Science of Learning in Education Centre (SoLEC)

The **Science of Learning in Education Centre (SoLEC)** at the National Institute of Education (NIE), Nanyang Technological University, is a multidisciplinary research centre dedicated to advancing evidence-based understanding of **how humans learn** and translating this knowledge into educational practice. SoLEC serves as a key institutional mechanism supporting NIE's mission to **lead the future of education** by integrating scientific inquiry with authentic learning contexts. SoLEC complements NIE's established education research through **state-of-the-art Science of Learning approaches**, synthesising insights from neuroscience, cognitive science, psychology, education, and technology. A central focus of the Centre is to **bridge laboratory-based research and real-world educational settings**, ensuring that scientific discoveries are both theoretically rigorous and directly applicable to classrooms, schools, and broader learning environments. Research at SoLEC is organised around **three priority areas** critical to successful learning and human development:

- **Regulation**, encompassing cognitive, emotional, and behavioural regulation
- **Well-being**, addressing learner engagement, resilience, and flourishing
- **Metacognition**, focusing on learners' awareness, monitoring, and control of their learning processes

Through these areas, SoLEC develops **evidence-informed interventions, pedagogical strategies, and learning designs** that inform both policy and practice.

The Centre is supported by specialised research infrastructure, including portable neuroimaging and psychophysiological tools, as well as innovative learning spaces such as an interactive classroom laboratory. Beyond research, SoLEC contributes to **capacity building and talent development** through interdisciplinary academic programmes and international engagement, with the aspiration of becoming a **global leader in Science of Learning in Education research**.

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