



Gray Matter Volume Changes Following Reading Intervention in Dyslexic Children



Seeing Stars for Phonemic Awareness, Reading, and Spelling (SI)

PROFILE:

Number of Subjects: 11

Age: 7-11

Program Implemented:

- Seeing Stars®

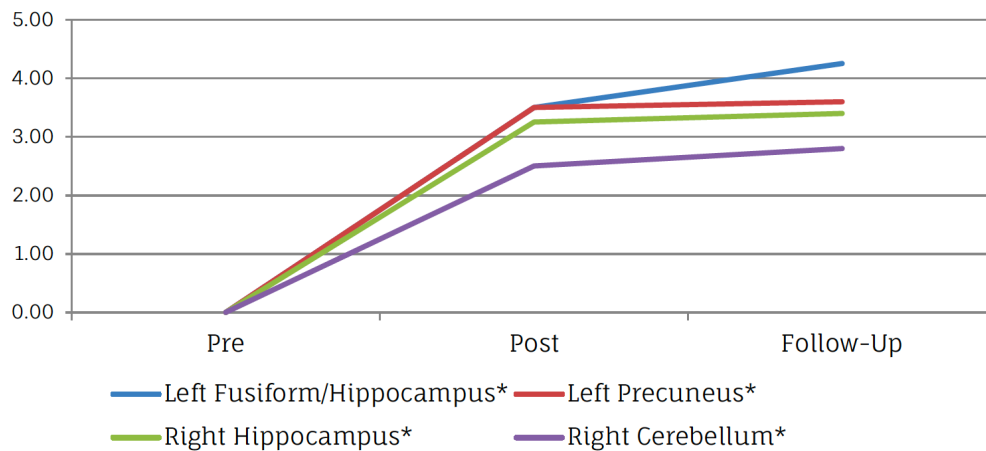
Outcome Measures:

- Brain structure (fMRI)
- Rapid Automated Naming
- Lindamood Auditory Conceptualization Test-3rd
- Woodcock-Johnson (word identification and word attack)
- Symbol Imagery Test

BACKGROUND:

Georgetown University's Center for the Study of Learning in collaboration with Lindamood-Bell Learning Processes conducted an experiment involving children with dyslexia. This study investigated the efficacy of the Seeing Stars program, which develops symbol imagery for reading. Children were pretested on a battery of reading assessments, received eight weeks of Seeing Stars instruction, and were posttested. Eight weeks later the children received follow-up testing. Brains scans were obtained using functional magnetic resonance imaging (fMRI) at the three points in time. Instruction was delivered by teachers who received professional development in Seeing Stars.

Percent Change in Gray Matter Volume



*Statistically significant (p ≤ .05)

RESULTS:

On average, pre- to posttest results were statistically significant in all brain regions and on all reading assessments. Post- to follow-up (neuroimaging and behavioral) were not significant; demonstrating that the improvements were specific to the intervention. In addition, follow-up results showed that improvements were maintained. The results of this study illustrate that Lindamood-Bell instruction in the Seeing Stars program leads to increased brain structure and improved reading for children with dyslexia.

LOCATION:

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