

Research Paper

Effectiveness of phonological awareness skills test in Indian population

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ABSTRACT

Introduction: Phonological awareness is one of the pre literacy skills which is a key element for learning to read a language. The development of phonological awareness progresses from kindergarten to second grade, as the child understands orthographic differences. The research shows that difficulty with phonemic awareness and phonological skills is a predictor of poor reading and writing development. **Objective:** To find out effectiveness of Phonological Awareness Skills Test in typically developing Indian population. **Methodology:** This study included 102 school children with the age range between 4 – 6 yrs currently studying in English medium school and following Matriculation syllabus pattern. PAST was initially assessed in 102 school children and after one week to find out test- retest reliability in 23 children. **Results and discussion:** Chi square test was performed to check the effectiveness of PAST across age range 4- 6 yrs in 103 children which reveals ($P < 0.05$). Test-Retest reliability was performed using Bivariate correlation which reveals there is no correlation. **Conclusion:** Phonological awareness is a broad skill that includes identifying and manipulating oral language. The results of the study showed poor benefit on assessing PAST to the Indian scenario. Hence the need arises for developing a test tool to assess phonological awareness skills in Indian population.

Keywords: Phonological Skills, Oral language, syllable, rhyme

Phonological awareness is the ability to hear and manipulate the sounds in spoken words and the understanding that spoken words and syllables are made up of sequences of speech sounds (Yopp,1992).Phonology encompass the formation or articulation of speech sounds as well as the linguistic knowledge of the sound system and sound patterns (Edwards & Shriberg,1983).The linguistic component of the phonological

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system of our language involves knowing which phoneme are meaningful and using the rules of how these phonemes can be combined to form words^[1] (Berntal et al., 2013 pg 41).

Phonological awareness is one of the pre literacy skills which is a key element for learning to read a language^[3] (Pullen and Justic.2003). The development of phonological awareness progresses from kindergarten to second grade, as the child understands orthographic differences. Phonological awareness development contains four levels - word, syllable, onset-rime and phonemic awareness. The research shows that difficulty with phonemic awareness and phonological skills is a predictor of poor reading and writing development^[4] (Hogan et al.,2003).Comparatively more test tools are available in western population for assessing phonological awareness to identify children who are at risk for learning disability.

Children with poor phonological processing skills have difficulty cracking the alphabetic code that connects the graphemes in written language to the phonemes in spoken language. Phonological awareness skills are important in order to develop good reading skills. Having good phonological awareness skills means that the learners are able to manipulate sounds and words, or play with sounds and words (Knoblauch, 2008).

The western test tools available are Phonological assessment battery (PhAB) (Frederickson) This tool helps to identify the phonological difficulties and provide intervention to help improve literacy skills. , Test of Phonological Awareness (TOPA) {Torgerson and Bryant ,1994} This test is used to screen the awareness of phonemes in both kindergarten and elementary school, phonological awareness test {Robertson and Salter, 1995} This is a test designed to diagnose deficits in phonological processing and phoneme/grapheme correspondence, Comprehensive test of phonological processes {Wegnalar et al ,1998} This test is used to assess phonological awareness, phonological memory and rapid naming., Phonological abilities test (Muter et al ,1999) This test is used to assess the phonological skills for early identification of reading difficulties.

The Indian test tools available are Early Literacy Screening Tool (ELST) {Shanbal, Goswami, Chaitra & Prathima (2011)} This toolhelp to make a baseline for child's literacy abilities and facilitate planning therapy for the child at risk for learning disability. Dyslexia Assessment Profile for Indian Children {Kuppuraj & Shanbal (2010)} this is a diagnostic tool that assess the reading and writing skills. Dyslexia assessment for languages of India (DALI) {National Brain Research Centre} this tool assess domains phonological awareness, fluency, rapid naming in four languages.

Phonological awareness can be tested by PAST(phonological awareness skills test) which is standardized in English language for western population. PAST is an informal, diagnostic, individually administered assessment tool. This test is user friendly and time efficient. This tool helps to monitor the student progress and there can be flexibility in its administration.

This study highlights to know the effectiveness of PAST in typically developing Indian population.

Aim

- To find out effectiveness of phonological awareness skills Test (PAST) in typically developing Indian population.

METHODOLOGY

Phonological Awareness Skills Test (Yvette Zgnoc, 2000) consists of 14 subtests where in each subtest has six items. There are 14 domains which are based on blending, segmentation, and deletion of sounds in syllable and phoneme level. This test is assessed between 4 – 6 yrs of age range. The entire test is done orally and each section should take no longer than 3-4 minutes. For each correct item the maximum score given is 1 and 0 for every incorrect or no response. The test begins with administering the first subtest. The administration of a subtest will be discontinued if the child misses three consecutive response items. The first five subtests are assessed initially. A skill is considered mastered when a student gets five correct answers out of six questions. This test tool can be used to assess by Speech language pathologists, teachers, special educators and parents.

- Kindergarten
- Concept of spoken word
- Rhyme recognition
- Rhyme production
- Syllable blending
- Syllable segmentation
- Syllable deletion
- Phoneme isolation of initial sounds
- First grade
- Concept of spoken word
- Rhyme recognition
- Rhyme production
- Syllable blending
- Syllable segmentation
- Syllable deletion
- Phoneme isolation of initial sounds
- Second grade
- Phoneme deletion of first sound in consonant blend
- Phoneme substitution

Inclusion criteria: This study included 102 school children with the age range between 4 – 6 yrs currently studying in English medium school and following Matriculation syllabus pattern. The teachers in the school were qualified with B.Ed degree.

Exclusion criteria: The children with sensory issue have been excluded from the criteria.

Procedure

In this study 105 preschool children were included out of which 3 children had sensory issues according to exclusion criteria they were excluded. In this study 102 children were included based on inclusion criteria. Initially Phonological awareness skills test was administered in 102 pre- school children in the age range of 4-6 yrs. The samples were audio recorded through recorder. The skill is considered mastered when the child answers five out of six tasks. After one week of time duration 23 children were randomly selected from the 102 children. The selected 23 children were re-administered with PAST to assess the test – re test reliability. The samples were audio recorded through digital tape recorder. Digital tape recorders have digital output stream capability to transfer information to computer ^[5]. Then the results were tabulated in Excel sheet and analyzed.

RESULTS AND DISCUSSION

PAST was recorded from 102 (Male- 46, Female -56) preschool children and scoring was tabulated. Statistical analysis was carried out using SPSS software. Chi square test was performed to check the effectiveness of PAST across age range 4- 6 yrs. Concept of spoken word, rhyme recognition, rhyme production, syllable blending, syllable segmentation, syllable deletion, phoneme isolation of initial sounds, phoneme isolation of final sounds , phoneme blending , phoneme segmentation, phoneme deletion of initial sounds, phoneme deletion of final sounds , phoneme deletion of first sound in consonant blend , phoneme substitution scoring was compared which reveals as no significant. ($P < 0.05$). In table No. 1 P value as been tabulated for all 14 domains of PAST across age range. After 7 days test – retest reliability was assessed in 23 children using bivariate correlation which reveals there is no correlation. In table No.2 P value as been tabulated for first 6 domains of PAST across age range.

Table No. 1 P Values for Each Subtest in PAST

Domain	P value
Concept of spoken word	0.001
Rhyme recognition	0.000
Rhyme production	0.000
Syllable blending	0.001
Syllable segmentation	0.006
Syllable deletion	0.044
Phonemic isolation of initial sounds	0.000
Phonemic isolation of final sounds	0.000
Phoneme blending	0.000
Phoneme segmentation	0.002
Phoneme deletion of initial sounds	0.001
Phoneme deletion of final sounds	0.067
Phoneme deletion of first sound in consonant blend	0.000

Note. This table demonstrates the results of PAST assessed in 102 children (Male- 46, Female -56) reveals p value (<0.05) as no significant.

Table No. 2 Test- Retest Ability Using Bivariate Correlation of PAST

Domain	P value
Concept of spoken word	0.010(ns)
Rhyme recognition	0.020(ns)
Rhyme production	0.007(ns)
Syllable blending	0.601(ns)
Syllable segmentation	0.060(ns)
Syllable deletion	0.633(ns)

Note. This Table demonstrates test –retest reliability assessed in 23 children reveals p value (<0.05) as no significant (ns).

CONCLUSION

The phonological awareness is one of the key elements for learning language. Phonological awareness is a broad skill that includes identifying and manipulating oral language. India is a diverse country with different languages with its own syntactic and semantic rules. In India, the number of languages spoken is more than 1500 including official and unofficial

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languages^[2]. The results of the study showed poor benefit on assessing PAST to the Indian population.

Clinical Implication

Hence the need arises for developing a test tool to assess phonological awareness skills Indian population.

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Conflict of Interest

The author declared no conflict of interest.

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