



**LLCd Symposium.**  
**SPEAKERS AND PRESENTATIONS.**

- Name:** Anita Rajah
- Affiliation:** Amrita Institute of Medical Sciences, Amrita Deemed University, Kochi, India
- Brief Bio:** Anita Rajah is a clinical psychologist with 12 years of clinical experience, based at Kochi. She has established Clinical Psychology services at private clinics, tertiary care centres and NGOs. She has also helped set up an independent Department of Clinical Psychology at the Amrita Institute of Medical Sciences, Kochi offering clinical and academic services to the medical and educational centre. She was the resource person in several programmes involving Universities (IGNOU, Amrita), NGOs (Hemophilia Federation of India, Vigyan Valley Centre) and organisations such as Rotary Clubs, local educational institutions. She has also worked for 3 years in the training and recruitment units of the Human Resources Department of Walchandnagar Industries, a heavy engineering industry based near Pune.
- Anita has completed schooling, and graduation in Psychology at Women's Christian College, Chennai. She did the MA programme in Clinical Psychology at Mansangotri, Mysore and professional training (MPhil) at the NIMHANS, Bangalore. She is currently pursuing the doctoral programme in Neuropsychology at the Amrita Institute of Medical Sciences, Amrita Deemed University. She was a Fulbright doctoral fellow at the Illinois Institute of Technology, Chicago from 2007 to 2008.
- Theme:** Dyslexia and language impairment (LI)
- Title of Presentation:** Computer-based training for improving cognitive functions in young children
- Abstract:** **Background:** Technology based interventions have vast scope for use in countries with inadequate trained resources. Such techniques have the advantages of uniformity of administration, flexibility of use and ease of recording of responses. Available programmes- CogMed and FastForWord - target core neuropsychological processes in clinical populations such as ADHD and dyslexia. Brain Functions Therapy (BFT) is one of the few indigenously developed programmes used in India. In this exploratory study, we attempt to check the feasibility and effectiveness of this programme in a non-clinical school going group in Kerala. The results of this study might help plan school based interventions for children at risk for learning difficulties.

**Aim:** The aim of this study was to assess the effect of a brief computer-based intervention on the cognitive functioning of young school going children, with average scholastic performance.

**Study design:** The sample was drawn from lists of children with average scholastic performance, identified by teachers. Parental consent was obtained prior to inclusion. A pre-post experimental design was used, with 20 children each in the Experimental group and Control group, aged between 8 and 11 years, studying in classes 3, 4 or 5 of CBSE schools in Kochi. Children with known neurological, psychiatric and physical/ sensory problems were not included. The experimental group underwent 20 sessions of individual computer-based intervention using the BFT, while the control group did not undergo any intervention. The intervention was carried out over 3 months, at approximately 2 or 3 sessions a week. The training tasks were primarily non-verbal, and included alphabet presentation, word recognition, visuo-spatial comparison, temporal sequencing and continuous performance. The neuropsychological functions targeted were attention, working memory, response inhibition. Pre and post assessment was done using Malin's battery of tests of intelligence (MISIC), an adaptation of the Weschler Intelligence Scales for Children.

**Results:** The difference in performance of the 2 groups was compared using the t test and ANACOVA. The control group was significantly better than the Experimental group on sub-tests of the verbal scale, prior to intervention. Following intervention, there was significant improvement in performance within the Experimental group, but the between group difference was not significant. However, when the initial difference was controlled for, the difference in performance between groups was also found to be significant.

Performance on the vocabulary sub-test was significantly below normal in both groups, before and after intervention.

**Conclusion:** Although the findings cannot be generalised, the trend of results show that a brief computer-aided intervention can have a significant impact on the cognitive functioning of young children.

**Limitations:** Small sample size, absence of active control group, no follow up to assess sustenance of change.