Independent use of a technology program to teach the mapping of letter sounds onto letter cluster patterns, without explicit instruction for the students to verbalise the sound, will improve the children’s orthographic knowledge, prose reading accuracy and spelling.

Procedure.

The pre assessment tasks were administered to the students in the following order; Miscue analysis of levelled text and program text; Orthographic Reading test; Spelling test, dictation of program text, assessing both the use of letter patterns taught and the degree of correct spelling.

The 12 teaching sessions of 35 to 45 minutes, were conducted on the morning of consecutive school days. The students worked outside of the classroom, in a small studio. They worked through set tasks from the technology program “Sounds Great 2” (2002). During each of the intervention sessions the two students worked together at one computer. In the beginning the children were instructed on how to use the program. The session began with a repeated reading of the story before they worked on each set of tasks. The tasks contain 6 items; matching pictures that begin with the same onset letter pattern or the same rime pattern (phonological awareness); matching the spoken word to the word highlighted in the sentence; locating initial blend or vowel sound from the written text; identifying 3 written words that have the same rime pattern as the target word; listening to 6 words to identify the 3 that rhyme with the target word; selecting letters to spell words, with 2 stages of word building for each word, onset and rime patterns and individual phonemes.

The students repeated the same story and tasks 3 times, after which they completed the appropriate Sounds Great 2 Assessment Quiz. Each quiz assesses the particular letter pattern knowledge taught. Details of the procedure are located in the next section.
TEACHING SESSIONS 1 - 12

General organisation for each session:
Each book covers different letter patterns. To help the students retain the information they will have three sessions using each book and cover the set activities three times.

Physical Organisation of each session.
   ➢ 2 Students work together on a computer in a withdrawal area

Materials required for each session.
   ➢ Computer program Sounds Great Two - Interactive Phonics and Spelling. (Hornsby & Platt, 2002)
   ➢ Photocopied materials (Hornsby & Platt, 2002)

Session 1

Letter patterns: i-e / y / igh
Story: Five Frightened Mice
Time: 45 minutes

Preparation:
   • Load Sounds Great Two disc 2 Five Frightened Mice
   • Copy worksheet FFM8 and use with directions provided on page FFM6
   • Copy worksheet FFM5 (writing about the picture)
   • Copy story strip FFM1

Instructions:
Read through the story twice on the computer before you begin the activities. If you want to listen to the letter patterns, words and sentences then click on the sound symbol. If you did not hear an instruction the click on the question mark. The program will tell you what to do.

Computer component:
Students work through the story, Five Frightened Mice twice and then complete each of the six activities in order.
Observations:
The students took turns to complete each activity and helped each other with answers. They did not say the words or sounds out aloud. Each student pointed to the screen to help the other with answers. They tended to look for visual patterns rather than clicking the sound button to hear before choosing the riming word.
J began saying the riming words aloud during activity 4 and 5.

Worksheet Component
Students completed the teacher directed activity FFM8 following directions from teacher provided on FFM6 (letter cloze and onset & rime matching). They independently completed FFM5 (writing about a picture from the story).
Worksheets pasted into scrapbook.

Follow up home activity
Students read the story strip FFM1-five Frightened Mice

Session 2
Letter patterns: i-e / y / igh
Story: Five Frightened Mice
Time:30 minutes
Preparation:
- Load Sounds Great Two disc 2 Five Frightened Mice
- Copy worksheet FFM7 and use with directions provided on page FFM6

Instructions:
Remember to read through the story twice on the computer before you begin the activities. If you want to listen to the letter patterns, words and sentences then click on the sound symbol. If you did not hear an instruction the click on the question mark. The program will tell you what to do.

Computer component:
15 minutes
Students work through the story, Five Frightened Mice twice and then complete each of the six activities in order.
Observations:
The students began to read the story aloud along with the computer audio.

Worksheet Component
15 minutes including explanation of home activity
The students completed teacher directed activity FFM7 following directions from teacher provided on FFM6 (identification of picture to match spoken stimulus word & sentence completion with a choice of 3 words).

Follow up home activity
Word and picture matching FFm4

Session 3
Letter patterns: i-e, y, igh
Story: Five Frightened Mice
Time: 45 minutes
Preparation:
- Load Sounds Great Two disc 2 Five Frightened Mice
- Copy worksheet FFM2 (generating words with y, I-e & igh patterns)
- Copy worksheet FFM3 (jigsaw matching onset & rime)

Instructions:
No instructions given- students know the routine.

Computer component:
Students work through the story, Five Frightened Mice twice and then each on the six activities in order.

Observations:
Students vocalised very little of the program.

Worksheet Component
Complete independently FFM2 (generating words with y, i-e & igh patterns)
Worksheet pasted into scrapbook.

Follow up home activity
Worksheet FFM3 (jigsaw matching onset & rime)
Assessment Quiz
Each student individually completed the assessment quiz (included in the computer program) for Five Frightened Mice. Other student completed a worksheet activity.

Session 4
Letter patterns: fr / ee
Story: The Green Frog
Time: 35 minutes
Preparation:
- Load Sounds Great Two disc 3 The Green Frog
- Copy worksheet GF7 and use with directions provided on page GF6
- Copy worksheet GF5 (writing about the picture)
- Copy strip book GF1
Instruction:
Click on the new story and follow same directions as with the last story.

Computer component:
15 minutes
Students work through the story, The Green Frog twice and then complete each of the six activities in order.

Observations:
The students showed limited vocalisation of the text.

Worksheet Component
15 minutes
Complete teacher directed activity GF7 following directions from teacher provided on GF6 (identification of picture to match spoken stimulus word & sentence completion with a choice of 3 words).
Students also complete the independent writing task GF5.
Sheets pasted into scrapbook.

Follow up home activity
Students take the fold up book GF1 to read.
Session 5

**Letter patterns:** fr / ee

**Story:** The Green Frog

**Time:** 35 minutes

**Preparation:**
- Load Sounds Great Two disc 3 The Green Frog
- Copy worksheet GF8 and use with directions provided on page GF6
- Copy worksheet GF4 (Matching words and pictures)

**Instruction:**
No specific Instructions given.

**Computer component:**
15 minutes
Students work through the story, The Green Frog twice and then complete each of the six activities in order.

**Observations:**
Students tended to repeat the instructions before completing the activities.

**Worksheet Component**
15 minutes
Complete teacher directed activity GF8 following directions from teacher provided on GF6 (single word cloze – Students fill in the letter pattern. Also creating words using onset & rime patterns).
Students complete the independent GF4 (matching words and pictures).
Sheets pasted into scrapbook.

**Follow up home activity**
None

Session 6

**Letter patterns:** fr / ee

**Story:** The Green Frog

**Time:** 35 minutes

**Preparation:**
- Load Sounds Great Two disc 3 The Green Frog
- Copy worksheet GF2 (word find)
**Instruction:**
No specific instructions given.

**Computer component:**
Students work through the story, *The Green Frog* twice and then complete each of the six activities in order.

**Observations:**
Students continued to mainly vocalise instructions rather than letter patterns.

**Worksheet Component**
Complete worksheet GF2 (word find) independently
Worksheet pasted into scrapbook.

**Follow up home activity**
None

**Assessment Quiz**
Each student individually completed the assessment quiz (included in the computer program) for The Green Frog. Other student completed a worksheet activity.

**Session 7**
**Letter patterns:** gr / ea
**Story:** The Grizzly Bear’s Feast
**Time:** 35 minutes

**Preparation:**
- Load Sounds Great Two disc 3 The Grizzly Bear’s Feast
- Copy worksheet GBF7 and use with directions provided on page GBF6
- Copy worksheet GBF5 (writing about the picture)
- Copy fold up strip book GBF1

**Instruction:**
Click on the new story and follow same directions as with last story.

**Computer component:**
15 minutes
Students work through the story, The Grizzly Bear’s Feast twice and then complete each of the six activities in order.

**Observations:**
Very little vocalisation of the text.

**Worksheet Component**
15 minutes
Complete teacher directed activity GBF7 following directions from teacher provided on GF6 (identification of picture to match spoken stimulus word & sentence completion with a choice of 3 words).
Students also complete the independent writing task G BF5.
Sheets pasted into scrapbook.

**Follow up home activity**
Students take the fold up strip book GBF1 to read.

**Session 8**
**Letter patterns:** gr / ea
**Story:** The Grizzly Bear’s Feast
**Time:**35 minutes
**Preparation:**
- Load Sounds Great Two disc 3 The Grizzly Bear’s Feast
- Copy worksheet GBF8 and use with directions provided on page GF6
- Copy worksheet GBF3 (categorising words containing the same rime pattern)

**Instruction:**
*No specific instructions*

**Computer component:**
15 minutes
Students work through the story, The Grizzly Bear’s Feast twice and then complete each of the six activities in order.

**Observations:**
Students continue to show enjoyment of the sessions and appear to be comfortable with the routine the program provides.
Worksheet Component
15 minutes
Complete teacher directed activity GBF8 following directions from teacher provided on GBF6 (single word cloze – Students fill in the letter pattern. Also creating words using onset & rime patterns).
Students complete the independent GBF3 (categorising words containing the same rime letter patterns).
Sheets pasted into scrapbook.

Follow up home activity
None

Session 9
Letter patterns: gr / ea
Story: The Grizzly Bear’s Feast
Time: 35 minutes
Preparation:
- Load Sounds Great Two disc 3 The Grizzly Bear’s Feast
- Copy worksheet GBF2 (word cloze filling letter patterns to complete words)
- Copy worksheet GBF4 (matching words and pictures)

Instruction:
Read through the story The Grizzly Bear’s Feast again today. Next session you will read a new story.

Computer component:
15 minutes
Students work through the story, The Grizzly Bear’s Feast twice and then complete each of the six activities in order.

Observations:
Working in pairs, the students support each other in choosing answers.

Worksheet Component
15 minutes
Complete teacher directed activity GBF2 (word cloze filling letter patterns to complete words)
Students complete the independent GBF (matching words and pictures)
Sheets pasted into scrapbook.

Follow up home activity
None

Assessment Quiz
Each child individually completed the assessment quiz (included in the computer program) for The Grizzly Bear’s Feast. Other student completed a worksheet activity.

Session 10
Letter patterns: long u sound / oo / u-e /ew / oe
Story: Blue Boots
Time: 35 minutes
Preparation:
- Load Sounds Great Two disc 1 Blue Boots
- Copy worksheet BB7 and use with directions provided on page BB6
- Copy worksheet BB5 (writing about the picture)
- Copy fold up strip book BB1

Instruction:
Today you begin working on a new story. Read the story Blue Boots. Work through the activities the way you did for the other stories.

Computer component:
15 minutes
Students work through the story, Blue Boots twice and then complete the six activities in order.

Observations:
Very little vocalisation of the text.

Worksheet Component
15 minutes
Complete teacher directed activity BB7 following directions from teacher provided on BB6 (identification of picture to match spoken stimulus word & sentence completion with a choice of 3 words).
Students also complete the independent writing task BB5.
Sheets pasted into scrapbook.

Follow up home activity
Students take the fold up strip book BB1 to read.

Session 11
Letter patterns: long u sound / oo / u-e / ew / oe
Story: Blue Boots
Time: 35 minutes
Preparation:
- Load Sounds Great Two disc 1 Blue Boots
- Copy worksheet BB8 and use with directions provided on page BB6
- Copy worksheet BB2 (categorising words containing the same rime pattern)

Instruction:
No specific instructions required.

Computer component:
15 minutes
Students work through the story, Blue Boots twice and then complete the six activities in order.

Observations:
Students have become familiar with the routine and are independent in completing the tasks.

Worksheet Component
15 minutes
Complete teacher directed activity BB8 following directions from teacher provided on BB6 (single word cloze – Students fill in the letter pattern. Also creating words using onset & rime patterns).
Students complete the independent BB2 (categorising words containing the same rime letter patterns).
Sheets pasted into scrapbook.

Follow up home activity
None
Session 12

Letter patterns: long u sound / oo / u-e / ue / ew / oe

Story: Blue Boots

Time: 45 minutes

Preparation:
- Load Sounds Great Two disc 1 Blue Boots
- Copy worksheet BB3 (crossword)

Instruction:
No specific instructions required.

Computer component:
15 minutes
Students work through the story, Blue Boots twice and then complete the six activities in order.

Observations:
The students have developed a routine in which they support each other and say the program instructions aloud. They have not developed the habit of saying words and letter patterns aloud.

Worksheet Component
15 minutes
Students complete independent activity BB3.
Sheet pasted into scrapbook.

Follow up home activity
None

Assessment Quiz
Each child individually completed the assessment quiz (included in the computer program) for Blue Boots. Other student completed a worksheet activity.