

## **How we learn: Building bridges between neuroscience and education**

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Recent discoveries in cognitive psychology and neuroscience are starting to shed light on what is perhaps the most remarkable competence of the human brain: its capacity to change itself through education. In this talk, I will focus on the acquisition of two major school topics: reading and math. By scanning children every two months during the first year of school, as they acquire reading, and by comparing the results with those of illiterate adults, we obtained a detailed picture of how ventral visual cortex and language areas are enhanced by reading acquisition. In the field of mathematics, likewise, we begin to see how education leads to a large increase in the responsiveness to numbers and mathematical expressions in ventral visual cortex and higher-level parietal and frontal areas. I will conclude by summarizing how our growing understanding of the psychology and neuroscience of learning leads to several key principles that may facilitate learning at all ages.