

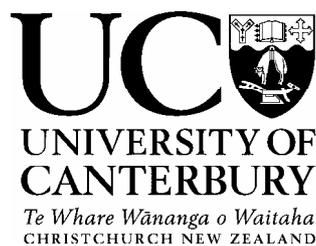
Integrated Phonological Awareness

An intervention program for preschool children with
Speech-language impairment

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Introduction

This integrated phonological awareness intervention (IPA) is designed for the simultaneous facilitation of speech production, phonological awareness and letter-sound knowledge in preschool and young school aged children with speech and language impairment. The intervention is based on activities implemented in the Gillon (2005), Moriarty and Gillon, (2006) and McNeill (2007) intervention studies. The findings from these research investigations indicated that the program was effective in facilitating significant improvement in speech production, early reading and spelling development in preschool children with speech impairment and in children aged 4-7 years diagnosed with childhood apraxia of speech. Gillon (2004) provides further background to the intervention approach and Gillon (2006) includes a framework and brief video demonstration of some of the intervention activities.

Intervention Rationale

Why facilitate phonological awareness development in preschool children with speech-language impairment¹?

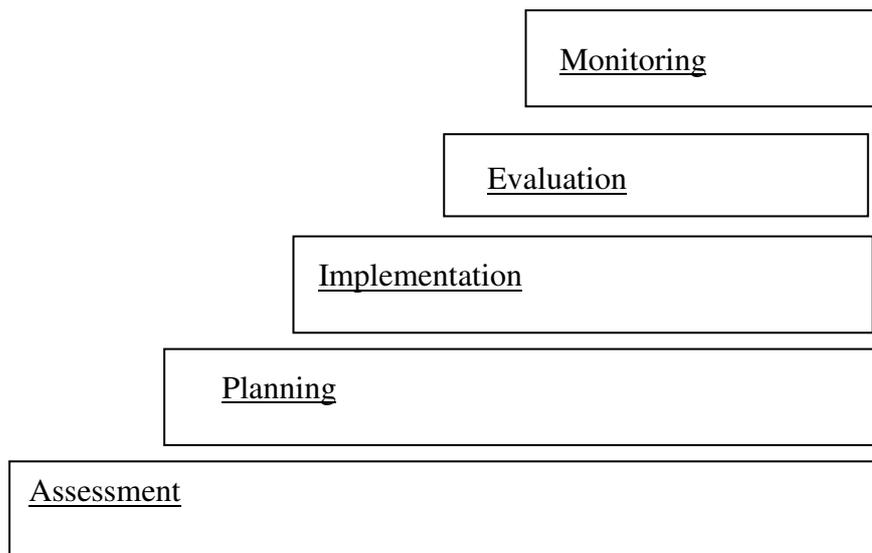
- Research has convincingly demonstrated that phonological awareness is a powerful predictor of reading and spelling success in the early school years (Hogan, Catts, & Little, 2005; Torgesen, Wagner, & Rashotte, 1994)
- Children with speech and language impairment are 4-5 times more likely to experience reading difficulties than the general population of children (Catts, Fey, Zhang, & Tomblin, 2001).
- “Modified critical age hypothesis”: a critical factor in predicting literacy outcomes in children with speech only or speech and language impairment is their phonological awareness performance. Children whose speech-language impairment has resolved by the early school years and who have good phonological awareness knowledge are more likely to experience reading and spelling success (Nathan, Stackhouse, Goulandris, & Snowling, 2004).
- Four-year old children with speech impairment show delayed development in early phoneme awareness compared to children without speech impairment (Rvachew, Ohberg, Grawburg, & Heyding, 2003).
- Young children with speech impairment show similar patterns of phonological awareness difficulty as children with a genetic disposition for dyslexia (Carroll & Snowling, 2004).
- If left untreated, the phonological awareness deficits in children with speech language impairment may persist well into adolescence (Snowling, Bishop, & Stothard, 2000).

¹ The term speech-language impairment is used to refer to children with developmental speech impairment or speech and language impairment in the absence of other diagnosed impairments such as physical, sensory, or intellectual impairment.

- Improving children's speech intelligibility alone will not necessarily result in improved phoneme awareness or improved reading and spelling performance. Rather, children with speech-language impairment require specific instruction in phoneme awareness (G. Gillon, 2000; Gillon, 2005; Gillon, 2002)

Intervention framework development

The general framework for this intervention is based on the Gillon (G. T. Gillon, 2004) five-step framework for phonological awareness intervention. A summary of issues to consider within this framework is presented to provide background knowledge for the program.



Assessment

Assessment aims:

1. To monitor early phonological awareness development.
2. To establish baseline data from which to measure the success of specific interventions aimed at facilitating early phonological awareness development.

Careful consideration must be given to the type of assessment tasks used and the testing environment. For example,

- Selecting phonological awareness assessment tasks that require nonverbal responses is necessary for children with unintelligible speech.
- Ensuring optimal listening conditions in the phonological awareness-testing environment is important for all children, but particularly critical for young children with speech-language impairment who may have associated hearing problems.
- The use of attractive visual picture cues to supplement an auditory stimulus will help capture young children's attention.
- Ensuring working memory capacity is not overloaded for children who are known to have limited phonological short-term memory is another important consideration. The use of target words with a maximum of three or four phonemes is recommended for these children (Gillon et al., 2004).

The data from phonological awareness assessment need to be considered with data from comprehensive analyses of the children's speech and language performance. For example, analysing data from speech production tasks that includes a variety of multi-syllabic words and assessment of non-word repetition ability, as suggested by Larrivee and Catts (1999); examining the variability in children's speech production errors and the type of speech error patterns, as suggested by Dodd (1995), Leita0 and Fletcher (2004); as well as examining data related to the children's receptive and expressive language performance, will help determine which young children with speech impairment are most at risk for literacy difficulties.

Planning

Research findings to consider in planning sessions specifically aimed at facilitating phonological awareness development in young children are:

- Phonological awareness skills at the phoneme level are the most critical for early reading and spelling success (Duncan & Johnston, 1999; Hulme et al., 2002).
- Children with speech-language impairment exhibit particular difficulty acquiring phoneme level skills. Syllable and rhyme skills may develop with other types of therapy or classroom instruction, but phoneme level skills appear to need more direct instruction (Gillon, 2000).
- There is a bi-directional relationship between letter knowledge and early phoneme awareness development (Burgess & Lonigan, 1998).
- Intervention that combines phoneme awareness and letter knowledge is more effective than phoneme awareness alone (Ehri et al., 2001).
- Integrating letter knowledge and phoneme awareness tasks into preschool therapy to improve speech intelligibility has a positive effect on early reading and spelling acquisition (Gillon, 2005; Kirk & Gillon, in press)
- Providing intervention only at the syllable and rhyme level may have limited benefit for children at risk (Nancollis, Lawrie, & Dodd, 2005).
- The development of phonological awareness skills in one alphabetic language appears to transfer to increased phonological awareness sensitivity in a second alphabetic language (See Gillon, 2004 for a discussion of this research).
- There is a bi-directional relationship between phoneme awareness and reading and spelling (Cataldo & Ellis, 1988; Frost, 2001). Children show development of more complex phoneme awareness only after exposure to literacy instruction. Thus, planning should focus on facilitation of early phoneme awareness sensitivity, rather than expecting skill mastery on more complex tasks.

In planning therapy content or assessments, it is important for instructors to understand how to adjust difficulty level of the tasks involved.

Intervention

Differing approaches to facilitate young children's phonological awareness development during the preschool years may be taken. Two approaches are described.

1. Develop knowledge that positively influences phonological awareness development.

Utilising a collaborative approach involving parents/caregivers and preschool teachers, the speech-language pathologist works to ensure factors that influence phonological awareness development are enhanced in the child with speech-language impairment. Intervention strategies based on this approach may include:

- Expanding the children's receptive vocabulary knowledge at 3- or 4-years of age if vocabulary development is delayed.
- Teaching young children nursery rhymes and focusing their attention on the sound properties and rhythms of spoken language.
- Facilitating children's exposure to alphabetic knowledge through alphabet books and songs or through print referencing techniques that draw children's attention to letters on a storybook page (Justice & Ezell, 2004).
- Facilitating children's general metacognitive development through activities that encourage children to reflect on words and language (e.g., noticing word length in spoken and written form; helping children to identify the correct and incorrect articulation of common words within a play context).

(Refer to Gillon, 2004 for a detailed discussion of factors known to influence early phonological awareness development).

2. Integrate specific phonological awareness activities into speech-pathology sessions.

The intervention detailed in this manual is based upon this model.

A variety of phoneme awareness and letter game activities can be incorporated into interventions for children with unintelligible speech or children with concurrent speech and language impairment. Issues to consider are:

- The activities may relate directly to the children's speech production goals. For example, a child who deletes initial or final consonant sounds in words can focus on the phonological awareness goal of identifying initial and final phonemes in words.
- Activities may introduce independent phonological awareness goals that can be interspersed between activities to improve speech intelligibility.
- An integrated or cyclic approach such as used in treatments to improve speech intelligibility (e.g., Hodson & Paden, 1991) (as opposed to a vertical approach teaching each skill to mastery) is most appropriate.
- Encourage child's active participation in the phonological awareness activity.
- Intensive blocks of therapy during the preschool years (e.g., two hours weekly for 6-8 weeks offered twice a year) may prove useful (Gillon, 2000, 2005).

Teaching examples that may be used in this approach are provided throughout the program and video demonstrations accompany the workshop.

Phonological awareness intervention in perspective

It is important to keep phonological awareness in perspective with other necessary skills for reading and spelling. It would be incorrect to assume that all a child needs to read and spell are strong phonological awareness skills. The words of (Tunmer, Herriman, & Nesdale, 1988 p. 50) that “Phonological awareness is necessary but not sufficient for acquiring phonological recoding skill” are a reminder that other variables also contribute to the prediction of word recognition and reading comprehension performance. (See also (Roth, Speece, & Cooper, 2002; Scarborough, 1998).

Evaluation

Evaluation to ensure that the intervention provided has facilitated the child’s phonological awareness development is critical within the intervention framework. Such evaluation should direct further periods of planned intervention. Assessment probes and dynamic assessment methods may be used to examine children’s progress in areas such as:

- Learning of targeted knowledge.
- Level of prompting or scaffolding required in successfully completing a task.
- Speed of responding.
- Attention to task rather than obvious guessing behaviour.
- The development of sensitivity to sounds in words.
- Transfer of knowledge to untrained tasks.
- Interaction between improving speech production, phonological awareness, letter knowledge and other aspects of language development.

Monitoring

The preschool child with speech-language impairment should be carefully monitored following school entry and during the early school years. The following issues should be considered:

- Further periods of structured phoneme awareness intervention may be necessary within the first or second year of schooling For example, the Gillon Phonological awareness intervention program for 5-8 year old children (2000).
- Assessment evidence that children can use phonological information in the reading and spelling process and are developing efficiency in word recognition should be gathered. Such evidence will support the effectiveness of early phonological awareness intervention.
- Once word decoding is mastered, intervention may need to target other areas of language development such as oral narrative skills, or semantic/syntactic/morphological awareness to further enhance spelling and reading comprehension.
- As demands on efficient reading and writing skills increase through the school years, children with speech language impairment (or a history of such impairment at the preschool level) may require further periods of intensive intervention and ongoing curriculum support.

Ensuring young children with speech-language impairment have strong phoneme awareness and letter knowledge during their first year at school will assist these children in decoding printed words, recognising printed words, and using phonological cues when spelling words. Consistent with the “self teaching” hypothesis of reading (Share, 1995), this in turn will facilitate ready fluency and reading comprehension and assist in writing development. Thus,

the positive interactions between spoken and written language development evident in children with typical speech and language skills, will also be afforded to children with speech-language impairment.

Materials included with this program

Intervention manual

CD with materials for printing out and laminating. Materials on the CD are as follows

- Speech target pictures with words underneath (to be cut and laminated)
- Letter- sound speech target boards
- Segmentation/blending boards
- Segmentation picture scenes
- Letter cards (A4- selected consonants given as examples)
- Alphabet letters to be cut into cards
- Phoneme identity cards (2 sets: 1 set to be laminated and used as boards, the second set to be cut into cards for games such as snap, category matching).
- Sound- symbol boards from the Gillon PAT program (2000).
- Character cards (e.g. crunching crocodile) to be laminated.

Program aims and structure

This integrated phonological awareness intervention for children with speech impairment aims to:

- 1 Enhance letter knowledge (letter sound and letter name)
- 2 Facilitate phonological awareness particularly at the phoneme level
- 3 Improve speech intelligibility

Each session in the intervention program should include activities to target these three aims in an integrated manner. For example, activities to develop letter sound knowledge are included in the phonological awareness activities; stimulus items used in phonological awareness activities are based on the child's target speech production goals, opportunities for targeted speech production practice are included in all phonological awareness activities and letters introduced are associated with the child's speech production goals.

The intervention should be administered twice weekly for a 6-8 week period followed by a break in therapy of approximately two months and then a second 6 –8 week block of therapy. Each therapy session should be scheduled for one hour to ensure at least 45 minutes of intervention is implemented at each session (i.e., allow time for a break in middle of session or the child arriving late).

Group sessions of up to 3 children in the group may be implemented. The preferred model is one group session per week and one individual session per week.

Speech production targets should be chosen on the basis of a comprehensive assessment. Selected phonological processes should ideally have a minimum of 40% usage by the child (Hodsen & Paden, 1991).

The general structure of the intervention is as follow:

- Baseline assessment
- Pre intervention assessment probes to establish a stable baseline prior to intervention
- First 6 weeks of intervention (2 one hour sessions per week or until 12 sessions have been administered)
- Mid intervention assessment probes
- Break for 6 weeks
- Second 6 week intervention (2 one hour sessions per week or until 12 sessions have been administered)
- Post assessment probes
- Post test assessment measures
- Follow- up assessments at school

Baseline Assessment

It is important that a comprehensive assessment of a child's speech, language, phonological awareness and literacy skills is conducted prior to the implementation of the program. Such assessment will include evaluation of the child's receptive and expressive language, an in-depth phonological assessment, examination of the child's oral motor skills and a hearing assessment.

For the purposes of this intervention pre intervention assessment should also establish

- level of letter knowledge

Level 1: Child demonstrates no letter knowledge or very little letter knowledge

Level 2: Child demonstrates some letter knowledge but does not know all the sounds associated with the letters.

- phonological awareness skill level

Level 1: Child is unable to identify phoneme in words

Level 2: Child can identify initial phonemes in words

- Speech targets for intervention.

A phonological process analysis can be used to select speech sound targets for intervention based on Hodsden & Paden, (1991) potential targets for therapy.

Assessment probes

Speech, letter knowledge and phonological awareness probes based on a child's assessment profile are used to evaluate the effectiveness of each 6-week block of intervention intervention.

Speech targets: First, the clinician should select two or three speech targets, one or two that will be taught during the 6-week block and one that will be untrained. For example, if the child is using early stopping and velar fronting processes, the clinician may choose velar fronting as the trained process and early stopping as the untrained process. Accuracy on selected trained and untrained words with in the target speech error pattern also needs to be established.

Letter and phoneme awareness target:

Once the speech targets have been chosen, the clinician can select trained and untrained letter knowledge and phoneme awareness assessment probes that include the child's speech targets. For instance, in the above example, the clinician will probe the child's letter-sound knowledge of 's' and 'k' plus 4 or 5 other letters the child doesn't know and phoneme awareness of words that contain /s/ and /k/ sounds. The child will receive the integrated intervention based on the velar sounds and not the /s/ sound. Following the program, the clinician can re-administer the probes and compare the child's performance in the trained to the untrained probes.

Pre-Program Activities

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

Same /different

First / last

Beginning /end

Slow/ quick

Together/ apart

Concepts of a **word**, a **sound** in a word, and a **letter**.

These concepts will be incidentally taught through the program, but for some children with very limited language abilities it may be useful to introduce these concepts prior to the program.

Teaching issues

- Articulation of phonemes

When 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**

- Correcting speech errors

When the child makes a speech error develop the child's awareness for why the word is incorrect as appropriate to the child's phonological abilities and level of the program. Prompting the child to use phonological and/or letter-sound information to direct speech production will enhance the integrated nature of the intervention.

Example Target word : car

Child: tar

Therapist: *When you say tar I hear a /t/ sound at the beginning. Car starts with a /k/ sound. Car, hear the /k/ sound at the beginning. Let's try saying car with a /k/ sound.*

Child: car

Therapist: Great, now I hear the /k/ sound.

Target word: bus

Child: bu

Therapist: *When you say bu I can't hear the last sound. Bus has three sounds b..u...s.. (segmenting the word and placing out three blocks to represent the three sounds). Try saying bus with three sounds... bus (touching each block to correspond with each sound in the word).*

Target word: spot

Child: *pot*

Therapist: *When you say pot, I can't hear the /s/ sound at the beginning. Spot starts with a /s/ sound (pointing to the letter 's' in the word spot). Try saying spot with a /s/ sound at the beginning (pointing to the letter 's' in the word spot).*

Note: If a child continues to have difficulty producing a target sound within a word (i.e. can produce the sound in isolation only), letter blocks/cards² can be used as a visual cue to aid production.

Example:

Target word: *star*

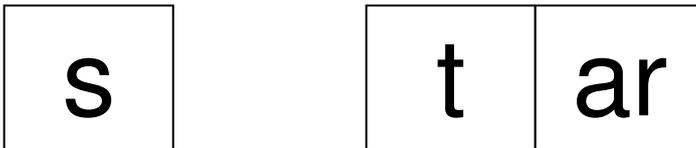
Child: *tar*

Therapist: *When you say tar, I can't hear the /s/ sound at the beginning. Star starts with a /s/ sound (pointing to the letter 's' in the word star). Try saying star with a /s/ sound at the beginning (pointing to the letter 's' in the word star).*

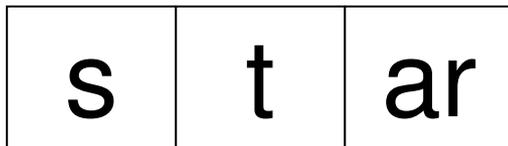
Child: *tar*

Therapist: *Good try but I still can't hear the /s/ sound at the beginning of star (pointing to the letter 's'). Let's say star slowly together using the letters to help us /s/ /ta/ (pointing to the corresponding graphemes).*

Child: */s/ /ta/ (pointing to the corresponding graphemes).*



Therapist: *Great /s/ sound. Now lets try and say 'star' altogether (moving the letter blocks together as pictured below).*



Therapist: *Star (touching each grapheme block to correspond with each sound in the word). Now its your turn.*

Child: *Star.*

Therapist: *Great talking!*

- Praise

Give the child plenty of praise and encouragement as the he or she attempts the activities. Positively reinforce the parts of the activity that the child has correct and correct errors in a positive manner. When appropriate, give additional prompts until the child achieves success.

Example: Phoneme identity error: the child incorrectly identifies the first sound in a target word

² Letter blocks are supplied with the Gillon 2000 program. Letter cards can be made from resources on the CD accompanying this manual.

Therapist: Good try you've heard a sound at the beginning of the word. Let's listen again as I say the word slowlysun. I hear a /s/ sound at the beginning of sun. What sound can you hear at the beginning of sun?

Child: /s/

Therapist: Great listening, sun starts with a /s/ sound.

- Behaviour/ task management

1. When working with a small group of children, make use of small carpet mats to help direct the children's movements (as shown on the video examples). That is, ask children to sit on their mats when in a circle or to stand on their mats when in a line for throwing activities.
2. Change activities frequently (e.g., every 8 – 10 minutes) to keep children focused on the task.
3. Give the children a short break outside of the clinic in the middle of the session such as going to get a drink of water or walk to a given location to see an object (i.e. an organised break rather than allowing the children to become too distracted).
4. Actively engage the children in the program activities wherever possible (e.g., throwing a bean bag or rolling a ball to target word) and use attractive toys that will capture young children's attention.
5. Organise activity materials prior to the session to allow for a quick change between activities (e.g., have next activity prepared and hidden under a table ready to pull out after the completion of a prior activity).
6. If using a computer activity, try using a small data projector to project the image onto a blank wall so the children can run up and touch the image. Consider having this activity near the beginning of the session or after a short break mid-way through the session so the computer can be ready for the activity. Shut the computer down after the activity to avoid the data projector humming throughout the session. Consider dimming the lights or shutting curtains to gain children's attention and a stronger image from the data projector onto the wall.

Speech production

The following section lists speech production target words (i.e., words to be used in the activities) and control words (i.e. the words are tested, but are not included in any of the intervention sessions). Picture cards and game boards are provided in this program for six common speech error patterns. The CD contains other pictures and boards that may be used. The therapists should develop these resources in the same manner as provided with the program (i.e. use the additional pictures or use clip art to find other pictures for ten target speech words, 5 control words, segmentation and blending boards, and letter sound board games.

The speech target cards have the word written underneath. At times, however, it may be useful to ensure children are listening to the target phonemes at the beginning of the word and not only using the visual information to cue their response. For these occasions the printed word could be covered with sticky paper or instructors could photocopy the picture and delete the word in the copying process through covering the word prior to copying. For most activities though the child's attention should be actively drawn to the printed word under the picture to encourage the child's understanding of the match between the spoken and written form of a word.

Each common speech error pattern targeted has the following resources:

- Speech target cards;
- Segmentation/blending board; and
- Letter/sound target board.

Some of the error patterns also have a segmentation picture scene.

If speech goals are integrated into the program, it is important that as many productions of the target sound as possible are elicited in each activity. It is also critical that the child receives corrective feedback regarding speech errors and is given an opportunity to re-produce the word following the feedback.

Target speech pattern word lists:**Bilabial Consonant-Vowel Structure**

Trained Items	Untrained Items
Pie	Pear
Pour	Pay
Pooh	Bee
Bye	Ba
Boo	More
Boy	
Bear	
Bow	
Me	
Moo	
Mow	
May	

Error Pattern: Final Consonant Deletion

Activities target correct use of n, m b, p and t d in final position.

Trained Items	Untrained Items
Man	Mop
Mud	Tub
Moon	Boot
Tin	Bean
Time	Bat
Pan	
Nut	
Boat	
Bib	
Beep	
Dart	
Pup	

Error Pattern: Early Stopping

Activities target the reduction of substituting /d/ or /t/ for /s/ and substituting /b/ or /p/ for /f/.

Trained Items	Untrained Items
Saw	Sea
Sew	Sad
Sue	Far
Sun	Foot
Sam	Fat
Sit	
Soup	
Four	
Fur	
Fan	
Farm	
Fish	

Error Pattern: Velar Fronting

Activities target the reduction of substituting /t/ for /k/.

Trained Items	Untrained Items
Car	Core
Coo	Key
Cow	King
Cap	Can
Corn	Fork
Kay	
Cup	
Coin	
Back	
Book	
Neck	
Nick	

Error Pattern: Backing

Activities target the reduction of substituting /k/ or /g/ for /d/ or /t/

Trained Items	Untrained Items
Door	Tea
Tear	Tap
Two	Tan
Tin	Turn
Tum	Dawn
Top	
Ten	
Talk	
Town	
Team	
Den	
Dip	

Error Pattern: S Cluster Reduction

Activities target the reduction of substituting or deleting s clusters in words with initial st sl and sp clusters.

Trained Items	Untrained Items
Star	Stir
Sleigh	Spa
Slow	Step
Spy	Sleep
Stop	Spin
Stem	
Stan	
Slip	
Slot	
Spoon	
Spit	
Spot	

Program Activities

Letter knowledge

Aim:

To facilitate knowledge of the relationship between a letter, the name of the letter and the common phoneme associated with the letter.

Resources:

Resources with program:

- A4 letter card sheets, small letter cards
- Speech cards with words written underneath
- Letter sound speech target boards
- Sound symbol bingo boards

Alternative resources: Write large lower case letters onto poster size pieces of cardboard- *eg A3 size*. The selected letters should be written in bold red or black print onto large poster size pieces of white card.

Other resources: Mystery box to hide letter cards in, Bean bags to throw onto target letters, Computer software that teaches letter sound knowledge (e.g, Owl word shop activity from Kindergarten Winnie the Pooh), white board, felt pen, and “magic duster” and suitable books for shared book reading such as “where’s spot” (i.e., books with large clear print and limited text on each page)

Speech Practice:

The children should be given opportunities to articulate the phoneme for the letter as often as possible during the game activities. The therapist should frequently reinforce the relationship between the letter, its name, and its sound during the activities.

Letters should be selected that are appropriate to the children’s speech goals. For example:

- Children whose speech target goal is s cluster reduction should be introduced to letters from that cluster (e.g. s and t, s and p etc.).
- Children whose target speech goal is final consonant deletion should be introduced to the letter that will be used in therapy at the end of the word.
- Children whose target speech goal is a substitution error (e.g. velar fronting) should be introduced to the target sound (/k/) and the substituted sound (/t/) within letter knowledge activities to allow for minimal pair therapy targeting the substituted sound.

Activities Level 1:

Begin at this level for children who demonstrate no letter knowledge or very little letter knowledge.

Introduce two letters that are visually distinct. One letter should be associated with the child’s speech production target and the child should easily articulate the phoneme for the other letter. It is important in the early stages of the program that the consonants chosen have a one

to one grapheme-phoneme relationship (e.g. s, m, t, p, b, n, d) and that the common phoneme for the grapheme is presented (e.g. 'f' is presented with the /f/ sound instead of ph, 'c' and 'k' are presented for the /k/ sound).

Letter and sound recognition

Activity Example: The child's speech target is the s cluster reduction. The selected letters are 's' (speech target) and 'm' (easily produced by the child).

Place the large letter cards on the floor in front of the child



Therapist: *This is the letter s and it makes a /s/ sound (holding up the letter s). Let's make the /s/ sound together .../s/ (help the child model through imitation and shaping techniques the correct articulation of /s/ or accept a close approximation of /s/ as appropriate to speech articulation goal).*

Great you made the /s/ sound for the letter s (holding the letter s in front of the child making sure the child focuses on the letter). The therapist replaces the letter s back onto the floor.

This is the letter m and it makes a /m/ sound (holding up the letter m). Let's make the /m sound together...../m/ Good work, you made the /m/ sound for the letter m (holding up the letter m).

Now lets play a throwing game! This is the letter s (pointing to the letter s). It makes a /s/ sound. Throw the beanbag onto the letter s. Now throw to the letter m.

Throw to the letter s.

Throw to the one that makes the /s/ sound.

Throw to the one that makes a /m/ sound.

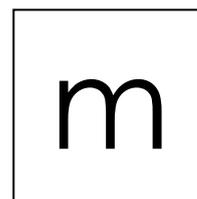
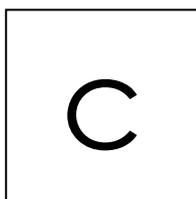
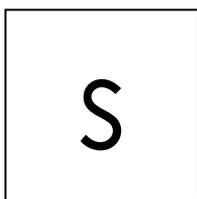
Correction: If the child makes an error simply show the child the correct letter and ask the child to throw the beanbag onto the correct letter.

This is the letter s (pointing to the s card) throw the beanbag onto the letter s that makes a /s/ sound.

Remember to encourage the child to articulate the sound correctly at each turn and give plenty of praise and encouragement.

Group work adaptation: 3 children

Put out three letters to ensure each child has a target letter that matches their speech production goal.



Therapist: *This is the letter c and it can make a /k/ sound.
This is the letter s and it makes a /s/ sound.
This is the letter m and it makes a /m/ sound.*

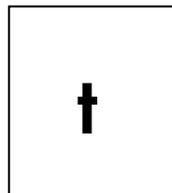
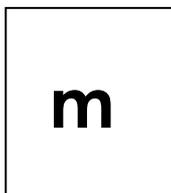
Each child takes turns at throwing the beanbag onto a target letter and saying its sound.

Other games:

Play a range of games to reinforce the name and sound of each target letter. For example: the child is required to drive a motorbike to the letter that makes a /k/ sound. The child must articulate the /k/ sound once the motorbike has reached the appropriate letter. The child is required to roll a ball onto the letter that makes a /s/ sound. The child must articulate the /s/ sound once the ball is rolled onto the appropriate letter.

Finding the letter-name or letter sound using bubbles.

Therapist: *“Find the one that says mmm (child aims the bubbles at the large poster size letters located on the wall at eye height level). Yes, you’ve found the mmm sound. You try that sound? Great talking. This is the letter m (pointing to large poster size letter) that makes the mmm sound. Let’s try another one”.*



Progressing the activity

Gradually add additional letters into the game activities (e.g., child selects the target letter from four letters displayed). Change the target letters in the game by substituting a new letter. For example, instead of s c m in the above activity change the distracter item m to p (i.e., change to another consonant the child can articulate easily and that looks visually distinct from the other letters such as p) or introduce a new letter associated with the child’s next speech production goal.

Some children may take one or two sessions (e.g., 1 or 2 hours of intervention) before they start to realise that a letter is connected with a sound and name. However, in the authors’ experience, once children understand the connection between two or three letters and their

phonemes they more readily start to learn connections between new letters introduced and their common phoneme.

Letter matching

Children that have had limited experience with books may need to be taught to match letters to draw their attention to the visual shape of the letters.

Matching small letter cards to larger letter cards placed on the floor

Therapist: *This is the letter s. (giving the child a letter s card) It makes a /s/ sound. Place the letter on the big card with the letter /s/. (The large cards of S and M are placed in front of the child). Look at the letters carefully- do they look the same?*

This is the letter c. It can make a /k/ sound. Tell batman what sound the letter makes Drive batman over to the big letter c (child places the small card with the letter c in the batmobile and drives it over to the big poster size letter of C.

Letter memory

Place 3 A4 size letter cards and 3 matching small letter cards face down on the floor. The children take turns at turning over one A4 size letter and 1 small letter to see if they are the same.

S	m
m	S
C	C

Letter matching at the start of a word

Place three speech cards with the words written underneath on the floor, one which starts with the child's target letter.

Clinician: Find the word that starts with a /s/ sound. Stop, top, mat. Well done! You found the s at the start of 'stop'. 'Stop' starts with a /s/ sound. Say 'stop' with me.

Activities Level 2

Once children have acquired a basic understanding of how letters are related to speech sounds or for children who already have some letter knowledge a wider range of letter knowledge games can be introduced. For young children play the activities with additional prompts to keep the children's interest or involve physical activities. For example, select the letter out of a colourful mystery bag or ask the children to throw a beanbag onto the matching picture card.

Computer software

The Winnie the Pooh Kindergarten game can also be used to teach letter-sound knowledge and letter matching. These computer activities are very attractive to preschool children and can be a motivating method of targeting letter-sound knowledge

Sound symbol bingo game

Begin this activity by checking the child knows the names of the pictures and by bringing the child's attention to the first letter in each word.

Therapist: *I have some pictures I'd like to show you. The name of the picture is written underneath. Let's say the names of the pictures together.*
Barn.... Barn starts with a /b/ sound and look there is the letter b at the start of the word. The letter b makes a /b/ sound.
Zebra.... zebra starts with a /z/ sound. Can you find the letter z? yes that letter makes a /z/ sound.. etc
Now let's play a game with these boards.

Place one or two picture boards in front of each player. Place the letter cards face down in a pile in the centre of the table. Take turns at picking up a letter, saying the name of the letter and the sound the letter makes. Put a coloured block on the picture that starts with the letter.

Therapist *What letter have you picked up?*

Child: *v*

Therapist: *That's right and the letter v makes a /v/ sound.*

Let's find some pictures that start with a /v/ sound.

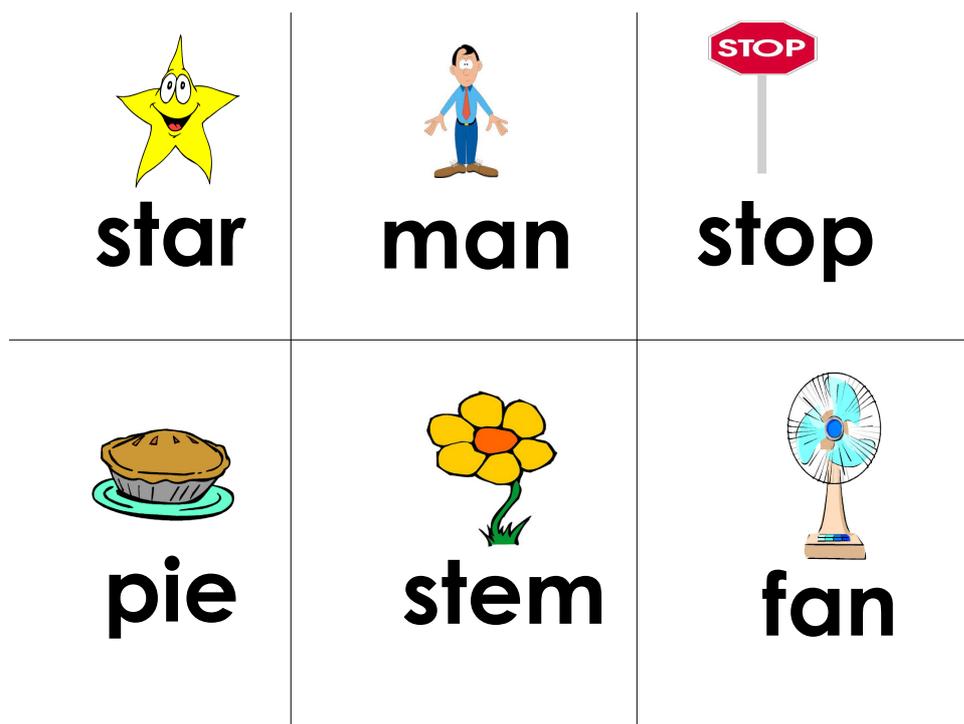
Child: *van*

Therapist: *Yes, van starts with /v/. Place a block on the picture of the van.*

The winner is the first player with each picture on his or her board covered with a block. Not all of the letters are represented with pictures and you may wish to make up your own boards to include specific speech targets.

Sound symbol games with speech targets

Place out 6 speech cards in front of each child or choose a speech target bingo board. The cards should include each child's speech target word plus some distractor items. For example, if the child's speech target is /st/ consonant cluster words, select 3 /st /cluster speech cards plus 3 words that start with letters that are visually distinct from s and each other (e.g., m f and p speech cards) as shown below:



Letters that are included in the bingo boards plus some distractor items are placed in a pile face down (e.g., for the above board the letters s p m f t d k c l could be used). The bingo game is played in the same manner as described above. The child must clearly articulate the words they find on their board.

“Yes you’ve picked up the letter s, s makes a /s/ sound. Do you have any words on your board that start with the letter s that makes a /s/ sound”. Hold the letter s under each word for visual matching if necessary. Child labels stem stop star and is encouraged to articulate the words accurately as appropriate to speech articulation goals.

Letter matching with minimal pairs (white board and felt pen activity)

(Also see phoneme manipulation activity)

Example 1: If the child’s target letter is s (based on deletion of s in the cluster), the target word could be ‘stop’ the contrast pair contrast would be ‘top’. The clinician writes the word on the white board using large bold print.

Clinician stands at the white board with children sitting on mats or small chairs in front of the white board.

Therapist: *This word says ‘stop’. A red traffic light means to stop (using the target word in a sentence). See the letter s at the start of the word. Come and point to the letter s. Let’s read the word together – ‘stop’ (The therapist wipes off the letter s). Now we’ve made a new word ‘top’ – top of the pile or on top of my head. Now I will put the s letter back on to make ‘stop’.*

Grace, come and show me the letter s at the start of ‘stop’.

Let’s read the word together with the s sound at the beginning “stop”

Mike, come and use the magic duster to wipe off the letter s. Now let’s read the new word without the /s/ “ top.”

Repeat the activity with other minimal pair contrasts: (e.g., car tar; moo moon; star tar) where one letter can be changed, added or deleted to create target or contrast pair).

(Note: The children are not expected to read the words independently rather they ‘read’ the word together with the therapist).

Letter matching activities can be advanced by using minimal pairs based on the child’s speech goal (e.g. stop, top; car, tar).

Therapist: This word says ‘car’ – drive the car. Let’s read the word together – ‘car’. This word says tar – tar on the road. Let’s read the word together - ‘tar’. Which word starts with the letter c? That’s right car starts with the letter c. C can make a /k/ sound. Car starts with a /k/ sound.

Shared book reading

Share a story with the children highlighting the print as you read the story and bring children’s attention to target words, letters and letter sounds in print. For example:

Therapist: *This story is called “Where’s Spot.” Look at Spot’s name- it starts with letter s Listen to the /s/ sound at the beginning of spot’s name. Let’s read the title together ... “Where’s Spot”... focusing the children’s attention on each word as you read together.*

Home activity

Encourage parents to use print referencing techniques to target letter-names and letter-sounds in shared book reading. If the parents attend the therapy sessions with their child model the activity during the therapy session. This reinforces the therapy work within a natural setting for the child. Parents should be encouraged to choose books with large text (e.g. ‘Spot books) as such books help to highlight the print in the story. Parents should be encouraged to point out a target letter and the sound that the letter makes as appropriate to the child’s speech targets. Once the child has acquired some letter-sound combinations, the parent can ask the child to find a word that starts with the target letter. Parents may need specific training in print referencing techniques and provided with examples of appropriate books to share with their children. During the 6-week therapy block parents should be encouraged to share books with their children at least 4 days or evenings per week.

Phoneme Identity and phoneme matching

Aim:

To facilitate children's ability to identify phonemes in words

Resources:

Resources with program:

- Characters: e.g., Crunching crocodile, munching monkey
- Letter cards
- Speech target cards
- Phoneme identity cards (two sets- one board set and one set to be cut into cards)

Alternative resources:

If possible, use toys or puppets rather than the character posters for young children. For example a toy crocodile whose mouth can crunch up and down or the Bouncing Tiger who can bounce over to the target words (as shown on the video clips).

Witches wizard costumes

Small toy objects of different target sounds

Mystery Bag, bubble gun, fishing game, glow in the dark hand

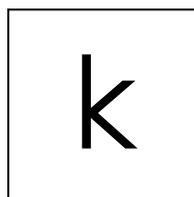
Activities Level 1

Initial phoneme matching

Animal Characters

Example for velar fronting (i.e. target sound = initial /k/)

Place out a poster sized letter 'k' and C and and the 'crunching crocodile character or toy'



Therapist: *“This is the letter ‘k’. It makes a /k/ sound. Help me make a /k/ sound. This is the letter C. It can also make a /k. sound help me make the /k/ sound. My friend crunching crocodile is going to eat or “crunch” all the pictures that start with a /k/ sound.*

Place two speech cards in front of the children one speech target and one nonspeech target that can be articulated by the child and has a wide initial sound contrast to /k/, e.g., Key man

Let's say the words together (bring children's attention to the print under the picture)

Key Man: Which one starts with the /k/ sound? (Prompt as necessary through emphasizing the K as you pronounce key or by placing the written word under the letter k) .

Great work, key starts with a /k/ sound. Give the key to the crocodile to "crunch."

Gradually extend to three words

Let's find the word that starts with /k/: key man bus

Select words with wide sound contrast and visually distinct initial letters.

Once children are easily identifying the target word, use speech cards without the words written underneath (i.e., cover the words) to ensure children are listening to the initial sound and can identify the word without the visual cue of the first letter.

When the crocodile has 'crunched up' all the target /k/ words, the child should be prompted to articulate all the words starting with /k/ and to place those pictures on the letter 'k'.

Listen to all the words that start with /k/ Key car cow comb king etc. You help me read these words that start with a c sound (helping the children read the words on the speech cards).

Repeat this activity with other characters such as bouncing Tiger

Tiger will bounce to the word that starts with ----- (choice of two pictures, then progress to choice of 3 pictures)

Batman will drive to the word that starts with -----

Mystery Bag activity

Place picture cards of words starting with one of two phonemes into a mystery bag. One phoneme should be the child's speech target (e.g. k) and the other should be a phoneme that the child can easily produce and that is visually different to the speech target (e.g. p). Poster-sized 'k' and 'p' letters should be placed on the floor. The child must take a card from the bag, identify the initial sound and place the card beside the appropriate letter.

Child: selects picture from bag

Therapist: *"You've found a 'key' Say 'key'? Key starts with a /k/ sound and this letter can make a /k/ sound* (showing the large letter 'k'). *Take the key to the letter 'k'.*

Phoneme categorisation

Sorting animal friends (as shown on video clip)

Children are required to sort toys or cards by initial sounds.

Therapist: *"This is my friend, monkey. Monkey starts with a /m/ sound. Monkey wants to find a friend that starts with a /m/ sound.*

Does turtle start with a m sound? Watch my mouth as I say the words: Turtle... monkey (slightly exaggerating the articulation of the initial sounds to show the different tongue and lip positions)– *no they don't start with the same sound.*

What about mouse?... Watch my mouth: mouse... monkey... yes they both start with an / m/ sound. Let's try saying mouse with out lips together for the /m/ sound. Take mouse and monkey for a walk together.

Witches/ Wizards stew

Children dress up in witches or wizards costumes (e.g., capes, hats) and gather around the cauldron (a black box) to make a witches stew. The therapist has a witches's/wizard's wand to help make a stew (wands that light up or make a noise when waved are useful to capture young children's attention).

Object of the game is to place toy objects and speech cards into the stew that start with the target sound. For example:

Therapist: *Today we will make a stew with /s/ words.*

Let's see what we will put in our stew (the children and therapist hunt through a box of small toys include words for speech practice)

Child: picks out a toy bike-

Therapist: *Let's chant the word together: bike.. bike... bike...no that doesn't start with s sound.*

Child: picks out a toy car

Therapist: *Let's chant the word together: car... car... car... no that doesn't start with /s/*

Child picks out a snake

Therapist: *Let's chant the word together: snake..... snake..... snake (prompting the children to articulate the word correctly as appropriate to speech goals). Yes snake starts with a /s/ sound.Put the snake in the stew.*

Lewis you wave the wizard's wand over the stew to make a spell

Chant the word spell as you wave the wand spellspell.... spell

Continue in this manner making a spell with the wand each time a /s/ word is placed in the stew

Final consonant sounds

Many of the above games can also be played targeting a final consonant sound for children whose speech goals is to reduce final consonant deletion.

In the group situation where some children are targeting an initial sound, the final sound can be targeted for another child to practice final consonant articulation.

Activity example:

John's speech target is initial /k/ and Louise's speech target is final /n/.

Children are standing on mats a short distance away from two speech cards that are placed on the floor.



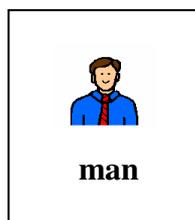
Therapist: *Listen to these words: pan, car*
You say these words with me: pan car
Watch my mouth as I say the words: pan car
John, which word starts with a /k/ sound? Yes car starts with a /k/ sound- see the letter c at the beginning of the word. Throw the beanbag onto car- say the word car.
Louise, Which word ends with a /n/ sound: pan car
Yes pan ends with a /n/ sound. See the letter /n/ at the end of the word. Let's say it again with this /n/ sound at the end mop. Great work, now throw the bean bag onto pan that ends with a /n/ sound.

Repeat with same two target words

Therapist: *Now stand a bit further away from the cards.*
(children move their mats further away from the speech cards). Let's see how good you are at throwing
Listen to these words again: pan car
John throw your bag onto the word that starts with /k/
Great throwing- let's say the word together car. John can you say the word on your own – car
Louise you throw your bag onto the word that ends with a /n/ sound
Good throw. Let's say the word together pan- hear the /n/ sound at the end see the letter n at the end of the word. Louise say pan with a /n/ sound at the end (therapist points to the letter n as Louise tries to articulate the word correctly).

Selecting target speech words

Therapist: *Find the word that starts with the mmm sound (child is presented with 3-4 word-picture cards from which they select one using the sticky hand) Yes, "man" starts with the mmm sound. This is the letter m (point to the word-picture card) and it makes the mmm sound. Can you say that word for me? Great talking.*



Activities Level 2

Once children gain confidence in identifying words that start with a target sound activities can be extended to include a wider range of target sounds and wider choice

Phoneme isolation

Letter sound boards

Use the speech letter sound boards to identify first sounds in words

Therapist: *Throw this block on the board*(Child throws block and it lands nearest the chair). *What did it land on?*

Child: *sun*

Therapist: *Good. What is the first sound in sun?*

Child: *d*

Therapist: *Listen again sun...sun I hear a /s/ sound at the beginning of sun
What sound do you hear at the beginning sun?*

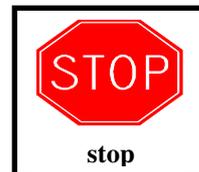
Child */s/*

Therapist: "That's right. sun starts with a 's' sound."

(therapist selects a speech card of sun with the word written underneath. Look at the word sun – see the s at the beginning. Let's read the word together sun hear the /s/ sound at the beginning (pointing to the letter s).Yes sun starts with a /s/ sound.

Activity 2: Fishing for words that contain speech production targets and initial phoneme identity targets.

Therapist: *"Lets see what word each fish is hiding (child uses the magnetic fishing rod to catch plastic fish with picture-word cards attached). Tell me what you've found. Yes, you've found "stop" (the child is encouraged to produce the word correctly as per speech production goals). What sound does "stop" start with? Yes, stop starts with the sss sound. This is the letter s (pointing to the picture-word card) and it makes the sss sound. Let's see what other words these fish are hiding".*



This activity can be made more difficult by asking the child to identify the final sound in a stimulus items or by putting out speech cards and covering the written word.

Phoneme Identity and vocabulary extension

Animals	Food	Transport	Sport
dog /deer	corn/cake	Car/van	net/bat
cat/bear	pea/pear	bus/bike	ball/boot
seal /pig	soup/egg	train/truck	dart/ surf
fox/ fawn	chop/chips*		
mouse /horse	ham/plum		
cow/goat	cheese/meat		

*the word chips or fries can be used for this picture

- Identifying consonant sounds in words.

Use the picture sheets in semantic category groupings to identify whether words start with the same sound.

Example Animal picture sheet

Therapist: *Here are some pictures of animals. Can you tell me what all the animals are called? (Child responds and the therapist discusses the animals as necessary). Listen to the sounds in these words. Listen to the word Dog. Dog starts with a /d/ sound and deer starts with a /d/ sound. Dog, deer, they both start with a /d/ sound.*

Do cat and cow start with the same sound?

Child: *Cat, cow, yes they start the same.*

Therapist: *Good listening. Cat, cow, both start with a /k/ sound.*

Therapist: *Do seal and dog start with the same sound?*

Child: *Yes*

Therapist: *Listen again: seal dog. Seal starts with a /s/ sound and dog starts with a /d/ sound. Let's try another one. Do seal and deer start with the same sound?*

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

Example

Do soup and seal start with the same sound?

Do bike and bear start with the same sound?

Do boot and cat start with the same sound?

Repeat the activity listening for final sounds – emphasize this activity for children who delete final consonants

Lets look at our animal pictures again- who can name the animals for me. Lets listen carefully for sounds at the end of the word Cat fawn

Do boot and dart end with the same sound?

Do cake and bike end with the same sound?

Do soup and cheese end with the same sound?

- 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: *Let's find all the pictures that start with a /b/ sound. (Say each word as you find the picture: bus, bike, boot, bat, bear, ball). Can you think of other words that start with /b/ sound? Are there any things in this room that start with a /b/ sound? (e.g., box, book etc).*

Repeat this activity using a variety of target sounds.

Reinforce this phoneme identity task by playing a game with the picture sheets. Place all the picture sheets (excluding medial consonant sheets) out onto the table. Place a letter block/s (e.g., c and k) in the middle of the table. The child and therapist race each other to identify all the pictures that start with the sound of the letter by placing a coloured block or counter on each picture that starts with the target sound.

Example:

Therapist: *Let's find all the pictures that start with /s/ ready go!* The child and therapist race each other to find pictures starting with /s/ and place a coloured block on the picture. *What words did you find that start with /s/?* Ask the child to say the words. Model the correct articulation as necessary.

Correct errors as appropriate. For example: The child identified mouse as starting with a /s/ sound.

Therapist: *Good try. I can hear a /s/ sound in that word but let's listen again: mouse. What sound does it start with: mouse. Yes, mouse starts with /m/ and the /s/ sound is at the end.*

Repeat the above activities listening to the final sounds.

Example: Find all the pictures that **end** with a /t/ sound (put the letter t)

Sorting cards- Snap card game.

With the second set of phoneme identity cards cut the sheets into individual cards. Play sorting games to find all the animals, transport, food items etc. Play snap games with the cards snapping on the cards when two cards start with the same sound.

Odd one out phoneme identity game with speech cards with and without the printed words.

Therapist: *I'm going to point to three pictures. Listen to the beginning of each word and tell me which one starts with a different sound*
bear bat car

Child: *car*

Therapist: *Yes, car starts with a /k/ sound (pointing to the letter c) and bear and bat start with a /b/ sound (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.

cheese** egg **chop
*soup **pear** **pea** etc*

Repeat the activity with speech cards and cover over the words written underneath.

Repeat the activity with final speech target sounds.

Therapist: *Listen to the end of each word and tell me which one has a different end sound*
Corn cake bike (pointing to the appropriate pictures)
Ham cheese plum
Pig dog seal etc

- Integrating activity with speech goals.

Integrate speech production targets through awareness of initial and final sounds.

Example : Child says tar for car when identifying pictures that start with a /k/ sound.

Therapist: *When you say tar I hear a/ t/ sound at the start. Car begins with a /k/ sound. Can you make car start with a /k/ sound. Model the sound and word as appropriate.*

Create new phoneme identity picture sheets using the template provided with words that target the child's speech production goals (e.g. integrate some minimal pair pictures). Identify the beginning sound in each word and find the corresponding letter for the initial sound. Ask the child to repeat the words or use role reversal techniques to give the child practice at articulating the target words.

Example: target: increase use of fricative sounds (e.g. sh sound)

Therapist: *Do shop and top start with the same sound?*

Child: *shop, top, no they don't start the same*

Therapist: *shop starts with a sh sound can you find the sh letter block*
 What sound does top start with?..... can you find the /t/ letter block.

Further ideas to link phoneme identity activities to the child's speech goal

Children whose target speech goal is cluster reduction should be introduced to letters from that cluster (e.g. s and t, s and p etc.) and phoneme identity should focus on identifying the first and second phoneme in cluster words. Children functioning at level 1 phoneme awareness will find phoneme identity tasks for cluster items difficult, so it is recommended that the written word is used to as a prompt for these children.

Items for children whose target speech goal is final consonant deletion should focus on final consonant phoneme identity activities, particularly the targeted speech sound.

Targets for children whose target speech goal is a substitution error (e.g. velar fronting) should be focus on identifying the target sound in words (i.e. /k/) and the substituted sound in words (i.e. /t/) within phoneme identity activities to allow for minimal pair therapy targeting the substituted sound.

Home Activity

Encourage parents to engage the child in phoneme identity activities during shared book reading. For example, the parent can identify a word on the page and ask the child to name the initial/final/ phoneme in that word (depending on the child's phoneme awareness level). Parents can also play a 'detective' game on certain pages of a book, where the child is required to find a word on the page starting with a particular phoneme. It is also important that parents encourage speech production in home-based phoneme identity activities.

Other games can also be used to encourage phoneme identity skills in the home environment. For example, 'I spy with my little eye' games using letter sounds, drawing children's attention to initial sounds in words when participating in joint activities such as play, cooking etc.

Blending

Aim:

To facilitate children's ability to blend sounds together at the onset rime level and at the phoneme level

Resources

Resources with program

- Speech target cards
- Segmentation/blending boards

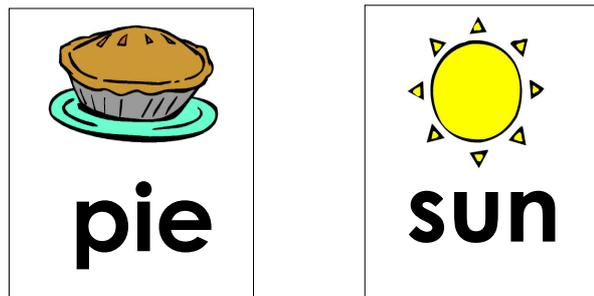
Other resources: Puppets/ characters, Train set, White board and markers, magician's cape or hat.

Activities Level 1

Onset-rime blending

For preschool children and children who have very limited phonological awareness begin blending at the onset-rime level using speech words with a CV structure and CVC structure. For children with consonant cluster process try using CCV structure (s- t- ar).

Use the speech target pictures and a puppet to help explain the activity



Talking Parrot

Introduce the activity by discussing how some birds such as budgies and parrots can be taught how to talk.

Therapist: *Mr Parrot* (Bird puppet) says words very slowly. See if you can guess which word he says: (therapist pretends to be the parrot)

P....ie s.....un

Help the children blend the words together and select the correct picture. Say the words together to help teach the parrot to talk.

Now let's teach parrot how to read the words. Encourage the children to show the parrot the word under each picture and to read the word slowly.

Continue with target speech words in this manner with the therapist segmenting the word as the parrot and the children guessing which word the parrot is saying and then blending the words together to help teach the parrot to talk.

Train station

Introduce the activity by talking about trains and train stations

A battery-operated train that runs on train tracks is required. The children take turns making the train go and one child calls out “stop” when the train reaches a station. At the station speech cards are placed face down. The therapist picks up a card and segments at the onset rime level for the children to guess what the word is and ask the children to tell the train driver or passengers on the train what words were found at the train station

Example:

Train moves around the track

Child: “stop” holding up a stop sign (the therapist helps the child stop the train)

Therapists: *Help the train driver guess what words are at the train station* (therapist picks up a word and holds it facing away from the children)

b---oat. The therapist segments the word at the onset rime level and the children guess the word. The therapist turns the card around to see if they are correct. The children then say the word together and show the card to the train driver.

Magician's writing activity

Introduce the activity by discussing magicians and magic tricks

Young children may like to dress up as magicians with capes and be given a “magic duster” for the activity (whiteboard duster)

Therapist writes a word on the board using large plain letters in lower case

Therapist: *This word says “cat”*

John can you show me the letter c that makes the /k/ sound (or show the children the letter c). Now John use your magic duster to wipe off the letter c

Now I'm going to write a new letter-- b

Now we have b—at (segmenting the word at the onset rime level and pointing to the letters as you say the sounds). What new word have we made? Wave your magician's wand and say altogether “bat”

Yes the new word says bat-(pointing to the word)

Continue in this manner changing the onset each time and segmenting the word at the onset rime level for the children to blend together to form the new word. Use rhyming word families such as:

- bat cat hat fat sat
- Sun bun gun fun
- Boo coo woo too
- Car bar tar far

For final consonant deletion, blend at the onset rime level focusing on final sounds- use words with initial consonants that the child can easily articulate.

M at
M ap

H ot
H op

B eep
B eet

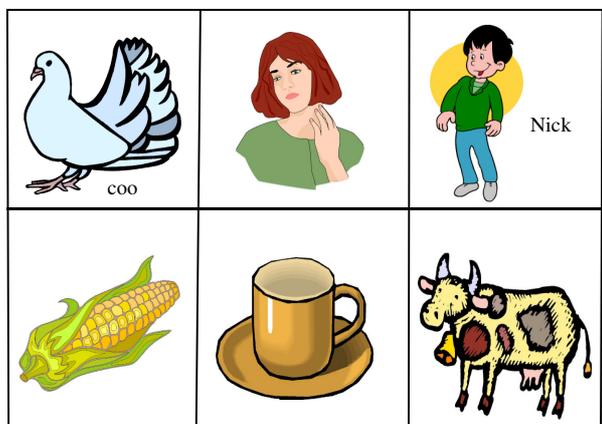
Activities Level 2

Blending at the phoneme level

During phoneme blending activities, the child is required to blend phonemes into a whole word. For example, /b/ /æ/ /k/ can be blended to form the word *back*. Items used in phoneme blending activities should be predominately based on the child's speech production goal. For example, the segmentation/ blending board pictured below includes items based on the velar fronting phonological process (i.e. all items contain the /k/ sound). It is therefore critical that targeted speech production practice is provided within the phoneme blending activities. Examples of cueing techniques to ensure speech production practice are presented below.

1. Phoneme blending bingo

Phoneme segmentation/blending board



Segmentation/blending board: Velar Fronting (Moriarty and Gillon, 2004)

Place a segmentation /blending board in front of the children (each child may have a board suitable for their speech needs or share a board). Find the matching speech cards and add in some distractor items to play as a bingo game. Place the speech cards face down in a pile beside the board. The therapist segments the word at the phoneme level and the children guess the word by blending the sounds together. If the word is on their bingo board they place the card on their board. The winner is the first player with all the pictures covered on their bingo board.

Therapist: (picking up a bingo card from the top of the pile and holding the picture so the children can not see it.). *Guess this word c---u----p* (segmenting at the phoneme level). *Look at your board. See if you might have this picture c---u---p . Yes the word is cup. Say cup as you put the picture on the board.*

Integrate with phoneme segmentation

Phoneme blending skills can also be developed during the phonemes segmentation games activities. Children can take turns at segmenting a word while another child blends together to guess the word. The phoneme segmentation picture sheets can also be used to develop blending and segmentation skills in the one activity.

Segmentation

Aims:

To facilitate child's ability to segment a target speech word at the onset-rime level or phoneme level.

To facilitate the child's ability to identify the correct articulation of the target word

Note Phoneme segmentation and manipulation skills are later developing skills and are usually acquired after some reading and spelling instruction. The activities presented in these sections are therefore expected to involve much prompting and facilitating by the therapist. Once the children have been exposed to literacy instruction more advanced activities to develop phoneme segmentation and phoneme manipulation such as included in Gillon (2000) program would be appropriate.

Resources:

Resources included with program

- Segmentation /blending boards
- Segmentation picture scene board
- Speech targets

Other resources: puppets, white board

Activities Level 1

Teaching a puppet to talk (integrate with activity described in blending)

Therapist: *Let's teach our puppet to talk. We'll show him a picture and then say the word very slowly for him. Let's try some words together.*

Ask the children to select a speech card from the pile and tell you what the word is (prompt correct articulation as appropriate to speech goal)

Child picks up a picture of a cow and says "cow"

Therapist: *Now say the word very slowly for puppet*

cow

Lets try again, you say the sounds with me

c...ow

Let's listen if puppet says the word correctly

(Therapist acts as the puppet and imitates the phoneme segmentation correctly)

c ...ow

Now let's see if the puppet can say the whole word correctly –(The therapist holds up the card of the cow and the puppet either articulates "cow" correctly or substitutes a/t/- ie child's speech error. The children judge whether the parrot's articulation is correct. If it is incorrect, they help the puppet say it correctly.

Repeat this activity with CV and CVC words

Segment clusters for children targeting s cluster production- begin with CCV

Therapist: *Say star slowly for puppet*
s—t---ar (helping the child)
 Say it slowly again showing puppet the letter of /s/ at the beginning of the word star

Teaching the puppet to read a word.

Therapist: I'm going to help puppet read some words
 Write "slow" on the whiteboard using very large print

slow

Therapist segments the word while writing up the letters on the board

s...l....ow

Let's read it slowly together for puppet: s...l.....ow (pointing to the letters as you segment.

Try it again for puppet as puppet looks carefully at the word

s....l.....ow

Now let's say it together and see if puppet can read it with us "slow"

Activities Level 2

Segmentation/blending bingo (as described in the blending section)

Therapist: (child picks up a card): *Tell me the picture you found.*

Child: *core (therapist helps prompt correct articulation)*

Therapist: *Show me the sounds in core*

Child: *c-ore (bringing down two coloured blocks or three if final/r/ is articulated)*

Therapist: *Great and all together it says.....(pushing the blocks together)*

Child: *tore*

Therapist: *When you say 'tore', I hear a /t/ sound at the start. But core starts with a /k/ sound. 'Core', hear the /k/ sound at the start? Try saying 'core' with a /k/ sound.*

Child: *Core*

Therapist: *Great! I can hear the /k/ sound at the start.*

Phoneme segmentation and blending sheets

Example: Picture with a horse and four carrots.

Place the coloured blocks at the top of one side of the picture as shown in Figure 1.

Introduce the picture talking about being on a farm. Encourage the children to tell you about any experiences they may have had on a farm

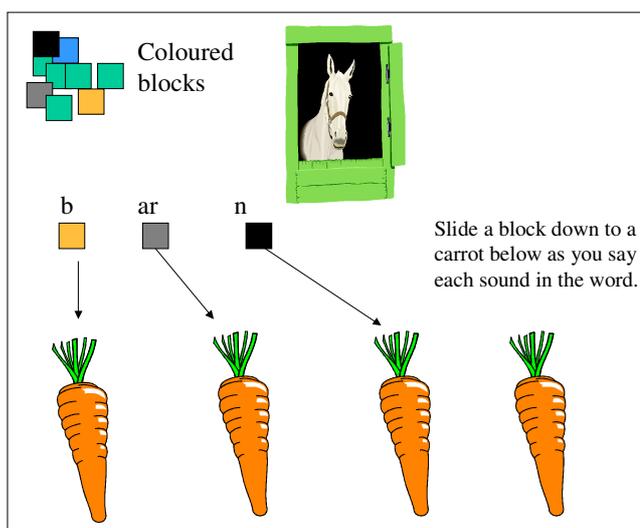
Therapist: *Here is a picture of a horse on a farm. He'd like some carrots to eat. I'll say a word and I want you to show me how many sounds are in the word. We'll give the horse one carrot for each sound we hear.*

*This horse lives in a **barn**. How many sounds can you hear in the word barn? B ar n (segmenting the word). Bring down one block at a time and place on a carrot below the horse to represent each sound.*

He got three carrots to eat.

At the completion of each turn clear the blocks from the carrots and place over the other side of the board.

Phoneme segmentation example



Gillon PAT Programme: Segmentation and Blending

Continue working through the segmentation picture boards 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:

Farm:

Talk about what the farm and animals that live on a farm. Talk about a horse and what a horse likes to eat

Suggested words to segment: farm, pet, eat, barn, horse, food, hay, run

Sun and sun lotion:

Talk about being out in the sun, swimming, being at the beach or as appropriate to the children's experiences. Encourage the children to tell you about their experiences being out in the sun, at the beach or pool, getting sunburnt.

Suggested words to segment: sun, hot, back, slap (slap on sun lotion), boy, mom (mum)

Picture of little girl (named Kay) at the doctors:

Talk about going to the doctors and being sick. Encourage the children to tell you about a time when they were sick or visited the doctors.

Suggested words for segmentation: *Kay* (little girl), *Nick* the doctor, *neck* (sore neck), *back* (sore back) and *car* (Kay went to the doctors in the car).

Buying food at the shop (cash register):

Talk about buying food at the supermarket/ store and encourage the children to tell you about the things they like to buy at the food store.

Suggested words for velar targets: include *Kay* (the check out operator), *corn* (purchase), *cap* (purchase), *coin*.

Sam eating soup (Initial /s/ CVC target words):

Create a simple story about Sam eating soup out in the sun.

Target words to segment: *Sam*, *sit*, *sun*, *soup*.

Jack and the Beanstalk:

Discuss the story Jack and the Beanstalk. Encourage the children to tell you about the story or suggest they share this story at home or preschool.

Suggested words to segment: fe fie fo fum bean big run harp

Phoneme manipulation

Aim:

To facilitate children's ability to hear sound changes in words and to recognise how changing letters in words changes the sounds.

Resources:

Speech target words
White board, marker pens and duster

Activities Level 1

Initial sound changes and minimal pair sound changes

These activities can be introduced once the children have acquired some letter sound knowledge through the earlier activities in this program. Use simple onset rime changes to manipulate first sound in a word. Use rhyming families with visually similar rime units e.g., -cat mat hat sat fat-

Write the word on the white board, ask one child to wipe off a target letter, write the new letter on the board and ask the children to identify the sound change and to say the new word (As described in letter matching white board activity and magicians phoneme blending game)

Using minimal pairs appropriate to speech target goals that involve only one change: substitution, addition or deletion

Car tar; cap tap;

Star tar; spin pin or sin; stop top; slip, lip or sip

Bee beep; Moo moon; fee, feet

Bun sun; bar far; dan fan etc

Activity example:

Children are involved in a speech practice game for their target words such as finding speech targets hidden under objects. Once the children have collected their speech target words and articulated the words correctly engage the children in an activity manipulating a sound change in the target word.

Therapist: Writing on the white board

This word says star. Lucy come and show me the letter s. Now can you wipe off /s/ with your duster. We've made the word tar (Tar is used to make roads for cars to drive on). Let's read the new word together... tar

Now if I put the letter s back again we have..star. Read star together

Mark, can make is say tar (prompt to wipe off the letter s)

Jo, come and help me make it say star again- (help child to write the letter s at the beginning). Now I'll write the words underneath each other:

star (you see a star in the sky)

tar (tar is on the road)

Let's say them together- star (see the /s/ at the beginning)

tar (no /s/ at the beginning).

Once children become competent at this level they can progress to more advanced phoneme manipulation activities with letter blocks described in Gillon (2000).

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