

# CONNECTIONS BETWEEN SKILLS IN MATHEMATICS AND ABILITY IN READING

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The aim of the study presented in this short oral communication, is to investigate developmental differences between pupils with and without difficulties in mathematics and/or reading, and to investigate the manner in which these differences are reflected in their level of performance on different tasks in mathematics.

In research which is primarily concerned with reading, difficulties in mathematics are often seen merely as a result of reading difficulties (Miles & Miles, 1992). However, this cannot be the whole truth since approximately half of the pupils with difficulties in mathematics do not have additional difficulties in reading (Ostad, 1998). Reading ability seems to influence growth in mathematical achievement (Jordan, Hanich, & Kaplan, 2003). This and other findings point to the value of differentiating between mathematics difficulties with normal reading ability, and mathematics difficulties with co-morbid reading difficulties (Geary & Hoard, 2001; Rourke & Conway, 1997).

The sample in the study comprised 1038 pupils in the age cohort 8-15 years. These pupils were classified into four achievement groups based on their performance on standardized achievement tests in mathematics and reading: those pupils with difficulties in mathematics but not in reading (MD-only), those pupils with difficulties in both mathematics and reading (MDRD), those pupils with difficulties in reading but not in mathematics (RD-only) and those pupils without difficulties in any of the areas (NMRD). The study is ongoing, and uses cross-sectional and longitudinal data to examine how the pupils in the different achievement groups differ from each other in developing ability to solve: word problems, written calculations, calculations without pen and paper and approximate arithmetic.

## References:

- Geary, D., & Hoard, M. (2001). Numerical and arithmetical deficits in learning-disabled children: Relation to dyscalculia and dyslexia. *Aphasiology*, 15(7), 635-647.
- Jordan, N., Hanich, L., & Kaplan, D. (2003). A Longitudinal Study of Mathematical Competencies in Children With Specific Mathematics Difficulties Versus Children With Comorbid Mathematics and Reading Difficulties. *Child Development*, 74(3), 834-850.
- Miles, T. R., & Miles, E. (1992). *Dyslexia and mathematics*. London: Routledge.
- Ostad, S. (1998). Comorbidity between mathematics and spelling difficulties. *Logopedics Phoniatrics Vocology (Log Phon Vocol)*, 23(4), 145-154.
- Rourke, B. P., & Conway, J. A. (1997). Disabilities of arithmetic and mathematical reasoning: Perspectives from neurology and neuropsychology. *Journal of Learning Disabilities*, 30(1), 34-46.