

Trust, Sustainability and Learning@Scale

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ABSTRACT

It is not overstating matters to say that humanity finds itself at an inflection point. The interlocking crises can feel overwhelming (ecological; political; financial; medical; technological; educational...), with recent leaps in AI closing the gap between human and machine cognition, raising many issues, including of course, educational questions. If a plausible diagnosis for our predicament as a species is “*failure to learn*”, praxis questions assail us. What qualities should we cultivate most urgently, in which contexts? What literacies equip teachers and learners to engage critically with AI? How do we track progress meaningfully, at scale? And very pragmatically, when and why do people deem our tools trustworthy enough to trial, and if robust, embed sustainably into their teaching and learning practices?

Taking a complex organisation as a microcosm of these challenges, I offer some reflections through the prism of nine years running a university learning analytics innovation centre. We invent and evaluate analytics and AI targeting student qualities that transcend the disciplines, such as critical and reflective writing, teamwork, dispositions, and sense of belonging. Without trust we cannot deploy at scale, motivating our use of methods from human-centered design and deliberative democracy to build common ground among diverse stakeholders.

Perhaps the approaches and lessons learnt in this small but nonetheless complex system can scale fractally, offering insights for our wider challenges. Whatever the scale, it seems that trust, sustainability and learning reinforce each other, and must shape how we conceive, design and deploy our learning infrastructures.

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CCS Concepts

• **Applied computing** → *Education*; • **Human-centered computing**; • **Social and professional topics** → *Computing/technology policy*

KEYWORDS

Education; Learning Analytics; Artificial Intelligence; Trust; Sustainability

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BIOGRAPHY

Simon Buckingham Shum is Professor of Learning Informatics at the University of Technology Sydney where he serves as inaugural director of the Connected Intelligence Centre (CIC). CIC is a transdisciplinary innovation centre inventing, piloting, evaluating and scaling data-driven personalised feedback to students.

Prior to this he was a founding member of the UK Open University's Knowledge Media Institute (1995-2014). Simon's career-long fascination with software's ability to make thinking visible has seen him active in communities including Human-Computer Interaction, Hypertext, Design Rationale, Open Scholarly Publishing, Semantic Web, Computational Argumentation, Computer-Supported Cooperative Work, Educational Technology, and Learning Analytics/AI in Education. He has worked over the last decade to help establish the field of Learning Analytics, co-founding the Society for Learning Analytics Research, and helping to catalyse subfields including Social Learning Analytics, Dispositional Learning Analytics and Writing Analytics. Simon's background in Psychology (B.Sc.), Ergonomics (M.Sc.) and Human-Computer Interaction (Ph.D.) always draw his attention to the myriad human factors that determine the effective adoption of new tools for thought, and the kinds of futures they might create at scale.

