

# MATHEMATICAL LEARNING DISABILITIES IN EARLY ALGEBRA

Francesca Gregorio

LDAR, Paris 7 University

Mathematical learning disabilities (MLD) is a research topic which relates to different fields, such as cognitive science and mathematics education. These two research domains have complementary standpoints.

A shared definition of MLD does not exist. The main definitions with their different points of view will be presented in the poster presentation, and a way to overcome the inconsistencies will be discussed. In cognitive science, MLD are defined as “*a biologically based difference in the brain, which results in significant difficulties with mathematics*” (Lewis & Fisher, 2016, p.338). On the other side, math education often includes students with specific and persistent difficulties in maths, that is, those which are identified as being the worst in maths within a certain group the category of MLD students (Pfister, Opitz & Pauli, 2015). With the aim to link the two fields, my study considers both definitions: students have MLD if they possess a diagnosis or are identified by the school as having specific and persistent difficulty in maths.

87% of the research on MLD are about arithmetic, although MLD are heterogeneous (Lewis & Fisher, 2016). Research on MLD in other mathematical domains is nowadays necessary. The study presented in this poster investigates the difficulties of MLD students in early algebra and the possible remediation. With this objective, activities of patterns generalisation are used (Radford, 2010). Research questions are: *Which kind of difficulties in early algebra do pupils with MLD have? How to discriminate between MLD and “regular” difficulties in algebra?* The hypothesis is that the nature of the difficulties is the same for MLD and not MLD students. What will discriminate between them is the durability of the difficulties: pupils with MLD need more time to acquire algebraic skills. If typical MLD difficulties do not exist, neither would typical MLD solutions.

## References

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