



Allan.Tarp@MATHeCADEMY.net
Curriculum Architect

Designer of

www.MATHeCADEMY.net

Teaching Teachers to Teach

Mathematics as ManyMath, a Natural Science about Many

Difference Research

Uncovers hidden differences that make a difference

CupCounting & NextToAddition & PerNumbers

Teaching proportionality and integration in preschool

Teaching counting & multiplication before adding

Teaching calculus in primary, middle and high school

Based upon the two Enlightenment republics, Allan Tarp has designed the research paradigm 'Difference Research' mixing French skepticism and American pragmatism. Concept archeology deconstructs ruling traditions to uncover differences that make a difference in math education. Designing and testing micro-curricula allows using the Grounded Theory similarity with Piaget assimilation/accommodation to find a means to the educational goal, 'Mastery of Many'.

In 'Cinderella Mathematics', the first of three macro-studies, he shows how in Danish pre-calculus classes losers can be transformed into users by replacing 'METAmatics' presenting concepts top-down as examples from abstractions with 'grounded mathematics' presenting concepts bottom-up as abstractions from examples. Thus, where few understand abstract linear and exponential functions, all understand change by adding and by multiplying.

In 'Killer-equations in Africa' he uses difference research to design micro-curricula in pre-calculus and calculus and to design a different curriculum for a teacher training academy replacing the traditional top-down mathematics with bottom-up mathematics.

In 'Postmodern Mathematics' he shows how a postmodern perspective can be used to design a different teacher education, teaching mathematics as a natural science about the physical fact Many, and teaching teachers to teach mathematics through its two basic competences, to COUNT and to ADD in Time and in Space, the CATS approach to mathematics.

'An ICME Trilogy' published at the MATHeCADEMY.net contains many of his micro-studies. Examples are 'One Digit Mathematics', 'PerNumber Calculus', 'Pastoral Power in Mathematics Education', 'Avoiding 10, a Cognitive Bomb', 'Recounting as the root of Grounded Mathematics', 'Saving Dropout Ryan with a TI-82', 'Mathematics as Manyology', 'Fractions Grounded as Decimals'.

The paradox of 50 years of unsuccessful math education research made him write 'Diagnosing Poor PISA Performance', and the 'MADIF-papers' containing 'Mathematism and the Irrelevance of the Research Industry', and 'A STEM-based Core Math Curriculum for Outsiders and Migrants'.

His curriculum designs are published in several MrAITarp YouTube and DrAITarp YouKu videos. He is about to finish a book 'ManyMath – MyMath' allowing parents and preschool teachers teach children the roots of mathematics, Many, so they will understand better what happens in school.

He invites the research community to take part in YouTube dialogues on mathematics education research, similar to the Chomsky-Foucault dialogue on Human Nature, and the Ernest-Tarp dialogue on Postmodern Mathematics.