

Relation between Phonological Awareness and Reading in Marathi.

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Abstract:

Phonological awareness plays an important role in the early stages of reading in alphabetic languages such as English.

Aim: To explore the relation of phonological awareness and reading in Marathi- a regional language in the state of Maharashtra, India which is an alphasyllabary.

Method: Thirty six typically developing children studying in Senior kindergarten (N=12), First grade (N=10) and Second grade (N=14) of Marathi medium schools participated in the study. Screening for problems of intelligence, hearing, learning ability and auditory processing was carried out using appropriate tests. Tasks in Marathi at syllable level (syllable segmentation, initial syllable deletion, final syllable deletion and syllable blending), rhyme level (rhyme production, rhyme identification, and rhyme oddity) and phoneme level (initial phoneme identification and phoneme blending) were developed based on the tool for assessment of phonological awareness by Chintala (2012). These were used for assessment of phonological awareness. The reading tool was developed with two levels- letter/ akshar level (56 items) and word level (59 items).

Results: Mean score at each level of phonological awareness, total of phonological awareness and total of reading was calculated. Pearson product moment correlation revealed a strong significant positive correlation between mean total phonological awareness score and mean total reading score ($r = 0.88, p = 0.000$). It was observed that phonological awareness at phoneme level ($r = 0.90, p = 0.00$), syllable level ($r = 0.83, p = 0.00$) and rhyme level ($r = 0.74, p = 0.00$) also showed significant positive correlations with reading.

Conclusion: There is a relationship between phonological awareness and reading in Marathi for children from Senior Kindergarten to Grade II with mother tongue Marathi and same being the medium of instruction in school.

Key Words: *syllable level, rhyme level, phoneme level, correlation*

Introduction

Phonological awareness plays an important role in the early stages of reading in alphabetic languages such as English. This has been reported in the research studies carried out in western countries (Ehri, Nunes, Willows, Schuster Yaghoub Zadeh & Shanahan, 2001; Tangel & Blachman, 1992; Vellutino and Scanlon, 1998; Wagner & Torgeson, 1987) as well as in India (Shanbal, Goswami, Chaitra, & Prathima, 2010). However, its contribution to reading acquisition has been questioned in non alphabetic languages (Nag, 2007). Indian languages like Hindi and Marathi are alphasyllabaries as the script used for writing has properties of both syllabic and alphabetic system (Vaid & Gupta, 2002). Studies have revealed contradictory results on the role of phonological awareness in learning to read alphasyllabary languages. Some studies revealed that phonological awareness was not an important factor in children learning to read in alphasyllabary languages such as Kannada, Malayalam and Gujarati (Akila 2000; Dinesh, 2002; Patel & Soper, 1987; Prakash and Rekha 1992; Prakash and Mohanty, 1995; Prema 1998; Prema and Karanth 2003; Prakash, Rekha, Nigam and Karanth 1993; Rekha, 1997). More recent research however has documented the role of phonological awareness in learning to read the alphasyllabic scripts (Iyyer, 2000; Kumar et al., 2010; Nag, Caravolas & Snowling, 2011) specifically in Hindi (Vaid & Gupta, 2002), Telugu (Vasanta, 2004), Kannada (Nag, 2007), and Malayalam (Somshekhar, Das & Bhat, 2014). Iyyer (2000) conducted a study on children from grade I to IV and reported of a significant relation between phonological awareness and reading in Malayalam. However, a later study (Somshekhar, Das & Bhat, 2014) reported than this relation is true for only early grades (Grade I) and not for later grades (Grades II and III). Although, the development of some aspects of phonological awareness have been studied in Marathi, an alphasyllabary spoken in the state of Maharashtra, India (Sarsambe, 2010); its relation with reading has not been explored to the authors' best knowledge. Hence the present study was undertaken to explore the relation of phonological awareness and reading in Marathi.

Method

Participants

Thirty six children studying in Senior kindergarten (N=12), First grade (N=10) and Second grade (N=14) participated in the study. Children of both genders were included in the study. Parents of all the children were explained about the study and only children whose parents consented for the study were included in the study. All the children had mother tongue Marathi and it was the primary language spoken at home. Also all the children were attending Marathi medium school since nursery grade (2 years before Senior Kindergarten). Children in Senior kindergarten were in the age range of 5.1 to 6 years (mean age- 5.57 years), in First grade were in the age range of 6.2 and 7 years (mean age- 6.53 years) and in the Second grade were in the age range of 7.1 to 8 years (mean age- 7.54 years). All the children had normal motor and language- speech milestones. None of the children had any significant history of medical conditions, syndromes, sensory/ motor problems or psycho educational issues. Intelligence of all the children as assessed by 'Draw a man test' (Phatak, 1987) was within normal limits. All children passed hearing screening carried out at 25 dB HL, Checklist for screening reading difficulties (CSRSD- Joshi & Vanaja, 2016) and Screening Checklist for Auditory processing (Marathi translation of SCAP- Yathiraj and Mascarenhas, 2004).

Test Material

Tool for assessment of phonological awareness in Marathi

Tool for assessment of phonological awareness in Marathi was developed based on a tool developed in English by Chintala (2014). Tasks at three levels of phonological awareness were used for the study. These included syllable level tasks (syllable segmentation, initial syllable deletion, final syllable deletion and syllable blending), rhyme level tasks (rhyme production, rhyme identification, and rhyme oddity) and phoneme level tasks (initial phoneme identification and phoneme blending). Each task had 2 training and 6 test items. The words for the tasks were selected from children's books and grade level text books and familiarity test using 4 point scale (0- does not know, 1- not familiar but may have heard occasionally, 2- familiar but does not use, 3- familiar and uses the words) was done by 10 teachers of Senior kindergarten and First grade

Marathi medium schools and 10 parents of children attending the same classes. Also, the words were checked for familiarity on 10 children attending the same grades. Words which got a rating of 2 or 3 were included in the tool.

Test for reading:

The reading tool was developed with two levels- letter and word level. The total test items of the tool were 115 which included 56 items at letter level and 59 at word level. Words at word level were 2 and 3 letter words with single ligature in either letter initial, medial or final position. Details of the tool are as given in Table 1.

Table 1: Description of reading tool

Level	Subsection	Test items
Letter/ Akshar	1. Vowels	8
	2. Diphthongs	2
	3. Semivowels	2
	4. Consonants	30
	5. Joint letters (Joint akshar)	2
	6. C+ varying vowels	12
Word	1. Words with same consonant (k) and varying vowel ligatures	8
	2. Words without ligatures	2
	3. Words with vowel ligature 'a'	5
	4. Words with vowel ligature 'l'	3
	5. Words with vowel ligature 'i'	5
	6. Words with vowel ligature 'U'	3
	7. Words with vowel ligature 'u'	4
	8. Words with vowel ligature 'e'	5
	9. Words with vowel ligature 'o'	4
	10. Words with diphthong ligature 'əI'	2
	11. Words with diphthong ligature 'əU'	2

	12. Words with diphthong ligature 'əŋ'	3
	13. Words with ligature for CC combination	6
	14. Words with joint letters.	6

Procedure

Children who met the participant selection criteria were assessed on the two tools developed for the purpose of the study. For administration of the tool of phonological awareness in Marathi, instructions were given separately for each task, followed by two examples for helping the child comprehend the task and then the six test items were administered. A score of '1' was given for correct response and '0' for an incorrect response. Scores were calculated per level of phonological awareness (syllable, rhyme and phoneme). Then a total phonological awareness score was calculated. This was calculated per child.

For the tool of reading, each subsection was typed on a separate sheet in Marathi font. The laminated sheet was held in front of the child and the child was asked to read each item on the sheet. No corrective feedback was provided for any of the tasks. However, children were encouraged to do their best. A score of '1' was given for each correct answer. The score was calculated per level (letter and word) for the reading tool and then a total reading score was calculated.

Both the tools were administered successively. Intermittent breaks were given depending on the temperament of each child. The sequence of administration of the tools was randomized. Responses for both the tools were entered in a scoring sheet prepared for the purpose.

Results

Mean score at each level of phonological awareness, total of phonological awareness and total of reading was calculated. Statistical analysis was carried out using IBM SPSS version 19. Pearson's product moment correlation was used to investigate if there is any association between mean total score of phonological awareness and mean total reading score per grade and also for the mean total score of three grades together. In addition correlation was also calculated for a

mean score of all grades per level (syllable, rhyme and phoneme) and mean of total of all grades for the reading tool. A strong significant positive correlation was found between mean total phonological awareness score and mean total reading score ($r= 0.88, p=0.000$). It was observed that phonological awareness at phoneme level, syllable level and rhyme level showed also, showed significant positive correlations with reading.

Table 2: Correlation between mean phonological awareness score and mean reading score across grades.

Grade	Correlation coefficient
Senior kindergarten	$r = 0.69$ $p = 0.012$
I	$r = 0.79$ $p = 0.007$
II	$r = 0.95$ $p = 0.000$

Table 3: Correlation between mean phonological awareness score and mean reading score across levels of phonological awareness

	Mean syllable level score – mean reading score	Mean rhyme level score – mean reading score	Mean phoneme level score – mean reading score
Correlation coefficient	$r = 0.83$ $p = 0.000$	$r = 0.74$ $p = 0.000$	$r = 0.90$ $p = 0.000$

In addition to the correlation between phonological awareness, Table 2 also indicates that this relation increases with an increase in grade. With respect to the three levels of phonological

awareness, the correlation coefficient with reading is almost similar for syllable and phoneme level but is comparatively lesser for rhyme level.

Discussion

Strong positive significant correlation between phonological awareness and reading which is found in the study further strengthens evidence for a role of phonological awareness for reading alphasyllabaries (Nag, Caravolas & Snowling, 2011; Kumar et al., 2010; Vaid & Gupta, 2002, Vasanta, 2004; Nag, 2007; Somshekhar, Das & Bhat, 2014). However contrary to the findings in Malayalam (Somshekhar, Das & Bhat, 2014), the relation between phonological awareness and reading not only continued to be present in Grade II, but it became stronger. This could be the effect of difference in orthography of Marathi and Malayalam as literacy related factors are found to be influenced by the underlying script system (Prema, 2014). Stronger correlation observed in the present study could be related to the fact that the children in Grade II were exposed to English in Grade I itself and were reading small sentences of three to four monosyllabic words. Knowledge of alphabetic language English could have had an influence on phonological awareness scores in Marathi. This effect of languages on phonological awareness has been reported for Kannada- English biliterates (Shanbal & Prema, 2007). They found a reciprocal relation between phonological awareness and reading between the two languages although English was taught only for literacy purpose. Similar transfer of skills has also been reported in Oriya- English biliterates (Mishra & Stainthorp, 2007). An almost equal correlation coefficient between reading and syllable as well as phoneme level awareness can also be related to the exposure of English orthography to the children in the present study.

A strong positive correlation between Phonological awareness and reading is present in Marathi in children as found for the Senior kindergarten children, which further increases in Grade I and II. However, further controlled studies need to be conducted to study the contribution of other factors in addition to exposure to English such as cognitive maturity, increase in reading competency in Marathi etc to explain the relation.

Conclusion

There is a relationship between phonological awareness and reading in Marathi. This is true for children from Senior Kindergarten to Grade II with mother tongue Marathi and same being the medium of instruction in school.

Clinical Implications

Assessment of phonological awareness should become a part of the test battery for students with reading difficulties in Marathi. Phonological awareness training should be conducted for these students if it is found deficient.

References

- Akila, P. (2000). *Phonological awareness and orthographic skills in Tamil speaking children*. Unpublished Master's dissertation. Submitted to the University of Mysore.
- Chintala (2014). *Phonological Awareness in English typically developing children with mother tongue Marathi*. Unpublished Master's Dissertation. Bharati Vidyapeeth Deemed University, Pune.
- Dinesh, K. (2002). *Metaphonological and orthographic skills in learning disabled children*. An unpublished master's dissertation submitted to University of Mangalore, Mangalore.
- Ehri, L. C., Nunes, S. R., Willows, D. M., Schuster, B. V., Yaghoub-Zadeh, Z., & Shanahan, T. (2001). *Phonemic Awareness Instruction Helps Children Learn to Read: Evidence from the National Reading Panel's Meta-Analysis*. *Reading Research Quarterly*, 3, 250.
- Iyyer, R.V. (2000). *A study on development of reading and metaphonological skills in Malayalam speaking children*. An unpublished thesis, submitted to University of Mysore, Mysore.
- Joshi, N. A & Vanaja, C. S. (2016) *Checklist to Screen Children with Reading Difficulty (CSR) for Classroom Teachers*. *Language in India* 16, 185-201.

Kumar, U., Tanusree, D., Bapi, R. S., Padakannaya., P. Joshi, R. M., & Singh, N. C. (2010). Reading different orthographies: An fMRI study of phrase reading in Hindi- English bilinguals. *Reading and Writing: An Interdisciplinary Journal*, 23(2), 239- 255.

Mishra, R. & Stainthorp, R. (2007) The relationship between phonological awareness and word reading accuracy in Oriya and English: A Study of Oriya-speaking fifth-graders. *Journal of Research in Reading*, 30 (1). pp. 23-27.

Nag, S. (2007). Early reading in Kannada: the pace of acquisition of orthographic knowledge and phonemic awareness. *Journal of Research in Reading*, 30: 7–22.

Nag, S., Caravolas, M., & Snowling, M. J. (2011). Beyond alphabetic processes: literacy and its acquisition in the alphasyllabic languages. *Reading and Writing*, 24, 615-622.

Patel P.G., & Soper H. V. (1987) Acquisition of Reading and Spelling in a Syllabo-Alphabetic Writing System. *Language and Speech*. Vol 30, Issue 1, pp. 69 - 81

Phatak P. (1987). Draw-A-Man-Test for Indian Children, Anand Agencies, Pune, 1987.

Prakash, P., & Mohanty, A. K. (1995). Development of reading, metalinguistic awareness and cognitive processing skills of Oriya children. In B.Lakshmi Bai & D. Vasanta (Eds.), *Language development and language disorders: Perspectives from Indian languages* (pp.121-45).

Prakash, P., & Rekha, B. (1992). Phonological awareness and reading acquisition in Kannada. In A. K. Srivatsava (Ed.), *Researches in Child and Adolescent Psychology*. New Delhi: NCERT.

Prakash, P., Rekha, D., Nigam, R., & Karanth, P. (1993). Phonological awareness, orthography and literacy. In R. Scholes, B. Willis (Eds) *Literacy: linguistic and cognitive perspectives*. London: LEA.

Prema, K, S. (2014). Language, Literacy & Cognition: Issues for Research in Bilingual-Biliterate Context. *Journal of Child Language Acquisition and Development (JCLAD)* 2 (4), 25-41

Prema, K.S. & Karanth, P. (2003). Assessment of learning disability language based tests. In Learning disabilities in India-Willing the mind to learn. In Karanth and Rozario, (eds.) Sage publishers, New Delhi, 138-150.

Prema, K.S. (1998). Reading acquisition profile in Kannada. Unpublished Doctoral dissertation, University of Mysore, Mysore

Rekha, D. (1997). Reading acquisition and metaphonological awareness : A longitudinal study. Unpublished thesis, submitted to the University of Mysore. Mysore

Sarsambe (2010). Phonological awareness in Marathi primary school children. Unpublished Master's dissertation. Osmania University, Hyderabad.

Shanbal, J. C & Prema, K.S. (2007). Visual word recognition in reading Kannada. Journal of the All India Institute of Speech and Hearing, 26, 47-52.

Shanbal, J.C., Goswami, S.P., Chaithra S., & Prathima S. (2010). Phonological awareness skills and reading in children who are at risk for learning disability: Role in the Indian context? Journal of All India Institute of Speech and Hearing, 29, (2), 204-214.

Somashekara H. S., Das, A., & Bhat, J. S (2014). Relationship between Phonological Awareness and Reading Abilities in Malayalam Speaking Typically Developing Children. Language in India. 14:2 February 2014

Tangel, D. M., & Blachman, B. A. (1992). Effect of Phoneme Awareness Instruction on Kindergarten Children's Invented Spelling. *Journal of Literacy Research*, 24(2), 233-261.

Vaid, J., & Gupta, A. (2002). Exploring word recognition in a semi-alphabetic script: The case of Devanagari. *Brain and Language*, 81, 679-690.

Vasanta, D. (2004). Processing phonological information in a semi-syllabic script: Developmental data from Telugu. *Reading and Writing*, 17, 59-78.

Vellutino, F R., & Scanlon, D M. (1998). Research in the Study of Reading Disability: What Have We Learned in the Past Four Decades? Paper presented at the Annual Conference of the American Educational Research Association (San Diego, CA, April 1998).

Wagner, R. K., & Torgesen, J. K. (1987). The nature of phonological processing and its causal role in the acquisition of reading skills. *Psychological Bulletin*, Vol 101(2), Mar 1987, 192 – 212.

Yathiraj,A & Mascarenhas, K (2004). Auditory profile of children with suspected auditory processing disorder. *Journal of Indian Speech and Hearing Association* 18, 6-14.