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## Physical and Behavioral Markers Help Identify Written Language Disability (WLD) Related to Attention Deficit Hyperactivity Disorder (ADHD)

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### ABSTRACT

Rotation, its physiological processing, as well as how this lateralized direction of movement is sensed, is regularly taken for granted and little appreciated when studying how learning develops. Preference for direction of rotational movement and how one processes this information has been found to differ greatly from one individual to another. This report discusses how bimanual rotational hand use preference and reversed direction of body part and movement sensation detection may be utilized to help identify certain currently unrecognized classroom learning difficulties. What we label Reversed Positioning Sensation (RPS) is evidenced in our research and is found in many children and adults presently identified as ' learning disabled' and/or ' hyperactive' or just those considered " bright underachievers" . Easily administered tests to help identify individuals who may be at risk are discussed. When RPS occurs without the necessary sensory-motor accommodation or compensation, we theorize that written language disability (WLD), as well as compromised organizational skills often identified as ADHD, result. In addition, this paper discusses a summary of our findings examining families with biologically related family members reporting primary difficulties related to organization and written language skills. Case studies from four of the many families we have studied demonstrate how to determine if an individual is able to sense his/her own body extremities in correctly functioning or maladaptive directional orientation. In some cases, just changing a writing hand position has been shown to help overcome many of the problems of RPS. This change is meant is to redirect the writing hand movement to sense a top/down orientation.

### KEYWORDS

Rotation; WLD; Written Language Disability; Motor Learning; Proprioception; Kinesthesia; Reversal; Directional Movement Sense; Learning Disability; Attention Deficit Hyperactivity Disorder; ADHD

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