



Education as a hope in uncertain times

Thessaloniki 22-26 August 2023

Numbers, Brains, Development and Education: Progress, Challenges and Promise

In recent years, cognitive, developmental, and educational psychologists have made great strides towards a better understanding of how children develop numerical and mathematical skills and understanding from an early age onwards. In addition, cognitive neuroscientists have used a variety of non-invasive neuroimaging tools to better understand the neural correlates of the development of numerical and mathematical skills. In this talk I will review these contributions to our understanding of children's developing numerical and mathematical abilities and understanding. I will discuss what we have learnt about the foundations underlying numerical and mathematical abilities. I will focus on how children's developing understanding of numerical symbols (e.g., number words and Arabic numerals) serves as a critical foundation for later mathematical abilities and how the learning of numerical symbols shapes the developing brain. Furthermore, I will consider not only how this recent can be applied to educational contexts but also what we learn from those contexts can inform behavioral and brain-imaging research on the development of mathematical cognition. Relatedly, I will consider barriers to successful translation of research and the dialog between research and educational practice. Finally, I will discuss the importance of taking an inclusive, global approach to research into children's development of numerical and mathematical skills that goes beyond the study of White Educated Industrialized, Rich, and Democratic (WEIRD) populations.



Prof. Dr. Daniel Ansari
University of Western Ontario
Canada