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| **Name:** | Sonali Nag |
| **Affiliation:** | Associate Director - The Promise Foundation, India<br>Newton International Fellow, University of York, UK |
| **Brief Bio:** | Dr. Sonali Nag is a clinical psychologist trained at the National Institute for Mental Health and Neuro Sciences (NIMHANS) in India. She is one of the founders of The Promise Foundation, an Indian charity that works, among other areas, in the field of literacy interventions and serves the Foundation as its Associate Director.  She is presently based in the University of York as a Newton International Fellow and is leading two large scale language and reading programmes in Kannada, a language of South India and English. Her work in the area of Learning Disabilities and Dyslexia, has focused on understanding dyslexia, particularly taking into account the unique features of the Indian languages.  Her research interest is particularly in contexts where there are interactions between multiple scripts and multiple languages. Sonali has participated in assignments with the National Council for Education Research and Training(NCERT),India; The Ministry of Higher Education, Employment and Social Security, Republic of Maldives; the Shulamt, Principality of Leichtenstein and the Ministry of Education, Rwanda. |
| **Further information:** | www.thepromisefoundation.org<br>www.york.ac.uk/psychology/staff/postdocs/sn527/ |
| **Theme:** | Literacy Development in the Alphasyllabaries |
| **Title of Presentation:** | Multiple pathways to literacy: findings from two longitudinal studies |

**Abstract:**

Children learn to read in diverse settings and the pathways to literacy are influenced by opportunity, along with the cognitive resources that individual children bring to the task.  Of particular significance are the instruction methods and the writing system that the child is offered.   This paper will present findings from two longitudinal studies, first the Language Development Programme in the Chamarajanagara region (2002 – 2008) and second, the Children Learning to Read study conducted in the neighbouring cities of Tumkur-Bangalore (2009 – ongoing).

In the Chamarajanagara study, a cohort of children was followed for four years beginning when they were in Grades 1-3.  Even though all the schools were following a centralised curriculum, the speed with which children became advanced readers depended on the quality of instruction.  Attainments of children in schools with high absenteeism, no teaching- learning materials and few books to read were below children in better schools.  That poor functioning

schools slowed down the rate of literacy learning is not surprising, but the study showed how far reaching the effects of poor instruction can be.  Delays in the simplest aspects of learning to read persisted into middle school where decoding unfamiliar words was found to be two years behind.   In the Tumkur-Bangalore study, all participating schools were well functioning with an explicitly stated language curriculum and investment in books.  Each had a unique focus for teaching literacy.  We found that the differences in the transacted curriculum were subtle and yet a powerful indicator of what children learnt.  The schools were committed to different aspects of language learning and their chosen mode of instruction explained the gains that individual children made in specific areas of literacy.

The writing system - the Kannada akshara - was the focus of analyses in both the longitudinal studies. The akshara is a symbol block that represents sound at the level of a syllable but can be segmented to reveal smaller sounds called phonemes.  We found akshara knowledge to be a consistent marker of reading difficulty across the school years. We also found that beginning readers could analyse words into syllables and larger sub-syllabic segments, but not into phonemes.  In contrast, among learners of transparent alphabet languages, there is a spurt in phonemic awareness within the first months of literacy instruction.  Among  the akshara learners, we found the growth in phonemic awareness emerged in later grades and was associated with greater akshara knowledge on one hand, and better speed of reading on the other, suggestive of a reciprocal relationship.  The persistence of syllabic processing as a predictor of individual differences and the late emergence of explicit phonemic processing skills have implications for clinical assessment, especially for identifying children at risk for literacy difficulties.  Finally, contrary to the common understanding that the akshara systems are uniformly predictable about sound-symbol mappings, we found that learners are confronted with several points of ambiguity.  Alphabet-centric constructs like 'transparency of sound-symbol linkages' and 'granularity of symbol representations' did not adequately encompass the specific characteristics of the akshara system and thus narrowed down discussions about the cognitive processes underpinning literacy learning.

Taken together, the two longitudinal studies point to pathways into literacy being closely shaped by instruction - some instruction environments slow down literacy development, others nurture literacy learning but vary in what skills they promote.  The akshara analyses further highlight the need to be alert to the reciprocal interactions between written and spoken language and show how ignoring specificities about the akshara language systems can mislead, for example during clinical and psycho-educational assessments.