

Improvements In Language Abilities With Training Of Children With Both Attentional And Language Impairments

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A large proportion of language impaired (LI) children have attentional deficit disorders (ADD) and hyperactivity (ADHD). This study examined whether there are differences in the abilities of ADD-LIs, ADHD-LIs and LIs to achieve improved aural speech reception. Here we report the results of applying a new computer-based training tool — Fast ForWord Language — to these ADD populations, which, as previous work has shown, has been successfully applied to LIs (Science 271:78-84, 1996).

The study was conducted with 106 children who were identified as ADD and LI, compared with nearly 400 LI children that had no ADD. Major and equal gains in speech and language reception and usage were recorded in ADD-LI and control LLI children, documented by progressions in performance recorded in 7 adaptive, computer-based training exercises ("Fast ForWord Language" program), and by standard pre- vs post-training tests of speech and language reception, comprehension, and usage.

Z-scores improved by a mean of 1.6 with training for ADD-LI children on the GFW Test of Auditory Discrimination; and by a mean of 1.6 on the Token Test. TOLD and CELF language battery quotients improved in parallel: positive Z-score changes for receptive quotients were 1.2 and 0.9 for the TOLD and CELF; expressive language quotients had average Z-score gains 0.9 and 1.0).

Improvements on all CELF and TOLD standard scores and quotients were significant for both ADD-LIs and LIs at $p < 0.001$.

Training-induced gains in speech and language for LI vs ADD-LI children did not differ. Compliance at 100-minute-long daily training exercises over a 20-60 day long training period was equivalent. Gains of ADHDs did not differ to ADDs without H, on any measures.