

Maria Luisa Lorusso coordinates the clinical and research activity of the Unit of “Cognitive Psychology and Neuropsychology” at I.R.C.C.S. (Scientific Institute for Diagnosis and Research in Childhood Pathologies) “E. Medea” in Bosisio Parini, Italy. The group is engaged in neuropsychological assessment of children (preschool and school age), supervision of neuropsychological treatments, teacher counselling.

Research lines:

- 1) Developing new methods for clinical intervention (mostly computer-based) in reading disorders, comparing different intervention programs and investigating the different neuropsychological factors involved.
- 2) Defining the predictors of the response to treatment and the cognitive profiles of nonresponders in the large sample of dyslexic children treated at Medea.
- 3) Investigating the neurobiology of dyslexia, by means of psychophysiological and neuroimaging techniques and genetic analyses. This line of research includes longitudinal studies and studies with newborns, comparing families with and without a history of reading disorders. The studies conducted by the group underscore the importance of selective attention and of visual and auditory perception, but also interhemispheric transfer and more linguistically-based skills.
- 4) Exploring the precursors of mathematical disabilities
- 5) Developing tools for the assessment of reading and reading-related functions, or of more general linguistic skills. Tests for the assessment of semantic, pragmatic, morpho-syntactic abilities in school-age children have been prepared and standardized for national use.
- 6) Identifying the specific markers of reading and language disorders in immigrant children learning Italian as L2. The project has started with the community of Chinese children attending Italian schools, and should extend to Arabic-speaking minorities.
- 7) Developing high-technology, web-based tools for assessment and training of a variety of cognitive and neuropsychological functions relevant to childhood disorders (especially reading, language and autism spectrum disorders): coding and decoding of written language, visual and auditory attention, pragmatic abilities, executive functions, memory skills. These projects are conducted in collaboration with the Psychology and the Informatics departments of the University of Milan- Bicocca and with the Politecnico.
- 8) Developing methodologies for teaching foreign languages to adolescents with reading disorders, and methodologies to enhance text comprehension and organization of new information from the various disciplines in primary school children (both specific and inclusive approaches) (in collaboration with local schools).