



LLCd Symposium.
SPEAKERS AND PRESENTATIONS

- Name:** Shivani Tiwari
- Affiliation:** Department of Speech and Hearing, Manipal College of Allied Health Sciences, Manipal University, Manipal, India .
- Brief Bio:** Ms. Tiwari is working in the Department of Speech and Hearing, Manipal College of Allied Health Sciences, Manipal University, Manipal, India as Associate Professor in Speech Language Pathology. Her work with under-graduate and post-graduate students focuses on speech-language pathology and the language disorders, as well as the assessment and management of communication disorders. She has authored and co-authored research articles in national as well as international journals. Shivani is currently completing a PhD on morpho-syntactic aspects in bilingual children with specific language impairment. Current research interests include reading and cognitive aspects of bilingual processing in normal and disordered population. She is presently working on research projects investigating central alexias and agraphias in semi-syllabic orthographies and reading acquisition in children learning to read in the two distinct orthographies of Malayalam and English, both funded by grants from the central government.
- Name:** Gopee Krishnan
- Affiliation:** Manipal College of Allied Health Sciences, Manipal University
- Name:** Shyamala Chengappa
- Affiliation:** All India Institute of Speech and Hearing
- Name:** B. Rajashekar
- Affiliation:** Manipal College of Allied Health Sciences, Manipal University
- Theme:** Language and literacy development in the alphasyllabaries
- Title of Presentation:** Reading Acquisition in Malayalam-English Biliterates

Abstract:**Background:**

The term 'biliteracy' is defined as children's competencies in two written languages, developed to varying degrees, either simultaneously or successively (Dworin, 2003). Biliteracy places young children at a cognitively challenging position, more so when the writing systems involved are diverse in nature. Effect of bilingualism on learning to read depends upon the type of writing system used in each language. A review of biliteracy studies evaluating the transfer of various literacy skills show mixed findings. The extent of transfer of the literacy skills across languages thus depends on similarity of the systems in terms of phonological structure and writing system (Bialystok, Luk, & Kwan, 2005). However, such impressions are largely drawn from studies comparing two alphabetic languages.

India's education policy follows a 'Three Language Formula' wherein all school-going children learn first, second and third languages by the time they complete secondary school. The first language or medium of instruction is the mother tongue/regional standard language, which must be used at the primary school stage (Grades 1-5). The second and third languages are introduced in secondary school (Grades 6-10) and include Modern Indian Language or Sanskrit for Hindi speaking children, Hindi for non-Hindi speaking children and English. Biliteracy, although being a prevailing issue in India, has not received adequate research attention. The present study thus investigated reading acquisition in Malayalam-English bilinguals learning to read and write in two distinct writing systems (alphasyllabic and alphabetic) at the same time. The study had the following hypotheses: Hypothesis 1: Literacy development in (Malayalam-English) bilingual children will be different from that of monolingual (Malayalam and English) children. Hypothesis 2: Transfer of the literacy skills will not be seen between the two languages (Malayalam and English), since the languages have distinct writing systems.

Method:

A total of 210 children, 30 each from Grades 1 till 7 participated in the study. Participants' performances were measured on tasks of phonological awareness, word and nonword reading, and orthographic knowledge in each language using a range of standardized and non-standardized tests. Phonological awareness task comprised of sections like rhyme recognition, syllable deletion, phoneme deletion and phoneme oddity (adapted from Seetha (2002) and Ponnumani (2003)'s work with certain modifications). Reading words and nonwords task comprised of reading words and nonwords in each language. Stimuli for this task was prepared by pooling words from text books of grades I till VII, followed by a familiarity rating by the class teachers. Words rated as being familiar by two teachers in each grade were selected in English and Malayalam languages. Words in English contained regular as well as irregular words in each grade list. Nonwords were generated and prepared from true words by transposing vowels and consonants keeping in mind the phonotactic rules of the language. Orthographic knowledge task checked for recognition and recall of letter/akshara units. Stimuli were prepared by selecting different letter/akshara type varying in complexity,

specific to the script. Letter recognition was carried out for upper case letters, lower case letters, and clusters. Akshara recognition checked for vowels in primary form, consonants with Inherent vowel, consonant Ligatures, *chiilaksharam* (consonants without inherent vowel), and consonant clusters (vertical and horizontal).

Results:

Results indicated analogous, though specific developmental trajectories through tasks in each language. While participants' performance on phonological awareness was better in English, performance on word and nonword reading measure was superior in Malayalam. Orthographic knowledge measure revealed superior performance in English. A significant effect of grade as well as language was observed for all tasks. Syllable awareness development preceded phoneme awareness, with marked difference in phoneme awareness scores across languages. Reading words was superior to reading of nonwords. Reading for regular and irregular words was found to be comparable in English. Acquisition of orthographic recognition preceded recall in both languages. Interestingly, the pace of orthographic knowledge acquisition was determined by the letter/akshara complexity. For example, consonant clusters matured later compared to simple letters/akshara. Significant correlations were obtained for task performances between English and Malayalam languages.

Discussion:

Cross-language transfer is a learner's reliance on first-language knowledge. Cross-language transfer is reported to be present between languages that share same writing system (Bialystok, Luk, & Kwan, 2005). Bilingual studies in languages comparing different writing systems, for example Chinese and English, report certain level of phonological transfer, but no orthographic transfer (Wang, Perfetti, & Liu, 2005). Research in alphasyllabaries (an unexplored writing system), therefore provides a new dimension to reading research.

The present study thus investigated reading acquisition in Malayalam-English bilingual children learning to be literate in the two distinct languages Malayalam and English. Additionally the study also looked for cross-language transfer (if any) at levels of phonological awareness, word reading and orthographic knowledge. Results of the study showed better scores on phonological awareness tasks in English language. Phonological awareness skills is reported to develop slower in alphasyllabic (Nag, 2007), compared to alphabetic languages resulting from differences in orthography. Reading or decoding task essentially depends on mapping of written to spoken units, and is thus influenced by the transparency of the written script. Malayalam writing is transparent that uses one to one correspondence between written and spoken units. This in fact explains the reason for superior performance on word and nonword reading in Malayalam language. Orthographic knowledge acquisition in alphasyllabaries is found to be drawn out (Nag, 2007; Nag & Sircar, 2008; Tiwari, Nair, & Krishnan, 2011). Akshara system used in alphasyllabaries differs from alphabet system in terms of its visuo-spatial complexity, size of orthographic

register and the ligaturing rules. The differences between letter and akshara processing, thus, explain for superior orthographic knowledge in English than in Malayalam for our participants. Literacy acquisition in our participant group was found to be comparable to that of literacy acquisition in monolingual English (Hulme et al., 2002; Seymour, Aro, & Erskine, 2003) and Malayalam (Remya, 2010; Tiwari, Nair, & Krishnan, 2011) students. Cross-language transfer was found for phonological awareness, word reading and orthographic knowledge, thus suggesting interactions between the languages. Thus both hypotheses were rejected.

Conclusion:

Taken together, reading acquisition in Malayalam-English biliterates is at par with that of monolingual readers in Malayalam and English languages. Language-specific task differences in performance observed in our data however reflect the processing demands in the two writing systems. Positive transfer indicates interactions between Malayalam and English languages and therefore, similarity in terms of processing the two scripts.

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