

**College of Education
University of Canterbury
Private Bag 4800
Christchurch, New Zealand**

The results from the research project suggested that the programme content based on these principles proved highly effective in developing the phonological awareness and reading ability of children with spoken language impairment. Improvements in the children's speech production skills were also evident following training (Gillon, 2000). Follow-up assessment 11 months post intervention revealed that the benefits of the programme were maintained over time (Gillon, 2002).

The programme was designed for children with spoken language impairment who had normal intellectual ability, English as their first language, had no sensory, neurological, physical, or emotional disorders, and had adequate receptive language abilities to comprehend the vocabulary and instructions in the activities. The main area of spoken language difficulty for the children who participated in the research project was their expressive phonology, with all the participants demonstratinl (s)-1.63635smdndsom.441715((-202.316(d)-3.

circadinswith1633792(d)hg7d63.42a0Tdwid.1eq'dR6

Programme Materials

NB *f do n lo d n t o fo on n t co nd d t t t t nd t n t d fo t of t t t t dy d nd t n t d t t fo c o d fo on t t*

- ◆ Programme booklet
- ◆ Alphabet letters for wooden blocks - 1 set of 56 wooden letter blocks (The template for these letters is available on-line and these letters may be pasted onto blocks or copied onto hard cardboard and laminated)
- ◆ 1 set of small coloured blocks (Coloured counters may be used or coloured blocks can be purchased from educational outlets)
- ◆ 3 rhyme bingo boards
- ◆ 2 yellow rhyme picture sheets to be cut into cards
- ◆ 1 rhyme word sheet
- ◆ 1 phoneme analysis (discrimination) board
- ◆ 3 phoneme segmentation bingo boards
- ◆ 3 blue phoneme segmentation bingo picture sheets to be cut into cards
- ◆ 9 phoneme identity picture cards¹
- ◆ 6 phoneme segmentation and blending sheets
- ◆ 6 sound-symbol boards
- ◆ 3 sheets of alphabet letters to be cut into cards
- ◆ 2 word bingo boards (to be cut in half) and 2 matching word sheets to be cut into cards
- ◆ 5 picture game sheets. These game sheets may be photocopied for use in the programme.
- ◆ 3 tracking sounds changes sheets and 1 blank sheet for individualised lists.
- ◆ 1 reward poster
- ◆ 1 time chart

Two sound-symbol boards using Maori pictures and words are included are included for use in New Zealand. The author gratefully thanks He Wahi Whakairo for the use of these pictures.

¹ The clip art pictures used in the programme materials are from Corel Gallery (1994, 1999).

Pre Programme Activities

Prior to beginning phonological awareness training, prepare activities and games to teach children (or check their knowledge of) the following language concepts:

same /different

first / middle /last

beginning /end

number concept to four

concept of a **word** and a **sound** in a word.

Teaching issues

- Articulation of phonemes

When segmenting words into sounds (phonemes) or saying sounds in isolation only the target phoneme should be articulated. Avoid adding a vowel to the target phoneme unnecessarily.

Example:

/p/ **not** puh

/n/ **not** ni as in **nip**

/s/ **not** si as in **sit**

- Segmenting words into phonemes

When segmenting words into individual phonemes, cluster sounds should be separated. For example,

tree has 3 phonemes: t-r-ee

chips has 4 phonemes: ch-i-p-s

star has 3 phonemes: s-t-ar

mist has 4 phonemes: m-i-s-t

street has 5 phonemes: s-t-r-ee-t

Remember to segment by phonemes and not by the number of letters in a word.

For example,

shop has 3 phonemes: sh-o-p

bath has 3 phonemes: b-a-th

church has 3 phonemes: ch-ur-ch

back has 3 phonemes: b-a-ck

- Correcting speech and reading errors

When the child makes an error develop the child's awareness for why the word is incorrect as appropriate to the child's phonological abilities. When reading and spelling

Therapist: n yo y t i o nd t t n n t t t
o nd t o nd t t n n L t t y y n c t
o nd

Child: car

Therapist: Great, now I hear the /k/-sound.
o C:04195(-)-1.63761(a) e r n re a r d

Target word: hu Cherapist:

Programme Activities

2. Rhyme

Ai

To teach children to identify phonological similar

L t f c n f n d ¹¹ o d t t r t y B t f n d

3. Phoneme analysis

Adapted from the Auditory Discrimination In depth Programme (Lindamood & Lindamood, 1975).

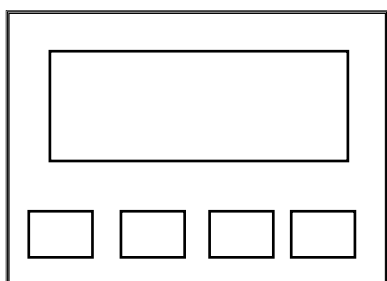
Ai

To teach children to analyse and manipulate sounds in isolation.

Resources

Coloured blocks

Phoneme discrimination board



Activities

- Manipulating phonemes in isolation
Place the coloured blocks in the large box at the top of the page provided. Bring down the blocks into the smaller blocks below to match the number of sounds heard and

Child: changes the last block and ¹³says:

4. Phoneme Identity

Ai

To teach children to identify phonemes in words.

Resources

Nine coloured picture sheets in various semantic groupings.

Animals	Food	Transport	Sport	Medial sounds
dog /deer	corn/cake	car/van	net/bat	pencil/ puppy
cat/bear	pea/pear	bus/bike	ball/boot	beetle/bottle
seal /pig	soup/egg	train/truck	dart/ surf	apple/candle
fox/ fawn	chop/chips*			coffee/camel
mouse /horse	ham/plum			monkey/turkey

Repeat the activity within each semantic category of food, sport, and transport. Teach the vocabulary as necessary. Progress to working across categories.

Example:

o o nd t t t t t o nϕ
 o nd t t t t o nϕ
 o oo t nd c t nd t t o nϕ

Repeat the activity listening for final sounds

o oo t nd d t nd t t o nϕ
 o c nd nd t t o nϕ
 o o nd c nd t t o nϕ

- Sound categorisation activity

Identify all the words on the picture sheets that start with a target sound. Begin with initial sounds and progress to final sounds. Place the letter for the target sound out in front of the child at each turn.

Example: Place out the letter b

Therapist:

- Odd one out phoneme identity game.

Therapist: ~~on to on to t ct L t n to t nn n of c o d~~
~~nd t t c on t t t d ff nt o nd t c~~

Child: c

Therapist: Y c t t t o nd (pointing to the letter c) nd nd t
 t t t o nd (pointing to the letter b). As the child's skills improve
 ask the child to find the letter block to match the initial phoneme of each
 word.

Continue in the above manner with a variety of sounds. Ensure that you alter the pattern
 of the target words.

~~ch cho~~
~~o p p~~ etc

Repeat the activity listening to final sounds.

Therapist:

5. Phoneme segmentation

Ai

To teach children to analyse words at the phonemic level.

Resources

Coloured blocks

Three phoneme segmentation bingo boards

Three phoneme segmentation bingo pictures on blue card to be cut into individual cards

Six segmentation and blending boards

Activities

- Selecting words from a story.

Choose a short story to read to the child. Select nouns from the story and identify the number of sounds in the word (phonemes, not letters). Ask the child to clap out the sounds and then say the word together. For example, cat: “c-a-t” “cat”. Initially select words with two or three phonemes and then move to four by introducing two consonant clusters (e.g., tr, pl, sp, sl.) Remember to clap o

Continue working through the phoneme segmentation and blending sheets in this manner. Ask the child to repeat the word and segment the sounds in each word.

Suggestions for discussion topics and related words to segment:

6. Phoneme Blending

Ai

To teach the child to blend isolated sounds together to form words.

6.2 *Resources*

Phoneme segmentation and blending sheets

Phoneme bingo cards and boards

Coloured blocks

Activities

- Segmentation Bingo Boards

Use the activities for phoneme segmentation in a reverse manner to teach the child to blend sounds together. For example, when using the bingo cards say the name of one of the words in a segmented manner and ask the child to say the word blended together.

Therapist: I'll say a word slowly and see if you can guess what picture it is: / / d

Child: bird

Child:

f t t y oo o oof²²

and the next block when saying the *n* sound. Prolong or exaggerate the articulation of the syllable if required “*oooooooooooo*” but progress to using a normal articulation rate. It is also important for the child to consciously identify where the change has occurred (e.g. the first sound /last sound/middle sound changed).

- To encourage the child to work through these lists of sound changes use reinforcement as necessary. For example: After the child has worked through 5 changes put a sticker onto the reward chart.
- As the child develops skills and confidence with this activity introduce a timing incentive to encourage the child to process the sound changes quickly. For example: use a stop watch and tell the child you will time how long it takes him/her to work through 10 sound changes. Record the time on the time sheet provided.
- Integrating activity with speech production goals

Example: Increasing the child’s use of final consonants.

Provide plenty of practice in adding, deleting and substituting final sounds.

Therapist: *o* / *f t t y* *o* / *f t t y* *o*

9. Tracking speech sounds with letters

Ai

To teach children to identify the number and order of sounds in words using letter blocks.
To teach children skills of encoding and decoding sound patterns using letters.

Resources

One set of letter blocks (56 letter blocks in a set)
Tracking sound sheets.

Activities

- Making and breaking words

Choose a group of consonants and vowels that the child understands the grapheme-phoneme relationship (or teach the child the name of a few letters and sounds if necessary). Initially choose 3 or 4 consonants and a couple of vowels that will allow a variety of words and syllables. Gradually extend th



Reading and spelling games

Ai

To provide practice in reading and spelling phonetically regular words.

Resources

Four Bingo Boards on white card

Matching words for the bingo boards on mauve and cream coloured card to be cut into individual cards

Five game sheets with various shapes drawn on them.

Coloured blocks to use as counters

Activities

Introduce these games at a suitable stage in the therapy programme. For example; a child who begins the programme as a non reader, may not be ready for these games until he/she has built up sound symbol associations, segmenting, and blending skills.

- Shape game sheets

Write phonetically regular CV or CVC words into the shapes on the shape sheets provided. Select words from the tracking sound sheets or provide new words. The child and therapist take turns at throwing a block onto the game sheet. Each player scores 1 point if the counter lands on a shape, and a second point if the player can read the word in the shape. Remember to use the same awareness strategy of matching the spoken form with the written form of the word when correcting errors.

Example: Child reads can as cat .

Therapist: ood t y t t t t o nd t loo clo ty t t l t t n n
 yo d c t: d t o nd nd: c n n o nd L t t y t n c
 n / t t t t t y c n / ood d n

- Word Bingo

Place a white bingo board in front of each player and place the corresponding cream or purple cards face down into a shallow box or lid. Each player takes turns at selecting a card from the lid. If using the cream and purple cards in the same game, hold the lid up high so the child has to reach into the box and can't see what colour he or she is selecting. Ask the child to read the word selected. Assist the child by giving phonological cues. Look to see which board the word belongs on. Place the word over the

11. Programme integration

Work through the activities in an integrated manner, adjusting the time spent on activities as appropriate to the child's increasing skill level. For example: during the first stages of the programme you may spend longer on rhyme, tracking sound changes with coloured blocks, phoneme identity skills, and sound-symbol association skills. Towards the end of the programme the child will require more practice on tracking sound changes with letters, phoneme segmentation, and reading and spelling games. However, with the exception of the reading and spelling games, all of the activiti

Teacher: *yo ot ct Lt tt n ot on*

13. References

- Alexander, A., Andersen, H., Heilman, P., Voeller, K., & Torgesen, J. (1991). Phonological awareness training and remediation of analytic decoding deficits in a group of severe dyslexics. *Annals of Dyslexia*, 41, 193-206.
- Ayres, L. (1995). The efficacy of three training conditions on phonological awareness of kindergarten children and the longitudinal effect of each on later reading acquisition. *Journal of Experimental Psychology: Applied*, 1(4), 604-606.
- Brady, S., Fowler, A., Stone, B., Winbury, N. (1994). Training phonological awareness: A study with inner-city kindergarten children. *Annals of Dyslexia*, 44, 26-59.
- Brennan, F., & Ireson, J. (1997). Training phonological awareness: A study to evaluate the effects of a program of metalinguistic games in kindergarten. *Journal of Experimental Psychology: Applied*, 3(4), 241-263.
- Byrne, B., & Fielding-Barnsley, R. (1995). Evaluation of a program to teach phonemic awareness to young children: A 2- and 3-year follow-up and a new preschool trial. *Journal of Experimental Psychology: Applied*, 1(4), 488-503.
- Cary, L., & Verhaeghe, A. (1994). Promoting phonemic analysis ability among kindergartners: Effects of different training programs. *Journal of Experimental Psychology: Applied*, 1(4), 251-278.
- Clarke-Klein, S. (1994). Expressive phonological deficiencies: Impact on spelling development. *Journal of Experimental Psychology: Applied*, 1(4), 40-55.
- Corel Gallery (1994). *Orton-Gillingham*. Canada, Corel Corporation.
- Corel Gallery (1999). *Orton-Gillingham*. USA, Corel Corporation.
- Cunningham, A. (1990). Explicit versus implicit instruction in phonemic awareness. *Journal of Experimental Psychology: Applied*, 1(4), 429-444.
- Defior, S., & Tudela, P. (1994). Effect of phonological training on reading and writing acquisition. *Journal of Experimental Psychology: Applied*, 1(4), 299-320.
- Gillon, G. (2004). *Orton-Gillingham*. New York: The Guilford Press.
- Gillon, G. (2002). Follow-up study investigating benefits of phonological awareness intervention for children with spoken language impairment. *Journal of Experimental Psychology: Applied*, 8(4), 381-400.
- Gillon, G. (2000). The efficacy of phonological awareness training for children with spoken language impairment.

- Lindamood, C., & Lindamood, P. (1975). *A diary of a child with a reading disability*. Austin: Pro ED.
- Lundberg, I., Frost, J., & Petersen, O. (1988). Effects of an intensive program for stimulating phonological awareness in preschool children. *Journal of Experimental Psychology: Applied*, 263-284.
- O'Connor, R., Jenkins, J., Leicester, N., & Slocum, T. (1993). Teaching phonological awareness to young children with learning disabilities. *Journal of Learning Disabilities*, 532-546.
- Schneider, W., Kuspert, P., Roth, E., & Vise, M. (1997). Short and long term effects of training phonological awareness in kindergarten: Evidence from two German studies. *Journal of Experimental Psychology: Applied*, 311-340.
- Torgesen, J., Morgan, S., & Davis, C. (1992). Effects of two types of phonological awareness training on word learning in kindergarten children. *Journal of Experimental Psychology: Applied*, 364-370.
- Torgesen, J., Wagner, R., & Rashotte, C. (1994). Longitudinal studies of phonological processing and reading. *Journal of Experimental Psychology: Applied*, 276-286.
- Truch, S. (1994). Stimulating basic reading processes using Auditory Discrimination in Depth. *Annals of the New York Academy of Sciences*, 44, 60-80.
- Watson, B., & Gillon, G. (1999). Insights into the responses of children with Developmental Verbal Dyspraxia to phonological awareness training. *Journal of Experimental Psychology: Applied*, 5, 1-11.
- Yopp, H. (1988). The validity and reliability of phonemic awareness tests. *Journal of Experimental Psychology: Applied*, 4, 1-10.

Appendix

34