

Bilingualism and neuroplasticity: Taking stock and moving forward

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Research on the effects of multilingualism on the structure of the brain has so far yielded variable and sometimes contradicting patterns. Although it cannot be disputed that learning and using additional languages restructures the brain, this variability in the findings is expressed in numerous ways. This includes different directions of the effects, with both increases and reductions in grey matter volume and white matter diffusivity reported, different effects for various age groups (children, young adults, healthy older adults, older patients), but also different effects for groups with qualitatively and quantitatively different bilingual experiences.

This talk will review the available evidence from the perspective of experience-based neuroplasticity and will link the evidence to neuroplastic patterns reported in other (non-linguistic) domains of learning. A theoretical suggestion will be presented, the Dynamic Restructuring Model, which synthesizes the available findings and draws parallels to theories on the biological basis of experience-based neuroplasticity. This will be followed up by some newer evidence from my lab on bilingual children and adults, young and old, and will conclude with suggestions on how the field should move forward.