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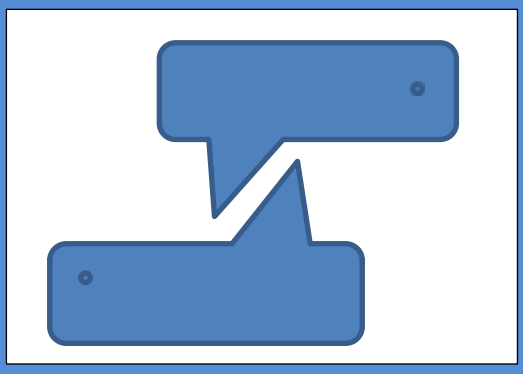

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A relook into language tests in India: an explorative study

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Abstract

With view of limited screening tests that evaluate language acquisition skills in Indian context, the present study aimed at highlighting the need for modifications in the current language tests and developing a screening language test targeting the Kannada speaking population. The study was carried out in 3 phases. In the 1st phase, a survey to identify the need for modifications in the Linguistic Profile Test (LPT) was carried out. Based on the results of the survey, a screening tool considering all the modifications was formulated in the phase 2 of the study. Field testing of the developed screening tool was carried out in phase 3 of the study. The developed screening tool was administered on 10 individuals with Spoken Language Disorder secondary to Hearing Impairment. It was also evaluated if the test results obtained by the developed prototype significantly correlated with the clinical LPT in Kannada. Cohen's Kappa evaluation revealed good agreement between the current day LPT and the developed screening tool; suggesting that the developed screening tool can be used in everyday clinical situations for easier and better service delivery. Even though promising results have been noted, the large scale utility of the developed tool is yet to be established.

Keywords Screening, language tests, LPT, Kannada, normative, language.

1. Introduction

Speech and language services focus basically on rehabilitating patients to their best possible functioning for which they use various assessment programs which have been proven to be effective. In the last four decades, an immense spurt has been noted in the field of speech pathology. An increasing awareness of the benefits that pertain in terms of understanding of the disorder and the increase in precision of the assessment and remediation processes led to an incorporation of linguistic theory and its principles in the daily clinical speech & language assessment. The focus of assessment has shifted from differential diagnosis to establishing of norms for providing a basis for remedial procedures, both descriptive and prescriptive (Karanth, 1995).

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Diagnosing children with language disorders is not an easy task and it is one amongst the most challenging tasks for the clinicians. As clinician one should know the typical developmental language pattern and accepted variations which serve as necessary backdrop in arriving at the diagnosis of the communication disorder. The speech and language professionals should be in a position to differentiate the typically developing population from that of the disordered group. This can be achieved through assessment using standardised tests. The clinician should select the appropriate test depending on the purpose of the testing and that should reveal all the required information about the concerned client. Language tests based on the developmental norms has been serving usefully from many decades and are still used as a good measure in identification, classification, evaluation, remediation and certification and research purposes. A clinician needs to portray a child's language behaviour in terms of different dimensions. Language evaluation is an objective measure that assists clinicians in diagnostic formulation and plan appropriate rehabilitation strategy.

In assessment, comparing the performance measures of any one child with same-aged peers contributes simultaneously to identification of impairment, description of the nature of the difficulty, and formulation of treatment objectives (Nelson, 1998; Paul, 1995). A test material is a key tool based on which a Speech Language Pathologist (SLP) gives a diagnosis, gets a baseline of the client, and chooses appropriate intervention plan to the children with communication disorders. India being a multicultural and multilingual country; many languages are spoken in the land. Indian languages have vast and varied structures. Hence a test developed in one language cannot be used in the other. Therefore it can be noted that many different tests can be seen in Indian languages as well.

A number of tests have been developed to evaluate language skills of school-going children. Table 01 summarises few popular western & Indian language tests and their purposes.

Table 1

Summary of various western and Indian language tests

Type	**Purpose**	**Western Tests**	**Indian Tests**
Comprehension Tests	Tests for auditory comprehension	Test for auditory comprehension (Carrow, 1985) Test for reception of grammar (Bishop, 1989). British picture vocabulary scale (Dunn, 2009).	A screening picture vocabulary test in Kannada (Sreedevi, N,1988).
Tests of Expression	Tests used to evaluate expressive abilities of individuals.	Action picture test (Renfrew, l989). The Bus story- a test of continuous speech (Renfrew, l991). Carrow Elicited Language Inventory (Carrow-Woolfolk, 1974).	A Language test in Kannada for expression in children (Kathyayani, 1984). A screening picture vocabulary test in Tamil (Bhubaneshwari, C.S, 1993).

Syntax tests	Tests used to evaluate the grammatical repertoire.	Test of Adolescent Language -2 (Hammill, I987).	Test for Acquisition of Syntax in Kannada (TASK) (Basavaraj, A. R, 1981). Screening test for the acquisition of syntax in Kannada (Basavaraj. A. R, 1981). A syntax screening test in Tamil (SSTT) (Sudha. K.M, 1981).
Comprehension and Expression Tests	To evaluate quantitative and qualitative analysis of a child's receptive and expressive language skills	Illinois Test for psycholinguistic Abilities (kirk, 1968). Reynell Developmental Language Scale (Reynell, 1985). Porch Index of Communicative ability in children (Porch, 1974).	Linguistic Profile Test (LPT) in Kannada (Karanth, 1980), Hindi (Monika, 1995), Malayalam (Asha, 1997), Telugu (Suhasini, 1997). Three Dimensional Language Acquisition Test (3D-LAT) (Geetha, H. 1986). Malayalam Language Test (Rukmini .A.R.1994). Kannada Language Test (Shyamala, Vijayashree and Jayaram, 2003).
Phonology tests	To evaluate habitual speech patterns which may be used for screening /assessment purposes.	Metaphor resource Pack (Dean, 1990). Phonologica1 assessment of child speech (Grunwell, 1985). South Tyneside Assessment of Phonology (Armstrong and Ainley, 1992).	Language and Articulation Test (RRTC and AYJNIHH, 1990).
Pragmatics and Social Skills tests	Tests used with children whose uses of conversational intentions are limited or are impaired.	Test of pragmatic skills (Shulman, 1985). Progress assessment charts of social and personal development Gunzburg, 1977). Social skills training with children and adolescents (Spencer, 1980).	Test of pragmatics in Tamil (Priya. K.S. 1994).

1.1. Need for the study

It can be easily seen in the above section that the tests available in Indian languages are insufficient in the variety of purposes and age ranges they test. In contrast to the number of foreign tests, there are only handfuls of Indian tests in use today. These tests are limited in number and the areas they assess. Even though it is necessary to have an estimate of both expression and reception capacities, a vast majority of the currently available tests evaluate only the receptive modality. Also, these tests are mainly focused at assessing the language of pre-school children; very little attention has been paid to the language assessment of older aged children.

Linguistic Profile Test, henceforth referred to as LPT, was designed with an objective of assessing and analysing linguistic skills under phonology, syntax and semantics sections. The test was designed originally three decades ago (Karanth, 1980) in Kannada and was called as the "Test of psycholinguistic abilities in Kannada. The framework of the test is such that, it can be easily constructed in any language. Over the last ten years, the test has been used extensively in everyday clinical scenario and has been proven to be clinically effective, both for evaluation and as a basis for rehabilitation and linguistic retraining of communicatively disabled (Karanth, 1980, 1981, 1984, 1988; 1990; 1991). During this period the test has undergone some revisions. A parallel version of the test was developed in Hindi (Karanth, Pandit, Gandhi, 1986). Data on 200 normal adults and 123 stroke patients including aphasics and non-aphasics (Karanth, Ahuja, Nagaraj, Pandit and Shivshankar, 1991) has been collected and analysed. A pictured version of the test for young children of 3 -7 years of age has been constructed and field tested (UNICEF funded project RRTC', Madras and NIHH, (Bombay) in seven Indian Languages including Kannada, Hindi, Tamil, Oriya, Gujarati, Marathi and Bengali. Though the test was developed for adult aphasics but recently it has also formed the basis for language acquisition test. Normative data on 150 Kannada speaking children aged between 6 to 11 years has been collected (Suchitra and Karanth, 1990).

The LPT has three major sections which include phonology, semantics and syntax with discourse forming the tail end of the third section. The test has a capability to cover various tasks of response such as pointing, repetition, indicating the grammatical and semantic acceptability, naming, sentence completion, listing of lexical categories etc (Karanth, 1980). Though there are many language test materials developed to assess children in Indian languages, most of these studies have been conducted almost a decade ago and hence requires a relook into.

However, evaluation using LPT does not focus on pragmatics which is one of the strongest drawbacks of the test; it can be noted that a typical language evaluation using the above tests takes up to 60-90 minutes to administer and when weighed with factors like case load and performance of an individual with respect to attention and concentration they take up huge amount of time and patience of both the clinician and the patient. However, for school – going children, their performance is greatly affected by the length of the test. It has been noted that the attention span of a typically developing child is highly variable and varies across individuals. Hence, there is a need for indigenous screening tests standardized on local

population. In view of limited screening tests that evaluate language acquisition skills in Indian context, the present study aimed at highlighting the need for few modifications in the present LPT in Kannada language and developing a screening language tool targeting the Kannada speaking population.

2. Methodology

The study was carried out at the All India Institute of Speech and Hearing (AIISH), Mysuru which is dedicated towards assessment and rehabilitation of the individuals with communication disorders.

2.1. Participants

A total of 15 Kannada speaking Speech Language Pathologists (SLPs) aged from 22 to 30 (24) years; and having a minimum of 5 years experience of using LPT, participated in the phase I of the study. The authors designed the prototype in phase II using the inputs provided by the SLPs in phase I and was standardised on 60 typically developing participants in the age range of 6 to 15 years (From grade I to grade X). All individuals were the residents of Karnataka state and had Kannada as their mother tongue. None of the participant had any history of physical or sensory difficulties or any history of academic failure to be retained in the same grade. The participants were grouped into ten groups (Table 2).

Table 2
Demographics of participants of Phase II

Age groups (in years)	**No. of Participants**		**Total**
	Males	**Females**	
6	3	3	6
7	3	3	6
8	3	3	6
9	3	3	6
10	3	3	6
11	3	3	6
12	3	3	6
13	3	3	6
14	3	3	6
15	3	3	6

In phase III, field testing of the developed screening tool was tried on a total of 10 individuals with Spoken Language Disorder Secondary to Hearing Impairment (both males and females). All the participants of this phase of the study were clinically diagnosed as having hearing loss in both the ears with the degrees varying from severe to profound and therefore underwent cochlear implantation in any one ear (right/ left) and also received auditory (re)habilitation and/or speech and language therapy for a minimum period of 1 year. More details on participants are given in the table 3. This table

reveals the participants Chronological Age (CA), Gender, and the Language Age (LA). The score for language age was obtained from St. Gabriel's curriculum for the development of audition, language, early communication, speech, cognition, social interaction, fine motor skills compiled by Jan Tuohy et.al. 2005 (Second Edition).

Table 3
Showing the participants Chronological Age (CA), Gender, and the Language Age (LA)

Participant	**Gender**	**CA (in years)**	**LA (years)**	
			RLA	**ELA**
1.	Male	6+	42-48	36-42
2.	Male	6+	30-36	18-24
3.	Male	7+	30-36	18-24
4.	Female	7+	42-48	36-42
5.	Male	7+	42-48	36-42
6.	Male	8+	24-30	18-24
7.	Female	9+	48-54	42-48
8.	Female	9+	Passes the test	
9.	Female	14+	Passes the test	
10.	Male	15+	Passes the test	

Kuppuswamy's socioeconomic scale (Kumar, Gupta & Kishore, 2012) was used to evaluate the socioeconomic status of all the participants of this study and only those participants belonging to middle socio economic status were included. After explaining the aim and objectives of the study to all the participants/caregivers (wherever applicable) a written consent was obtained.

2.2. Tools used

The developed prototype along with the original Linguistic Profile Test in Kannada was used for the study.

2.3. Procedure

The study was carried out in 3 phases.

2.3.1. Phase I: Survey and identification of changes to be incorporated in the present day LPT in Kannada.

Phase I can be studied under two stages:

Stage-a: A total of 10 experienced SLPs with exposure to LPT (administration) since 5 years participated in the study. The participants were asked the question "We are planning to incorporate some changes in the present LPT (Kannada language was indicated), kindly suggest at least one change which you would like to have in the test. The change should improve the tests functionality and utility". For example: you may suggest, changes in the size, content etc. The suggested recommendations were tabulated and four major recommendations were identified.

Stage-b: Four core identified recommendations were presented to 5 new SLPs. The SLPs were asked to rate if the recommendations were important (1) or unnecessary (0) for LPT. The binary rated opinions about the four recommendations were obtained which were subjected to a test of significance.

2.3.2. Phase II: Development of a screening tool incorporating the suggested changes.

All the suggested modifications which were found to be significant were incorporated and a prototype was developed which included 4 sections - i.e., Phonology, Semantics, Syntax and Pragmatics. The number of test items was reduced to 5 each and examples were provided for all sections. The scoring sheet was modified for easier tabulation. The developed prototype was administered on sixty typically developing children from 6+ years to 15+ years (from grade I to grade X) after content validation.

2.3.3. Phase III: Field evaluation of the developed screening tool

Field evaluation of the developed screening tool on 10 individuals with Spoken Language Disorder Secondary to Hearing Impairment was carried out. It was also evaluated if the test results obtained by the developed prototype significantly correlated with the clinical LPT in Kannada language with the normative obtained by Suchithra, M. G., & Karanth, P (1990).

3. Findings and Discussion

3.1. Phase I: Survey and identification of changes to be incorporated in the present day LPT in Kannada.

Four major modifications were highlighted by the participants, which included- incorporating fewer test items in all sections, adding practice items in all domains, reducing the complexity in few of the suggested tasks and easier tabulation along with focus on pragmatics (Figure1). All the four highlighted modifications were rated to be considerably important (pd' 0.5) by 5 SLPs (Figure 2) and should be considered during Language testing.

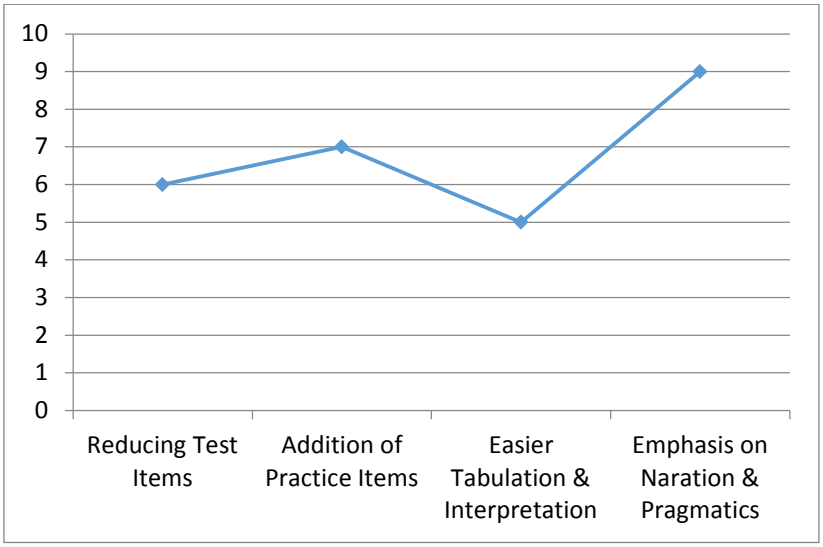

Figure 1. Modifications recommended by a panel of 10 SLPs to the present day LPT

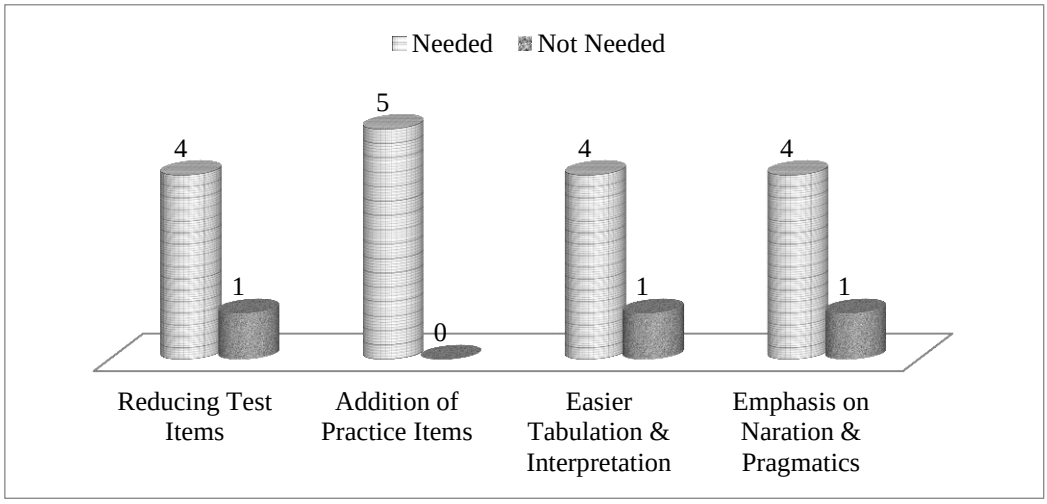

Figure 2. Perception of 5 SLPs regarding the suggested changes in the present day LPT

3.2. Phase II: Preparation of a prototype with the four modifications

The suggested changes included reducing the number of test items for faster administration, adding practice items for all sections, reducing the complexity of tasks with easier tabulation and interpretation facilities, more emphasis on narrative skills along with emphasis on pragmatic skills. All the recommended facilities, except for the suggestion to have more emphasis on narrative skills were considered (figure 4, 5 and 6).

The data obtained from the typically developing children was subjected to the following statistical analysis:

a. Normality check of the data
b. Descriptive statistics
c. Kruskal-Wallis Test

d. Mann-Whitney Test (to check the pair wise comparison between the age groups)

3.2.1. Normality check of the data

All collected data were subjected to normality test using SPSS 20 Version. Shapiro –Wilk test was used to check the normality. Marjory of the parameters showed non-normal distribution. Hence, non-parametric test were selected for the further analysis.

3.2.2. Descriptive Statistics

The mean, median & standard deviation of the total scores on LPT are given in Table 4 and the mean and median LPT scores were graphed in Figure 3. The results indicated that the mean scores ranged from 100.79 to 139.58 and the median scores ranged from 101.37 to 139.37.

Figure 3 depicts that no much variation was observed between means and median scores. The total score of LPT showed there was increment in score from 6 years to 15 years.

Table 4

Mean, Median & Standard deviation of total LPT Score

LPT Overall score N=60 Maximum Score =150			
AGE GROUP	**MEAN**	**MEDIAN**	**SD**
6 years	100.79	101.37	3.71
7 years	105.91	105.76	4.03
8 years	115.99	116.26	6.01
9 years	123.57	124.25	3.69
10 years	125.21	125.62	2.91
11 years	127.16	128.62	4.11
12 years	130.63	130.37	1.53
13 years	134.77	134.50	2.59
14 years	138.00	137.13	1.87
15 years	139.58	139.37	2.63

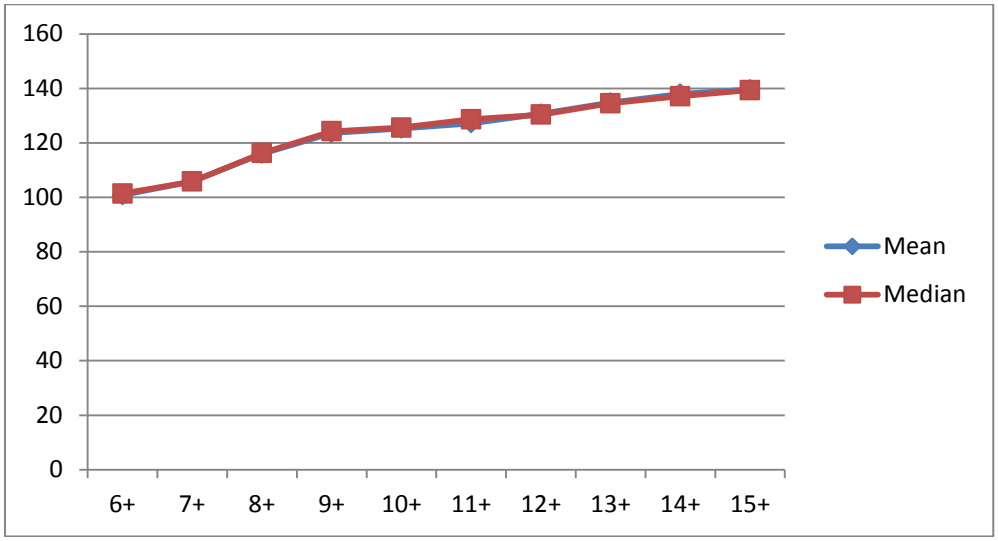

Figure 3. Mean and Median of Total LPT Scores across different age groups

The mean, median and the standard deviation of the sections of LPT (phonology, syntax and semantics) are graphed in Figure 4. Results showed that the mean scores were highest for the section phonology compared to the other two sections that is syntax and semantics. The phonology score reached the ceiling level at the age of 8 years to 9 years itself depicting no scope for improvement further. However syntax and semantics showed increment in the score till 15 years. The semantics sub section reached the ceiling level at the age of 15 years however; the syntax sub section did not reach the ceiling level even at the age of 15 years. In general, increment in the score was noticed for all the three sections as the age group increased

Table 5
Mean, median and Standard deviation across different groups

Age	**Phonology**			**Syntax**			**Semantics**		
	Mean	Median	SD	Mean	Median	SD	Mean	Median	SD
6	14.05	13.95	0.50	24.2	23.65	3.05	51.13	52.40	2.96
7	14.29	14.17	0.38	26.95	26.40	1.51	54.00	54.40	4.00
8	14.62	14.63	0.28	31.03	30.94	4.17	62.46	61.40	4.00
9	14.76	14.77	0.16	34.60	34.60	3.86	68.60	69.00	2.63
10	14.90	14.93	0.13	34.97	34.24	1.72	70.00	70.00	3.22
11	14.97	15.00	0.06	34.69	36.16	3.58	73.13	73.40	2.16
12	15.00	15.00	0.00	37.08	36.71	1.55	75.06	74.80	1.94
13	15.00	15.00	0.00	40.06	40.01	2.34	77.40	78.20	2.12
14	15.00	15.00	0.00	42.81	41.93	1.99	78.53	78.40	0.41
15	15.00	15.00	0.00	44.36	44.28	2.49	78.80	79.00	0.71

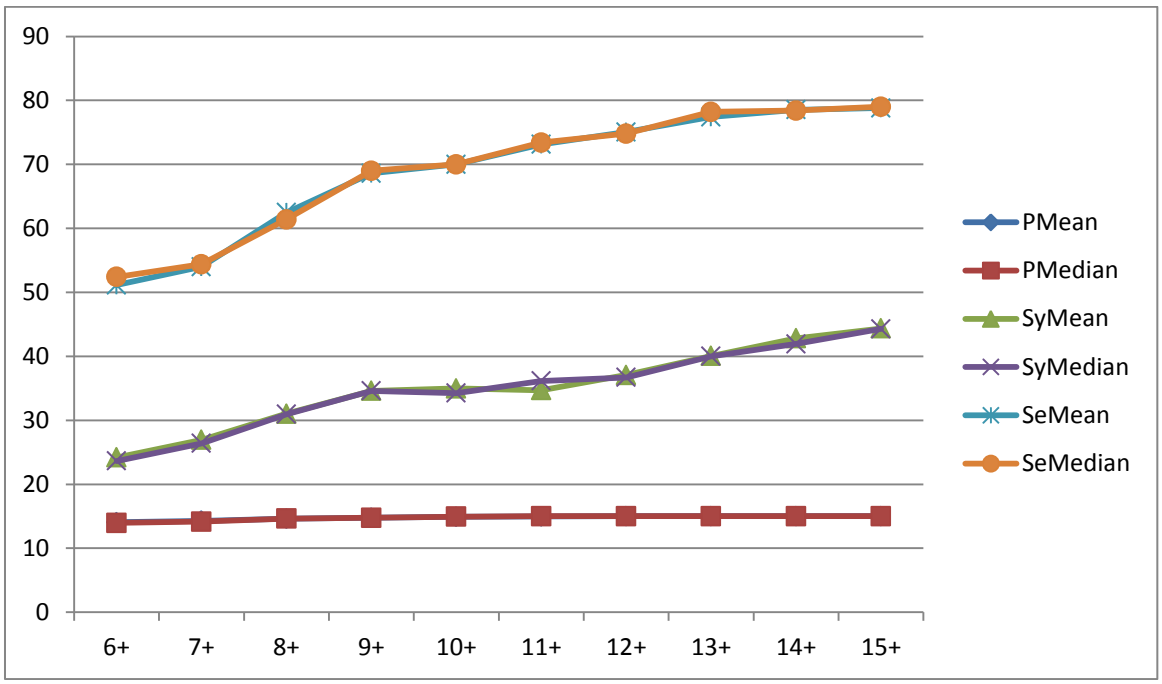

Figure 4. Showing the Mean scores of phonology, syntax and semantics across different age groups

A non-parametric test Kruskal-Wallis test was done to check if there is an effect of age on the language scores. The results are represented in the table 3. This table revealed that there was a significant (p- value <0.05) effect of age across all the age groups except the phonetic expression (p-value = 1.000) subsection. This shows that there were score differences for majority of the age group across all the sub sections. Mann-Whitney U test was used to study age wise differences across various age groups.

Age group wise comparison using Mann-Whitney U test revealed age wise difference from 8+ to 15+ age groups and no significant age difference from 6+ to 8+ in all sections of the developed prototype. Similarly gender wise comparison using Mann-Whitney U test did not reveal any statistical significance. These findings revealed that the phonological development was almost complete by the time the child reached 6 years and beyond. This observation in the phonology is in agreement with the reporting of studies by Suchithra and Karanth (1990) in Kannada, Monika Sharma (1995) in Hindi, Asha (1997) in Malayalam and Suhasini (1997) in Telugu. The findings of semantics & syntax section showed a significant increase from 8+ years of age. This was in agreement with that reported by Bohannor (1976), Karmiloff - Smith (1979), Hakes (1980), VanKleek (1982), Tunmerand Bowey (1984), Suchitra and Karanth (1990) and Monika Sharma (1995); who reported similar developmental drift which reached significance from 8+ years of age onwards. Therefore, the findings of the developed tool speculate the similar development findings of the present day clinical LPT.

3.3. Phase III: Field evaluation of the developed screening tool

Field Test of the developed prototype and simultaneous co-relation of scores obtained with that of LPT was done. Individual scores in each section of Phonology, Semantics and Syntax were compared. Further statistical evaluation using Karl Pearson's co-relational analysis revealed r = 0.94 for Phonology section, r= 0.87 for Semantics and r = 0.73 for Syntax section with the p value of <0.05, suggesting high positive correlation between two testing for all the three sections.

4. Conclusion

The present study postulated to identify and highlight the need of screening language tests in Indian scenario. Based on extensive review it was noted that the everyday clinical language proficiency test developed by Karanth and Suchithra (1990) is widely accepted. The present study was carried out in 3 phases. As a result of Phase I various core modifications to the clinical LPT based on feedback of 15 experienced SLPs were formulated. In the Phase II of this study a prototype with the suggested modifications incorporated was build and standardised on 60 typically developing individuals divided into 10 age groups. In phase III of the study field testing of the developed prototype along with simultaneous comparison with the clinical LPT was done. By comparing scores of the developed prototype in the sections of phonology, semantics and syntax it can be noted that they have similar scores to the study in Kannada by Suchitra and Karanth (2007) and by the results of phase III i.e. comparing the results obtained of the participants with spoken language disorder (SLD) secondary to hearing impairment (HI) with that of typically developing group, all the children with SLD secondary to HI obtained lower scores compared to their chronological age matched typically developing peers. Therefore, it can be said that the developed prototype is sensitive enough to differentiate disordered population from that of normal individuals.

The new tool developed is first of its kind and is truly "Time effective and user friendly". It was built considering end users perspective and therefore has better chances of acceptability. Its sensitivity and specificity is expected to improve once it is administered on a large population. The screening tool adds features which are unlike any other available tests. Therefore it can be considered that the developed tool is truly economic in terms of time and effort. Further after obtaining normative scores of the newly developed tool, a description of linguistic skills and structures at different linguistic levels can be done. Thus, this tool would be useful in identifying school age children having language deficits and pointing out the area of deficit. It can be used to evaluate children above 6 years. This tool can therefore be a screening tool for language abilities and provide an insight about language of the child i.e. whether the child is normally developing his language skills or is it deviant from his peers.

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Declaration of interest

The authors report no declarations of interest.

References

Armstrong, S., & Ainley, M. (1992). *South Tyneside assessment of phonology*. Northumberland: Stass Publications.

Asha, M. M. (1997). Linguistic Profile Test (LPT in Malayalam) Normative data for children in Grades I to X. *Unpublished master s dissertation, University of Mysore, Mysore*.

Basavaraj, V (2009). *Screening Test of Acquisition of Syntax in Hindi-Adaptation of STASK*. Departmental project, All India Institute of Speech & Hearing, Mysore.

Bhubaneswari, C. S. (1993). *TVPT –A Screening Picture Vocabulary Test in Tamil*. Unpublished dissertation submitted to the University of Mysore, Mysore.

Bishop, D. V. (1989). *Test for the reception of grammar:(TROG)*. Medical Research Council.

Bohannon III, J. N. (1976). Normal and scrambled grammar in discrimination, imitation, and comprehension. *Child development*, 669-681.

Carrow-Woolfolk, E. (1974). *Carrow elicited language inventory*. DLM Teaching Resources.

Carrow-Woolfolk, E. (1985). *Test for Auditory Comprehension of Language: Test Book*. DLM Teaching Resources.

Dean, E., Howell, J., Hill, A., & Waters, D. (1990). *Metaphon Resource Pack*. Windsor, Berks: NFER Nelson.

Dunn, L. M., & Dunn, D. M. (2009). *The British picture vocabulary scale*. GL Assessment Limited.

Geetha, H. (1986). *3D Language Acquisition Test (3D-LAT)*.Unpublished dissertation submitted to the University of Mysore, Mysore.

Grunwell, P. (1985). PACS—Phonological Assessment of Child Speech. *Windsor: NFER-Nelson*.

Gunzburg, H. C. (1977). *Progress assessment chart of social and personal development*. Sefa.

Hakes, D.T. (1980). *The development of metalinguistic abilities in children*. Berlin: SpingerVerlag, 1980.

Hammill, D. (1987). *Test of Language Development Primary Told-2*. Academic Therapy Publications.

Karanth, P. (1980). Linguistic profile test in Kannada. *Journal of AIISH*, *5*, 11-14.

Karanth, P. (1980). Linguistic profile test. *ICMR project, All India Institute of Speech and Hearing, Mysore*.

Karanth, P. (1981). Linguistics: The Evaluation and Remediation of Language in Aphasics. *Indian Linguistics, 3-4,(*Pp 181 -187). Pune.

Karanth,P. (1984). Inter - relationships of Linguistic Deviance and Social Deviance - ICSSR Young Social Scientist's Fellowship Report. Mysore: CIIL.

Karanth P., Pandit, & Gandhi, (1986). Normative Studies of Language Development in Children. Report of the Workshop on Developmental Norms for Children, NIPCCD: New Delhi.

Karanth,P. and Rangamani,G. (1988). *Linguistic Profile Test – Implications for the Diagnosis and Management of Language Disorders.* XIV Annual Conference of Dravidian Linguistic Association.

Karanth, P. Ahuja, J.K., Nagaraja, D., Pandit, R., and Shivashankar, N. (1990). *Cross Cultural Studies of Aphasias Symposium on Aphasias - Language and Cognition.* Proceedings of the XIV World Congress

Karanth, P., Ahuja, G. K., Nagaraj, D., Pandit, R., & Shivashankar, N. (1991). Cross cultural studies of aphasia. *Modern Trends in Neurology, New Delhi: Churchill Livingstone*.

Karanth, P. (1995). Assessment of Disordered Language: The Clinician's Dilemmas.

Karmiloff-Smith, A. (1979). Micro-and Macrodevelopmental Changes in Language Acquisition and Other Representational Systems. *Cognitive science, 3*(2), 91-118.

Kathyayani, (1984). *A language test in Kannada for expression in children*. Unpublished Masters Dissertation,University of Mysore,Karnataka.

Kirk, S. A., McCarthy, J. J., & Kirk, W. D. (1968). *Illinois test of psycholinguistic abilities* (pp. 1-136). Urbana: University of illinois press.

Kumar, N., Gupta, N., & Kishore, J. (2012). Kuppuswamy's socioeconomic scale: updating income ranges for the year 2012.

Nelson, K., & Benedict, H. (1974). Cited in Part 5, Sailer, Th. B., &Wannenmacher, W. (Eds.). *Concept development and the development of word meaning* (pp.210-234). New York: Springer Verlag.

Porch, B. E. (1974). *PICAC: Porch Index of Communicative Ability in Children*. Consulting Psychologists Press.

Priya, K. S. (1994). *Test of Pragmatics in Tamil*. Unpublished dissertation submitted to the University of Mysore, Mysore.

Renfrew, C. E. (1988). *The Renfrew Action Picture Test* (3rd ed.). Oxford, England: Renfrew.

Renfrew, C. E. (1991). *The bus story: A test of continuous speech.* C. Renfrew.

Reynell, J. K., & Gruber, C. P. (1985). *Reynell developmental language scales*. Western Psychological Services.

Rukmini, A. D. (1994). *Malayalam Language Test (MLT).* Unpublished dissertation submitted to the University of Mysore, Mysore.

Sharma, M. (1995). Linguistic Profile Test (Hindi), Normative data for children in grades I to X. *Unpublished dissertation submitted to the University of Mysore, Mysore*.

Shulman, B. B. (1985). *Test of pragmatic skills*. Communication Skill Builders.

Social skills training with children and adolescents: A counsellor's manual. NFER Publishing, 1980.

Shyamala, K. C., Vijayashree and M. Jayaram (2003). *Kannada Language Test.* Project under AIISH Research Fund (ARF), Mysore, India.

Spence, S. & Spence, S.H. (1980). *Social Skills Training with Children and Adolescents: A Counsellor's Manual.* NFER-Nelson

Sreedevi, N. (1988). *KPVT - A screening picture vocabulary test in Kannada*. Unpublished dissertation submitted to the University of Mysore, Mysore.

Suchithra, M. G., & Karanth, P. (1990). Linguistic profile test-normative data for children in grades I–V. *Journal of the All India Institute of Speech and Hearing*, *21*, 14-27.

Suchithra, M. G., & Karanth, P. (2007). Linguistic profile test–normative data for children in grades VI to X (11+ years–15+ years). *Journal of All India Institute of Speech and Hearing*, *26*, 1-6.

Sudha, K. M. (1981). A Syntax Screening Test in Tamil. *Unpublished masteral dissertation, Mysore: AIISH*.

Suhasini, G. (1997).*Linguistic Profile Test (Telugu)-Normative data for children in grade I to X*.Unpublished dissertation submitted to the University of Mysore, Mysore.

Tunmer, W. E., &Bowey, J. A. (1984). *Metalinguistic awareness and rading acquisition*. Part III (3.2) in Tunmer, W.E., Pratt, C. and Herrimann, M.L., (Eds.). Metalinguistic awareness in children (pp.144-168). Berlin: Springer Verlag, 1984.

Tuohy, J., Brown, J., & Mercer-Moseley, C. (2005). St. Gabriel′ s Curriculum for the Development of Audition, Language, Speech, Cognition, Early Communication, Social Interaction, Fine Motor Skills, Gross Motor Skills: A Guide for Professionals Working with Children who are Hearing-Impaired (Birth To Six Years).

Van Kleeck, A. (1982). The emergence of linguistic awareness: A cognitive framework. *Merrill-Palmer Quarterly (1982-),* 237-265.