

Research Paper

A pilot study: development of pre-literacy skills assessment checklist

Perumal santhanam Divya^{1*}, Kannan Nachammai², Pappuvaiyh Sowmiya³,
Sivakumar Poorinima⁴

ABSTRACT

Introduction: Emergent literacy refers to skills and knowledge serving as prerequisites to reading and writing. The emergent pre-literacy skills are print awareness, phonological awareness, letter knowledge, vocabulary and narration are the skills that lay foundation for later reading skills. This study focuses on development of a pre-literacy skills assessment checklist. **Aim:** Development of Pre-literacy skills assessment checklist for children between 4 to 7 years of age. **Method:** The checklist was developed which consists of 5 major domains. It was administered in 77 typically developing 4to7 years' school children. **Result and discussion:** 77 children data was tabulated and SPSS software was used to find out the reliability. Cronbach's alpha test was used to administer the internal consistency and overall reliability. ($r = 0.830$) which reveals that the checklist has very good accuracy. **Conclusion:** Results reveals very high internal consistency Standardization & validation of this tool can be done on larger population.

Keywords: Pre literacy, awareness, vocabulary, phonology, reading.

The term literacy describes children's attainment of both emergent and conventional literacy skills. Emergent literacy refers to skills and knowledge serving as prerequisites to reading and writing, whereas conventional literacy refers to fluent and skilled reading and writing. Moreover, emergent literacy describes precursory reading and writing skills that are acquired by most children within preschool and kinder garden^[1]. The pre-literacy skills are print awareness, phonological awareness, letter knowledge, vocabulary, narration. The 3-8 years of age are increasingly viewed as critical to educational outcomes in language and literacy in later years^[6].

¹Clinical Supervisor, Department of speech and language pathology, MERF Institute of Speech & Hearing (P) Ltd (In Association with Madras ENT Research Foundation (P) Ltd), Mandavelipakkam, Chennai, India

²Interns, Department of speech and language pathology, MERF Institute of Speech & Hearing (P) Ltd (In Association with Madras ENT Research Foundation (P) Ltd), Mandavelipakkam, Chennai, India

³Interns, Department of speech and language pathology, MERF Institute of Speech & Hearing (P) Ltd (In Association with Madras ENT Research Foundation (P) Ltd), Mandavelipakkam, Chennai, India

⁴II B. ASLP, Department of speech and language pathology, MERF Institute of Speech & Hearing (P) Ltd (In Association with Madras ENT Research Foundation (P) Ltd), Mandavelipakkam, Chennai, India

*Responding Author

Received: June 6, 2020; Revision Received: June 21, 2020; Accepted: June 25, 2020

A pilot study: development of pre- literacy skills assessment checklist

Emergent literacy skills that include phonological awareness, print knowledge, and oral language provide the foundation for early reading success. There is strong developmental continuity between these emergent literacy skills during the preschool period and later reading skills. The linkage between emergent literacy skills and later reading skills indicates that children who are at risk of developing reading problems can be identified before school entry and prior to the emergence of actual problems in learning to read^[5].

Prevalence of Reading Difficulties up to 1 in 3 children may struggle with literacy development in a class of 15 children (NAEP, 2003; Nicholson, 2009) ^[2]. Early literacy knowledge is strongly and reciprocally influenced by children's oral language proficiency. Children facing difficulties achieving early literacy fundamentals and are thus subsequently unprepared for formal literacy instruction, may contribute to the relatively high incidence of reading problems for children with speech and/or language impairments ^[3].

The western test tools available are Language awareness in reading readiness test (LARR) {Downing, Schaefer, & Ayers, 1980, 1993}. This test tool assess the reading readiness in 4-5 years children. Dyslexia screening test- junior (DST) {Angela Fawcett & Rod Nicolson (2004)} The DST-J is used for early identification of children who are at risk of reading difficulties. Tests of early reading skills { Rae & potter, 1973} Wechsler Individual Achievement Test-III (WIAT-III) {David Wechsler ,2009} The WIAT-III is a comprehensive, individually test designed to assess academic achievement Test of Language Development-Primary (TOLD-P:5) {Newcomer, Hammill } This tool is used to identify oral language proficiency in children.

The Indian test tools available are Early Literacy Screening Tool (ELST) {Shanbal, Goswami, Chaitra&Prathima (2011)} This tool help 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 tools assess domains phonological awareness, fluency, rapid naming in four languages.

This a pilot study designed with the aim to focus on development of pre-literacy skills checklist that comprises skills such as phonological awareness, written and oral language for typically developing children between 4 to 7 yrs of age.

Aim

Development of pre-literacy skills assessment checklist for children between 4 to 7 years of age.

METHODOLOGY

The checklist was constructed after a detailed review of already existed material in Western as well as Indian literature. Phonological development of the child was also considered and incorporated in the study. The face validation was done by the correspondent author. The content validation and construct validation was done by 4 Speech Language Pathologists.

The tool consists of 5 domains:

| | |
|------------------------|-----------------|
| Phonological awareness | Print awareness |
| Letter knowledge | Vocabulary |
| Narration | |

A pilot study: development of pre- literacy skills assessment checklist

In phonological awareness domain there are 7 sub tasks such as phoneme isolation of initial sounds, phoneme isolation of final sounds, syllable blending, syllable segmentation, Syllable deletion, rhyme recognition, rhyme production under each subtasks there is 5 items , each subtasks with a total score of 5 .print awareness as 10 items with a total score of 10, letter knowledge 10 items under 2 subtasks as upper case letters and lower case letters with a total score of 10, vocabulary as 12 items with a total score of 12, narration was a scored based on the description of a story (Hare and tortoise) with a total score of 12 . The total score of the checklist is 79. The severity ranges from normal to severe as compare to individual score obtained.

The duration for assessment of each task in the checklist is 3-4 minutes. The maximum duration of the administration of the checklist is 20 minutes.

Inclusion criteria: This study includes school children with the age range between 4 to 7 yrs currently attending in Tamil and English medium schools from both genders were included.

Exclusion criteria: The participants with hearing and vision problems were excluded. Participants with reported neurological and psychological deficits were excluded.

Procedure

The administration was carried out in a quiet and well lit room where the child was seated in a chair comfortably next to the tester to avoid visual cues. Permission letter was provided to school where administration was carried out. The data was collected from 77 school children as based on inclusion and exclusion criteria .Initially, the demographic data about the student was collected. Then followed by speech, language, behavioral and hearing screening was done. If the child has passed the inclusion criteria, the assessment of the pre literacy checklist was carried out .Each child was individually assessed with the checklist. The duration of the administration of the checklist for each child was about 20 Minutes, depending on the involvement of the child. The responses of the child were audio recorded during the administration of the checklist. The samples were audio recorded through digital tape recorder. Digital tape recorders have digital output stream capability to transfer information to computer^[7]. There was no response time limitation in the assessment. When the child responded with a correct response, a social and verbal reinforcement was provided. Data was entered onto Microsoft excel sheet by an independent person and analysis was done.

RESULT AND DISCUSSION

Statistical analysis using SPSS software version 20 was done. Mean and standard deviation were obtained. Cronbach's alpha test was carried out to administer the internal consistency and overall reliability of the checklist. In table 1.1 the overall Cronbach's alpha coefficient was found to be ($r = 0.832$) suggests a high accuracy. In table 1.2 shows the Cronbach's reliability for phonological awareness task of the checklist obtained an alpha value $r > 0.8$, thereby confirming higher internal consistency. In table 1.3 Mean and standard deviation for 5 domains Phonological awareness (Phoneme isolation initial sounds, Phoneme isolation final sounds, Syllable Blending, Syllable, Deletion, Rhyme, Recognition, Rhyme Production), Print awareness, Letter knowledge, Vocabulary, Narration are tabulated. In table 1.4 Mean and standard deviation for 5 domains (Phonological awareness, Print awareness, Letter knowledge, Vocabulary, Narration) are tabulated.

A pilot study: development of pre- literacy skills assessment checklist

Table 1.1 Show the Cronbach's alpha r value and no. of items

| Cronbach's alpha | No. of items |
|------------------|--------------|
| 0.832 | 11 |

Table 1.2 Show the Cronbach's alpha r value for phonological awareness

| Cronbach's alpha | No. of items |
|------------------|--------------|
| 0.836 | 7 |

Table 1.3 shows the mean and standard deviation for all 11 sub tasks of 5 domains

| Domains | Sub tasks | Mean | Standard deviation |
|------------------------|----------------------------------|----------|--------------------|
| Phonological awareness | Phoneme isolation initial sounds | 4.623377 | 0.8891 |
| | Phoneme isolation final sounds | 3.961039 | 1.163497 |
| | Syllable Blending | 4.727273 | 0.700308 |
| | Syllable Segmentation | 4.688312 | 0.730172 |
| | Syllable Deletion | 4.805195 | 0.585773 |
| | Rhyme Recognition | 3.662338 | 0.926374 |
| | Rhyme Production | 3.077922 | 1.178382 |
| Print awareness | | 4.675325 | 0.594748 |
| Letter knowledge | | 9.493506 | 0.867898 |
| Vocabulary | | 6.961039 | 2.21503 |
| Narration | | 7.285714 | 2.388884 |

Table 1.4 Show the mean and standard deviation for the 5 domains

| Mean | Standard deviation |
|----------|--------------------|
| 5.269185 | 2.18955 |

CONCLUSION

Children in India enter preschools with varying degrees of exposure to English and bring with them diverse literacy experiences. Preschools in India do not have a standard curriculum; they follow a customized curriculum which prepares children to start formal education. Hence, there is a need to evaluate the literacy experiences of preschoolers in the Indian scenario. {Khurana, S., & Rao, P. K. (2011) }^[4]

Emergent literacy describes precursory reading and writing skills that are acquired by most children within preschool and kinder-garden. This pilot study conducted to exploit the merits and demerits of the present study. The maximum scores were obtained were in age range of

A pilot study: development of pre- literacy skills assessment checklist

6-7 years. This reveals development of pre literacy skills increases relatively to age. Results have concluded very high internal consistency.

Future direction

Standardization & validation of this tool can be done on larger population. This tool can be further extended in the research with different clinical populations as Specific learning disability and other language disorder population.

REFERENCES

1. Bernthal, J. E., Bankson N. W., Flipsen, P., (2013) Phonological Awareness: Description, Assessment, and Intervention *Articulation and phonological disorders: speech sound disorders in children (8th edition)* (pp.304) United States of America: Pearson
2. Carson, K., Gillon, G., & Boustead, T. (2011). Computer Administered Versus Paper-Based Assessment of School-Entry Phonological Awareness Ability. *Asia Pacific Journal of Speech, Language, and Hearing*14:2, 85-101. DOI: 10.1179/136132811805334876
3. Justice, L. M., Invernizzi, M. A., & Meier, J. D. (2002). Designing and implementing an early literacy screening protocol: Suggestions for the speech language pathologists. *Language, Speech, and Hearing Services in Schools*.Doi: 10.1044/01061-1461(2002/007)
4. Khurana, S., 2& Rao, P. K. (2011). Emergent Literacy Experiences in the Classroom-A Sample Survey in Mysore City. *Language in India, 11*(3)
5. Lonigan C.J. (2006): Development, Assessment, and Promotion of Preliteracy Skills, *Early Education & Development, 17*:1, 91-114. DOI: 10.1207/s15566935eed1701 5
6. Sarda, M., Sen, R.S., Menon, S., Sachdeva, S., Singh, S., Early Language and Literacy in India: A Position Paper, Retrieved from Care India website <https://www.careindia.org/wp-content/uploads/2017/05/ELL-English-2.pdf>
7. UCL Division of Psychology and language sciences (2018) Equipment for audio recording of speech. Retrieved from UCL Division of Psychology and language sciences website: <https://www.phon.ucl.ac.uk/resource/audio/recording>

Acknowledgements

The author appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author declared no conflict of interest.

How to cite this article: P S Divya, KN Nachammai, P Sowmiya & P Sivakumar (2020). A pilot study: development of pre- literacy skills assessment checklist. *International Journal of Indian Psychology, 8*(2), 1116-1120. DIP:18.01.128/20200802, DOI:10.25215/0802.128