Development of phonological sensitivity training kit in Kannada (Phost-K)

by Prema Ks

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User manual

Manual for phonological sensitivity training kit-Kannada (PhostK)

PROJECT TITLE: *Development of phonological sensitivity training kit in Kannada (Phost-K)*

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Introduction

Phonological sensitivity refers to sensitivity to the different sound components within speech. It refers to the ability of an individual to identify and recognize, think about and manipulate the sounds of a language. For example, in the word /chamacha/ the ability of the child to be aware that the word is made up of sub components of speech sounds 'cha' 'ma' 'cha' that may be further broken down as /ch/, /a/, /m/ ,/a/,/ch/,/a/ . Such awareness requires on the part of the individual about the finer units of speech sounds is called as phonological awareness or phonological sensitivity.

Phonological awareness develops during the early years of a child. Around the preschool age of 3-5 years and much before formal learning instructions begin, there is an emergence of levels of awareness/sensitivity. Therefore, this ability or the skill is reported to be significantly associated with acquisition of literacy skills such as reading and writing. Owing to the much debated literature on the significance of the relation between phonological awareness and acquisition of literacy skills, there have been extensive studies in different languages of the world. Majority of studies have shown that children with specific deficits in phonological awareness fail to acquire literacy skills. Therefore attempts are being made to enhance phonological awareness skills in children as a preventive measure to reduce the incidence of language based learning disability. Speech language pathologists and educators have devised training kits for use by SLP's, teachers and caregivers on the principles of phonological awareness. The training for phonological sensitivity is generally intensive in nature and hence, highly demanding on manpower resources. Considering the large percentage of children with difficulty in the acquisition of literacy approx. 10-15% as per Indian studies and availability of trained manpower to impart the training, the aim of this project is to develop a training kit in Kannada for children with deficits in phonological sensitivity skills which can be used by teachers or parents/caregivers.. Therefore this manual is designed with illustrations and step by step instructions with the purpose of developing a user friendly manual. The score sheet provided in the manual is structured to document the responses of the trainee. Periodic recording of the responses help to trace the progress consequent to training.

Candidature for training

a) The training material is useful for typically developing children and those who are at risk for language based learning disability in the age range of 2-5yrs (preschoolers).

b) It is useful in training children who fall below their peer group on the battery of screening

tests for early literacy.

Who can provide training?

Speech language pathologists, special educators, teachers and parents/ caregivers can provide training after brief orientation to the training program by a speech language pathologist.

Description of PhoST-K

PhoST-K is designed to improve the phonological awareness skills, which is considered as one of the essential prerequisites for development of early literacy skills. The stimulus is presented only in the auditory mode with appropriate and timely reinforcements given to the child. PhoST-K is easy to administer and also monitor the test scores by SLP's, parents, teachers and others. A score sheet is prepared for each of the tasks in which the responses of the trainee/ child may be entered by the trainer. The method of coding the responses is explained in the following sections of the manual to make the training program unbiased and accurate.

	Section 1							Section 2				
	Recognition tasks							Production tasks				
	R					SO	PO	Bl	Sg	SD	PD	M
Sub sections	VD	A	V	R	S	-	-	-	-	-	-	-
Trial items	5	5	5	5	5	5	5	5	5	5	5	5
Number of test items	25	25	25	25	25	25	25	25	25	25	25	25

Note: R- Rhyming, SO - Syll oddity,PO- Pho oddity,Bl- Blending,Sg- Segmentation,SD- Syllable deletion, PD- Phoneme deletion, M- Manipulation

The material developed for training phonological sensitivity is divided into two sections namely, Recognition and Production. The tasks in recognition involve rhyming, syllable oddity and phoneme oddity. The tasks in production involve blending, segmentation, syllable deletion, phoneme deletion and manipulation. Each task has five levels, with 5 stimuli in each of the levels. Each level involves a minimum of 5 trials. The stimulus is presented in the auditory mode using computer or VCD/DVD player through headphones. The child has to give the response aloud. The training should be provided until 80% of the time the responses are correct that is 4 out of the 5 stimuli has to be correct. The child is trained at the same level for a given stimuli providing a maximum of 10 trials or until the criterion is reached. If the child does not reach the criterion even after ten trails of training, the training can be discontinued at that level and next task has to be introduced. It is important for the trainer to know that the child is listening to the stimulus attentively; he/she is interested in the activity and providing appropriate responses. These two sections comprise of various tasks at 5 levels of increasing complexity which is systematically described below:

Section 1: PP

1) Activity I - R

In rhyming task, the child is presented a pair of words which sounds similar but these words differ only in one of the features of speech described below. In this task, the child is supposed to recognize if the pair of words that are presented are same or different. For example, the pair of words /kala/ and /kaala/ is similar but differ in the feature 'vowel duration'. The duration of the vowel /a/ in the first word /kala/ is shorter when compared to the duration in the second word /kaala/. The child must be able to identify the difference between the two words and tell the words as different. Duration of 10secs is given for the child to respond after each stimulus presentation.

Sl. No.	Feature	Code	Example
1	Vowel duration	VD	/vara/-/vaara/
2	Aspiration	A	/akki/-/hakki/
3	Voicing	V	/kari/-/gari/
4	Retroflex	R	/kaalu/-/kaaLu/
5	Stress	S	/nali/-/nalli/

This task includes list of words which differ in 5 different features as follows: The pairs of words given differ only in one of the features mentioned above. In each subsection there are 5 pairs of words which are presented at 5 levels of increasing complexity. Instruction: The child is asked to say if the pairs of words are same or different.

> ➤ If the child says that the presented pair of words are same, then the trainer has to put a '✓' mark in the score sheet when the child is responding for a particular trial.
> ➤ If the child says that the presented pair of words are different, the trainer has to put a '✗' mark in the score sheet when the child is responding for a particular trial.

Eg: VD – a) kala - kaala

Level	Stimulus	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
VD1	A	✓	✓	✓	✗	✗

Eg: A – a) aaLu – haaLu

Level	Stimulus	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
A1	A	✓	✓	✓	✗	✗

Eg: V – a) pennu – bennu

Level	Stimulus	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
V1	a	✓	✓	✗	✗	✗

Eg: R – a) aata – aatha

Level	Stimulus	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
R1	a	✓	✓	✓	✓	✗

4

Eg: S – a) nali – nalli

Level	Stimulus	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
S1	a	✓	✓	✓	✓	✗

This procedure remains the same for all the five levels.

2) ACTIVITY II – Bl

This is a production task. In this task the child is given the letters (syllables) of a word and the child is supposed to combine those letters/syllables and tell it as a whole word. This task consists of 5 different levels of complexity and 5 set of words in each level. For this task, after each stimulus presentation time gap of 15secs is given for the child to respond.

Bl 1, Bl 2, Bl 3, Bl 4, Bl 5

E.g.: In the e.g, the child is given only the syllables of the word /baLapa/ as /ba/ /La/ /pa/ separately. The child's task is to combine the given letters and tell it aloud as a whole word. The child's response must be written down by the trainer in the trial column with respective trial number, each time the child is responding.

Level	Stimulus	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Response Key
Bl 1	a	lapa	Lapa	balapa	baLapa	baLapa	

3) ACTIVITY III: SG

This is also a production task. In this task, the child is supposed to divide the given word into its individual units (syllables) and tell those syllables aloud which the given word comprises of. This task also consists of 5 different levels presented at increasing levels of complexity and 5 set of words in each level. In this task, after each stimulus presentation time gap of 15 seconds is given for the child to respond.

Sg 1, Sg 2, Sg 3, Sg 4, Sg 5

E.g.: in the e.g., the child is given a word /uguru/. The child's task is to divide the word /uguru/ into its individual units as /u/ /gu/ /ru/ and tell it aloud. The child's response must be written down by the trainer in the trial column with respective trial number each time when the child is responding.

Level	Stimulus	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Response Key
Sg 1	A	/uguru/	/uguru/	/u//gu/ru/	/u//gu//ru/	-	

4) Activity IV– SO

This is a recognition task. In this task the child is given three words and the child is supposed to pick the odd word out of the group based on the difference in the syllable between the words. This task consists of 5 different levels of complexity and 5 set of words in each level. For this task, after each stimulus presentation time gap of 15secs is given for the child to respond.

SO 1, SO 2, SO 3, SO 4, SO 5

E.g.: In the e.g., the child is given three words in a set - /amma/, /anna/ and /ili/. The child's task is to pick the odd word out in this set of three words based on the difference in the syllables present in the word. Here, the first two words '/amma/' and '/anna/' are beginning with the letter (akshara) '/a/' whereas the third word '/ili/' begins with '/i/' and not /a/ as the first two words. The child must be able to appreciate the difference present between the words based on the letters/syllables with which they are beginning or ending. Hence in this case, the child's response expected will be the word '/ili/'. The response of the child must be written down by the trainer in the trial column with respective trial number, each time when the child is responding.

Level	Stimulus	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Response Key
SO 1	A	/amma/	/amma/	/ili/	/ili/	/ili/	

5) ACTIVITY V: PO

This is a recognition task. It is very similar to the previous task of syllable oddity although with increased complexity. Phoneme oddity task consists of three words out of which the child is supposed to pick the odd word out depending on the phoneme difference between the three words. The child is instructed to listen to all the words and pick the odd word out.
It has five different levels and five stimuli in each level.

  PhO 1, PhO 2, PhO 3, PhO 4, PhO 5.

Eg: The child is presented with three words - /sara/, /mara/ and /nari/. In this example, all the three words are ending with the sound /r/ but they differ in the phonemes. i.e. the first two words '/sara/' and '/mara/'ends with the same phoneme '/a/' whereas the third word '/nari/' ends with the phoneme /i/. The child must be able to appreciate and identify this minor difference between the phonemes and pick the odd word out. If the child picks /nari/, then this word must be written down by the trainer in the trial column with respective trial number each time when the child responded.

Level	Stimulus	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Response Key
SO 1	A	/sara/	/sara/	/mara/	/nari/	/nari/	

6) ACTIVITY VI - SD

This is a production task. In this task, the child is presented with a word and asked to tell out the word after deleting a syllable in the word that will be told by the trainer. The child is supposed to tell out the answer loud so that the trainer can enter the child's response in the score sheet. This task has 5 different levels of complexity and 5 words in each level.
 SD1, SD2, SD3, SD4, SD5.

Eg: The child listens to the word 'chapathi'. The child is asked to delete the syllable 'thi' and tell the remaining syllables or units of the word aloud. The response expected from the child is 'chapa' after deleting the syllable '/thi/' from the word '/chapathi/'. The child's response

must be written down by the trainer in the trial column with respective trial number at which each time the child is responding.

Level	Stimulus	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Response Key
SO 1	a	/chapathi/	/chapathi/	/chapa/	/chapa/	/chapa/	

7) ACTIVITY VII - PD

This is also a production task. Phoneme deletion is very much similar to the syllable oddity task although with a increasing complexity. In this task the child is presented with a word and the child is asked to delete a phoneme. The child has to give out the answer loud. This has five different levels of complexity and five stimuli are present at each level.

PD1, PD2, PD3, PD4, PD5

Eg: The child is given a word /kannu/. Then the child is asked to delete the phoneme '/k/' as told by the trainer and tell the remaining part of the word aloud. i.e the child is expected to answer as /annu/ after deleting the phoneme /k/ from the word '/kannu/'. The child's response must be written down by the trainer in the trial column with respective trial number at which each time the child is responding.

Level	Stimulus	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Response Key
PO 1	a	/kannu/	/kannu/	/kann/	/kann/	/annu/	

8) Activity VII – M

This is a production task. In this task, the child is instructed to replace a syllable in the given word with other syllable as told by the trainer and tell the newly formed word aloud. This task is presented at five levels of increasing complexity and there are five words in each level.

M1, M2, M3, M4, M5

Eg: The child is given a word /pappa/ and is asked to replace the syllable /pa/ by /thu/. The child is supposed to give the response as /thuppa/. The child's response must be written down by the trainer in the trial column with respective trial number at which each time the child is responding.

Level	Stimulus	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Response Key
M 1	a	/pappa/	/pappa/	/thuppa/	/thuppa/	/thuppa/	

SCORE SHEET

1) Activity I – R

level	Stimulus	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 4	TRIAL 5
PP-VD1	a					
	b					
	c					
	d					
	e					
PP-A1	a					
	b					
	c					
	d					
	e					
PP-V1	a					
	b					
	c					
	d					
	e					
PP-R1	a					
	b					
	c					
	d					
	e					
PP-S1	a					
	b					
	c					
	d					
	e					

level	stimulus	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 4	TRIAL 5
PP-VD2	a					
	b					
	c					
	d					
	e					
PP-A2	a					
	b					
	c					
	d					
	e					
PP-V2	a					
	b					
	c					
	d					
	e					
PP-R2	a					
	b					
	c					
	d					
	e					
PP-S2	a					
	b					
	c					
	d					
	e					

level	Stimulus	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 4	TRIAL 5
PP-VD4	a					
	b					
	c					
	d					
	e					
PP-A4	a					
	b					
	c					
	d					
	e					
PP-V4	a					
	b					
	c					
	d					
	e					
PP-R4	a					
	b					
	c					
	d					
	e					
PP-S4	a					
	b					
	c					
	d					
	e					

level	Stimulus	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 4	TRIAL 5
PP-VD3	a					
	b					
	c					
	d					
	e					
PP-A3	a					
	b					
	c					
	d					
	e					
PP-V3	a					
	b					
	c					
	d					
	e					
PP-R3	a					
	b					
	c					
	d					
	e					
PP-S3	a					
	b					
	c					
	d					
	e					

level	Stimulus	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 4	TRIAL 5
PP-VD5	a					
	b					
	c					
	d					
	e					
PP-A5	a					
	b					
	c					
	d					
	e					
PP-V5	a					
	b					
	c					
	d					
	e					
PP-R5	a					
	b					
	c					
	d					
	e					
PP-S5	a					
	b					
	c					
	d					
	e					

3) ACTIVITY III - Sg

level	Stimulus	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 4	TRIAL 5	Response key
Sg 1	a						
	b						
	c						
	d						
	e						
Sg 2	a						
	b						
	c						
	d						
	e						
Sg 3	a						
	b						
	c						
	d						
	e						
Sg 4	a						
	b						
	c						
	d						
	e						
Sg 5	a						
	b						
	c						
	d						
	e						

2) ACTIVITY II - BI

level	Stimulus	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 4	TRIAL 5	Response key
BI 1	a						
	b						
	c						
	d						
	e						
BI 2	a						
	b						
	c						
	d						
	e						
BI 3	a						
	b						
	c						
	d						
	e						
BI 4	a						
	b						
	c						
	d						
	e						
BI 5	a						
	b						
	c						
	d						
	e						

4) ACTIVITY IV - SO

level	Stimulus	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 4	TRIAL 5	Response key
SO1	a						
	b						
	c						
	d						
	e						
SO2	a						
	b						
	c						
	d						
	e						
SO3	a						
	b						
	c						
	d						
	e						
SO4	a						
	b						
	c						
	d						
	e						
SO5	a						
	b						
	c						
	d						
	e						

5) ACTIVITY V- PhO

level	Stimulus	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 4	TRIAL 5	Response key
Pho1	a						
	b						
	c						
	d						
	e						
PhO2	a						
	b						
	c						
	d						
	e						
PhO3	a						
	b						
	c						
	d						
	e						
PhO4	a						
	b						
	c						
	d						
	e						
PhO5	a						
	b						
	c						
	d						
	e						

7) ACTIVITY VII - PD

level	Stimulus	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 4	TRIAL 5	Response key
PD1	a						
	b						
	c						
	d						
	e						
PD2	a						
	b						
	c						
	d						
	e						
PD3	a						
	b						
	c						
	d						
	e						
PD4	a						
	b						
	c						
	d						
	e						
PD5	a						
	b						
	c						
	d						
	e						

6) ACTIVITY VI - SD

level	Stimulus	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 4	TRIAL 5	Response key
SD1	a						
	b						
	c						
	d						
	e						
SD2	a						
	b						
	c						
	d						
	e						
SD3	a						
	b						
	c						
	d						
	e						
SD4	a						
	b						
	c						
	d						
	e						
SD5	a						
	b						
	c						
	d						
	e						

8) ACTIVITY VIII - M

level	Stimulus	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 4	TRIAL 5	Response key
M1	b						
	c						
	d						
	e						
M2	a						
	b						
	c						
	d						
	e						
M3	a						
	b						
	c						
	d						
	e						
M4	a						
	b						
	c						
	d						
	e						
M5	a						
	b						
	c						
	d						
	e						

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