter and guessed the rest and when the words became more difficult he no longer made any effort – *"It's too hard", " the writing is too small and the words are too long"* and his confidence plummeted. However as the intervention progressed he developed a more positive attitude and reported he looked forward to the sessions.

Although he is now using the skills of blending and segmenting, Jimmy still requires further explicit teaching on these using words with four phonemes to increase the sound load and to make it easier. Jimmy also requires instruction of the predictable rime units. The program of 10 sessions was not adequate for him to consolidate the skills and it would be interesting to test the view that the individual student capacity also has a role in determining the length of time necessary for consolidation.
The skills of blending and segmenting assist the reader to be more strategic when reading unfamiliar words. The aim is to operate effectively in real reading and being able to blend and segment unfamiliar words fairly rapidly will assist prose reading. The aim for Jimmy is the same and his success so far indicates that he will get there.

Conclusion

Research states that the reading difficulties some children experience have been due to insufficient explicit teaching, especially in skills of blending and segmenting, which are essential to decode print. (Harris & Graham, 1996; Kameenui & Simmons, 1999; Westwood, 2001). Some children do not learn along the same pathways as the general cohort. These children make better gains if the teaching method is direct and systematic. The findings of this study are consistent with this view.

In order to correctly assess the level of phonological awareness and phonemic knowledge, standard tests such as the Sutherland Phonological Awareness Test, (Neilson 1995) and Clay Observation Survey and/or teacher-devised tests, can be used. An appropriate program can be devised to meet the needs of the participating students. The program can be presented using explicit teaching. Immediate feedback is given to the students and with on-going monitoring, the teacher is able to modify, or change the program and assess the learning progress.

Early intervention for children, who have reading and writing difficulties, can produce considerable long-term benefits (Allington, 1994;Cazden, 1988; Indrisano & Paratore, 1991; Lyons, et al., 1993; Slavin et al, 1992). Children who find learning difficult need to have their teaching presented in small chunks, with strong modeling of strategies. The instructions must be short and clear, and sufficient and varied practise provided. The students need support and encouragement so that with every small gain made new learning can be added.

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Appendix One

Intervention Program

Plan and Lessons

Intervention Program/Study Plan

Administer Initial Tests.

- Clay Observation Survey.
- Sutherland Phonological Awareness Test.
- Running Records on continuous text – level appropriate to determine decoding strategies child uses.

Collate Data.
Develop kit of useful tools/materials.

Formulate Individual Program.

Implement Program

- 10 sessions of 30 minutes duration.
- Withdrawal format – Lessons occur in Reading Recovery Room to limit distractions and aid concentration. Low noise level. Warm, non-threatening environment to allow nurturing and to build up confidence to 'have a go'.
- Individual explicit instruction.

Retest after fifth lesson.

- Modify program – according to child's performance.

Ongoing monitoring.

Re-test at end of program.

- Clay Observation Survey.
- Sutherland Phonological Awareness Test.

Make further recommendations.

Intervention Programme Summary

Teaching steps in blending and segmenting

Progression – Begin by breaking and segmenting words into regular single- syllables, to onset and rime, identifying and segmenting two parts of a syllable as in c/at, to identifying and segmenting individual sounds as in /c/a/t, and then sounding out and blending consecutive letters in order to make a word.

10x30 min lessons

Each session includes:

Lesson 1-7

Teacher explanation and modelling

- Letter-sound identification
  Identifying initial, middle, final sounds in words
  Use alphabet charts, picture cards, flashcards and other visual stimuli
- Listening to sounds in words, (syllables, 2, 3 sounds)
  Use regular C.V.C words – cat, fat, sat,
  Stretching words by talking like a robot
  Counting the number of sounds in words by tapping, counting on fingers
- Use of picture cards
  Counters to push as sounds in words are heard
  Use of sound boxes to push counters when breaking words into sounds- do this as the sounds are articulated
- Magnetic letters to represent the sounds and provide the tactile element – same format at counters.
- Writing new words – in sound boxes
  On whiteboard
  On flashcards

Lesson 7-10

Consolidate 3 sound words

- Increase the sound loud to 4 sounds eg. Went, bent, crab, s/p/i/n
- Procedure is the same as for previous lessons.

During each session observe if skills of blending and segmenting are being used.
At the end of each session ask the child to verbalise what he must do when he comes to a tricky word. *Look at the word and slowly say the sounds then quickly say them again, one after the other and say the whole word. Go back and re-read the phrase/sentence.*

During each session: -

- Each skill is modelled, tried, repeated several times, re-enforced with new words and followed by immediate feedback.
- Read a text to monitor how skill is transferred to prose reading
- Student to verbalise own learning
- Student to verbalise when and how to use new learning
- Provide on-going feedback and praise for all attempts
- Evaluate and modify the teaching

Teaching Sessions

Session 1:

a) Reinforce knowledge of letter – sound identification

Identifying initial/final sounds in word.

- Use letter chart with pictures. Quickly point to letters whilst child says sound (**1min)**
- Use flash cards with letter only. Quickly flash cards as child identifies its sound. (Variation: Spread cards in hands like a fan. Child chooses one and says its sound). (**2min)**
- Provide a box of items, or pictures of items, such as pencil, comb, car, doll etc. Child chooses item, says its name and says the sound it begins with **Eg. car - -*c/***
  (2 mins)
- Repeat above activities but focus of final sound **(4mins)**

b) Segment words in one, two, three-syllable words using pictures.

- Demonstrate action of pushing the counters into the squares whilst accentuating the breaks. Have child push counters into boxes as the words are being said. Ask child to count how may syllables he heard. Use five words.
  (4mins)

c) Hearing sounds in regular CVC words.

- ***Teacher explains the activity. "I'm going to talk very slowly like a robot. I'm going to say some sounds. When I finish talking I want you to tell me the word I said. Ready. Listen to how I do it first." (Teacher demonstrates)***
  1. Teacher slowly says the sounds in a word /f/a/t/. makes fat. The child copies.
  2. Repeat with similar words. Teacher and student change roles. (5 mins)

- Use picture cards, tokens, sound squares

  Introduce card with picture. Eg. **cat.** Teacher says the word then demonstrates talking like a robot, slowly articulating each sound as the counters are pushed into the squares. Then say the word again.
  The child imitates. Do this with three other words - hat, mat, fat,

  To re-enforce this activity have the child tap on the desk with his fingers, and count the number of sounds he hears - c/a/t/ = 3 sounds. - /t/i/n/, /s/u/n/ /t/e/n/
  (5 mins)

- Text Reading "Where is it safe to play" PM Reader RR level 5 (or any text level child is currently reading).
  Observe if child is beginning to use this strategy.

Choose a three sound word from text – teacher makes word with magnetic letters. The child reads the word and quickly pushes the letters to say the sounds and repeats

the word. Return to page in text and child reads whole sentence. (With teacher support if necessary) Praise child for all attempts. **(7mins)**

Session 2 Segmenting words with regular CVC pattern

- Revise letter-sound knowledge using a variety of games.
  Odd -one -out.
  Teacher says a word. - *Cat*. Says three more words – two of which start with the same initial sound and one, which does not. Cap, cot, dig, Child picks which word sounds differently at the beginning.
  Target game. Have a word in the middle. Place five other words around it. Some of these words will begin with the some sound as the word in the centre. As the teacher says each word the child places a counter on the ones which have the same initial sound as the word in the centre of the board. Use this game to identify the middle and final sounds as a variation.
  Can also play this game to check rhyming ability.
- Use picture cards, sound boxes and counters to count the syllables in one, two and three sound words.

- Revise hearing and blending sounds using regular alphabet sounds. Cat, fat, mat, hat, bat,
  Using picture cards from session one to revisit procedure, *teacher* places sound boxes beneath each picture and says the word slowly – in robot talk- whilst, at the same time pushing the counters into the boxes, sound by sound. The *child* then performs the task. Count how many sounds that can be heard in the word
  Use new words to further practise the skill. With and without pictures. – dab,rub, mob, back, mum, jam. Also use non-words e.g. /n/a/b, /w/e/b
- Text Reading

Session 3 Hearing individual sounds in regular three sound words and using letters to represent the sounds heard.

- Revise letter-sound knowledge. Point to letters on the alphabet chart whilst child quickly says sounds of letters.
- Use magnetic letters, which are grouped in containers in alphabetical order. Play game " Guess which letter I am?" Teacher gives a clue "I'm at the start of *caterpillar* - *Child* finds "*c"* Repeat giving a clue for letters required to make "*cat"* . The teacher assembles the letters to make the word.

- *Teacher* produces a picture of a cat and places the magnetic letters underneath the picture. The child is told the word. The *teacher demonstrates* talking like a robot so that the child can hear the sounds that match the letters under the picture and then quickly says the word. The *child copies*. This procedure is done three times, each time the blending of the sounds is faster.
- Repeat activity using *rat, sat*
- Repeat above activity using magnetic letters and sound boxes. Using the letters to push into the boxes. Word types, *van, pan, tag, wag,* At the end of each word child says how many sounds in each word. Tell the child he will be the teacher. Give child a card divided into three squares. Teacher says word *ran* - the child stretches the word and writes each sound in each square and says the whole word.

- Segment and blend three sound words in various compositions. Use magnetic letters to break word into various combinations *hat = h/a/t/, ha/t/, h/at/* Pull letters away from each

other and then physical crash the letters together. The child verbalises what he is doing. And says the combination chunks.

- Text Reading "Where are the Sunhats?" RR level 6

Sessions 4, 5 similar patterns, reinforcing previous words and adds a minimum of three new ones.

- Using same procedure as in previous lessons and move to more complex three sound words. /f/i/sh/, /w/i/sh/, /th/e/m/, /ch/i/n/, /th/e/n/,

Session 6: Segmenting regular four sound words. Increasing the sound load.

- Commence each session with a letter-sound identification game.
- Use grid with variety of letters. Teacher says a word; child locates its initial/final sound by placing a counter on the corresponding letter.
- Revise pushing counters into sound boxes for three sound words.
- Use counters when saying sounds in words.
- Teacher uses a strip of card paper to write a three sound word. As it is being written the teacher slowly articulates the sounds. Child says word. Then holding the strip in front of child, the teacher cuts each letter as the child says the sounds. These are then placed on the desk and spread out. The child then reassembles the letters whilst saying the sounds followed by the whole word.
- Using picture of a frog, say the word and use sound boxes and counters slowly stretch the word and push out the individual sounds into the boxes. Child counts how many sounds he can hear by tapping with fingers. Repeat using pictures- **spin, spoon, snake, snail, stop, stink**

- Ensure that after each word is "stretched", it is quickly blended back and said as a whole word.

- Repeat activity without pictures. Child listens to sounds as teacher slowly articulates each one. The child guesses the word.

- Teacher makes word with magnetic letters. Places them under the sound box. Demonstrates as in previous lessons. Child copies. Words- crab, scab, slab, stab, blab, drab, grab, on whiteboard.

- Text Reading "At the Toy Shop" PM. RR. Level 6
  Ask child to verbalise what he must do when he comes to a tricky world
  Look at the word and slowly say the sounds quickly one after the other – then say the whole word and re-read the sentence.

Session 7, 8, 9, 10: Segmenting and blending regular 4 sound words (words are revisited each session and three new ones added)

- Revise segmenting and blending three sound words – using counters with and without sound boxes
- Teacher says word *ran"* How many sounds? "Then says *cran* –How many sounds? Repeat with *fan/fran*, other words such as old, shoot, chips or use non-words. Each time the child is using the fingers to count the sounds.
- Use magnetic letters to repeat above activity. Following this the word is written on a strip of card paper and cut up sound by sound. The child reassembles whilst pushing the sounds together. The child writes the word on a flash card.

- Repeat with four sound words –*went, sent, stop, clop*. These cards and any others made by child/teacher will be used for quick sight word game in following lessons.
- Remind child about using the above strategies when reading and encountering a tricky word.
- Child verbalises what he must do.

Text Reading "The New Baby" RR Level 7

"**Jumbo" RR level 8**
"A Friend for Little White Rabbit" RR level 8

Appendix Two

Examples of materials used for this study

Appendix Three

Word list

Samples of words to use in the activities of letter-to-sound matching, blending and segmenting syllables and 3 and 4 phonemic words. For a full list consult programs devised by Speech Pathology Catholic Education Office, A Sound Way, Sounds Abound. (See References section)

Identifying initial sound	Identifying final sound
Kettle	dog
Hammer,	van
Horse	goat
Kettle	waves
Queen	chicken
Rabbit	sun
Orange	bat
Octopus	drum
Spider	leaf
Ambulance	book
Igloo	

Segmenting Syllables

Apple	kite	Kangaroo
Zebra	pickle	microphone
Axe	monkey	newspaper
Ambulance	carrot	hospital
Robot	computer	caterpillar
Boy	lolly	tractor
Igloo	pencil	giraffe
Goat	ice cream	fairy
Dish	banana	telephone

Segmenting 2 and 3 sound words

Peg p-e-g
Pear
Saw fork book look

Four	bird	girl	mouse
Two	sun	two	do
Up	shoe	watch	up
Bee	teeth	jam	say
Tin	ice	toe	off
Ball	thumb	ship	board
Chair	cake	man	pot
Eight	one	egg	
Leg	hose	ring	
Bear	car	van	
	Knife	yacht	

Blending 2 and 3 sound words

Up	at	in	it	us
Bat	cat	fat	hat	mat
Pat	rat	sat		
Bad	dad	had	mad	sad
Pad				
Bag	rag	tag	wag	
Cap	map	tap	nap	lap
Gap	yap			
can	fan	pan	ran	van
Man				
Ham	jam			
Has	gas			
Peg	leg	hen	men	pen
Ten	den			
Jet	met	pet	wet	
Did	hid	lid		
Big	dig	pig	wig	

Bin	tin	win	pin	fin
Bit	fit	sit	hit	lit
Six	mix	fix		
Job	rob	dog	fog	jog
Log				
Hop	pop	mop	top	
Cot	dot	got	lot	hot
Pot	not			
Box	fox			
Bug	dug	hug	jug	mug
Dug	rug			
Bun	fun	sun	run	
bus				
nut	hut	rut	but	

Blending and segmenting words with 4 sounds

Flag	went	best	dust	drum
Disk	plate	nest	cats	stop
Dump	stand	sing	post	nips

Fun sentences with decodable text.
Write on long cardboard and make into sentence strips for children to read.
Write of narrow strips of cardboard and cut up words as the child reads each word.
The child reassembles the words and matches them with original sentence.
Children can create their own nonsense sentences and treat the same way.

Max sat on his hat.
The tin cut his leg
Bob has a pet.
Dad is not in his bed.
Sam had a red hat.
Kim hit the tin.
The dog begs to be fed.
Mum met a big pig.
Pat sat in a red van.
Jan had a bag and a ham..

A cap is on a can.
A bug is on a bed.
A cat is on a rug.
A pig is on a web.
A fat cat is in the bin.
The big pig is in the sun.
Can you run to the bus?
Sit on the mat.
Did the hat fit?
The lid is on the bin.
Can we win the race?
We can get a pet.
Cut the bun.
The dog sat on a log.
The dog bit the pig.

Continuous story

The rat is in the bag.
Dad got in the red van.
He met a man and a cat.
The cat had a fat rat.
The rat bit the cat.
The cat bit dad and ran to the dam.

Above samples are taken from various reproducible books Sources unknown.
Similar stories can be found in any reproducible books on phonics.