

Phonological Processing and Its Role in Pseudo-Word Decoding in Children Learning to Read Kannada Language between 5.6 to 8.6 Years

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Abstract : Introduction and Need: Phonological processing is critical in learning to read alphabetical and non-alphabetical languages. However, its role in learning to read Kannada an alphasyllabary is equivocal. The literature has focused on the developmental role of phonological awareness on reading. To the best of authors knowledge, the role of phonological memory and phonological naming has not been addressed in alphasyllabary Kannada language. Therefore, there is a need to evaluate the comprehensive role of the phonological processing skills in Kannada on word decoding skills during the early years of schooling. Aim and Objectives: The present study aimed to explore the phonological processing abilities and their role in learning to decode pseudowords in children learning to read the Kannada language during initial years of formal schooling between 5.6 to 8.6 years. Method: In this cross sectional study, 60 typically developing Kannada speaking children, 20 each from Grade I, Grade II, and Grade III between the age range of 5.6 to 6.6 years, 6.7 to 7.6 years and 7.7 to 8.6 years respectively were selected from Kannada medium schools. Phonological processing abilities were assessed using an assessment tool specifically developed to address the objectives of the present research. The assessment tool was content validated by subject experts and had good inter and intra-subject reliability. Phonological awareness was assessed at syllable level using syllable segmentation, blending, and syllable stripping at initial, medial and final position. Phonological memory was assessed using pseudoword repetition task and phonological naming was assessed using rapid automatized naming of objects. Both phonological awareness and phonological memory measures were scored for the accuracy of the response, whereas Rapid Automatized Naming (RAN) was scored for total naming speed. Results: The mean scores comparison using one-way ANOVA revealed a significant difference ($p \leq 0.05$) between the groups on all the measures of phonological awareness, pseudoword repetition, rapid automatized naming, and pseudoword reading. Subsequent post-hoc grade wise comparison using Bonferroni test revealed significant differences ($p \leq 0.05$) between each of the grades for all the tasks except ($p \geq 0.05$) for syllable blending, syllable stripping, and pseudoword repetition between Grade II and Grade III. The Pearson correlations revealed a highly significant positive correlation ($p=0.000$) between all the variables except phonological naming which had significant negative correlations. However, the correlation co-efficient was higher for phonological awareness measures compared to others. Hence, phonological awareness was chosen a first independent variable to enter in the hierarchical regression equation followed by rapid automatized naming and finally, pseudoword repetition. The regression analysis revealed syllable awareness as a single most significant predictor of pseudoword reading by explaining the unique variance of 74% and there was no significant change in R^2 when RAN and pseudoword repetition were added subsequently to the regression equation. Conclusion: Present study concluded that syllable awareness matures completely by Grade II, whereas the phonological memory and phonological naming continue to develop beyond Grade III. Amongst phonological processing skills, phonological awareness, especially syllable awareness is crucial for word decoding than phonological memory and naming during initial years of schooling.

Keywords : phonological awareness, phonological memory, phonological naming, phonological processing, pseudo-word decoding

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