



The Woodcock-Muñoz Foundation

# RESEARCH BRIEF

## DOCTORAL DISSERTATION ABSTRACT

### COGNITIVE AND ACADEMIC GAINS AS A RESULT OF COGNITIVE TRAINING

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The Woodcock-Muñoz Foundation (WMF) is a private non-profit operating foundation that supports the advancement of contemporary cognitive assessment practices. The Doctoral Dissertation Abstract Project is part of the Foundation's efforts to disseminate research findings that bridge the theory-to-practice gap in cognitive assessment.

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## **Abstract**

The purpose of this study was to test Feuerstein's Structural Cognitive Modifiability model by evaluating changes in cognitive skills and reading scores after participation in one of two cognitive skills training programs. The Woodcock Johnson Tests of Cognitive Abilities and Tests of Achievement, 3<sup>rd</sup> editions were used as evaluation tools. Specific scores evaluated included General Intellectual Ability (GIA), Working Memory (MW), Sound Awareness (SA), and Word Attack (WA).

Three groups, differentiated by parent report, were studied. These groups included; Attention Deficit Hyperactivity Disorder, Dyslexia, and students who were not reported to have any type of disability. The intervention programs differed by focus (Reading or Cognitive) and intensity of training.

Significant differences were found between pre and post test scores for all four variables measured. GIA scores increased from pre- to post-test by almost one standard deviation. MW and SA scores increased 2/3 of a standard deviation, and a five standard score point gain was achieved for WA.

There were no significant differences in gain scores between intervention groups in regards to intensity of training or diagnostic group. Students enrolled in the reading-focused intervention group showed slightly higher gains in WA when compared to students in cognitive-focused intervention programs. Students enrolled in the cognitive-focused intervention programs showed larger growth for

GIA when compared to students in the reading focused intervention. No significant differences were found between intervention groups on measures of MW or SA.

Limitations of the current study included lack of a control group and the use of parent reported diagnoses to differentiate diagnosis groups. Additionally, examiner effects including the halo or expectancy effect may have impacted scores at post-test. The sample was limited in regards to ethnicity and SES, which may limit generalizability of findings to other ethnic or SES groups.

Directions for future studies may include using more robust achievement measures to evaluate academics before and after training, and getting confirmed diagnoses from medical and psychoeducational reports to differentiate groups. Follow up assessment to determine if gains are maintained in the long-term and focus on gains in particular areas of reading may allow for more specific interpretation of findings.

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