

and compared to children in control classes, the children in the experimental classes show slower (by a few months) automatization of numerical facts, while their accuracy and variety of strategies used is consistently greater.

If the percentage of “dyscalculics” significantly depends (among other factors) on students’ initial mathematical experiences in school, does it make sense to keep on searching for who these children are, instead of investigating why some children fail to overcome difficulties in mathematical learning that others overcome?

*Are MLD linked to a lack of underlying awareness of mathematical patterns and relationships that are more linked to spatial ability than development of number? (Joanne Mulligan)*

Mathematics Learning Difficulties (MLD) may be traced to a lack of Awareness of Mathematical Pattern and Structure (AMPS) that is considered critical to the development of generalisation and relational thinking. Given the increasing influence of cognitive and neurocognitive sciences this perspective provides a much broader approach to both the research of MLD and the ways in which intervention programs can be developed. One of the key questions arising from the focus on AMPS is the study of conceptual connectivity within and between domains of knowledge (or disciplines). This may require mathematics to be reconceptualised as a coherent subject domain that develops from human interaction and that is reliant on conceptual relationships that develop from spatial sense and spatial reasoning. A lens on conceptual connectivity of spatial concepts, such as Awareness of Pattern and Structure, therefore, may offer a more complete picture of the learning that underpins WNA within mathematics.

*It is time to reveal what children with MLD can do, rather than what they cannot (Marja Van den Heuvel)*

Good teaching starts with getting to know what students know. Although this applies for all students, it is particularly true for weak learners. The problem with these learners is that they have low scores at mathematics tests, which may automatically lead to conclusions about their inability to solve demanding mathematics problems and coming up with their own solution methods. Unmasking such preconceived ideas is of vital importance for these students, and may open up new chances for their learning of mathematics. But how can we reveal what they know?

*Conceptual Model-based Problem Solving: An integration of constructivist mathematics pedagogy and explicit strategy instruction (Yan Ping Xin)*

This presentation will introduce a Conceptual Model-based Problem Solving (COMPS) approach that integrates constructivist mathematics pedagogy and explicit strategy instruction to promote concept development and mathematics problem-solving ability of students with learning disabilities or difficulties. Through nurturing fundamental mathematical ideas such as the concept of the composite unit, the COMPS program makes explicit the reasoning behind