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ADHD in academia: student-faculty collaboration in developing educational neuroscience learning resources with lived experience as a tool for curriculum design

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Research Domains

Learning, teaching and assessment (LTA)

Abstract

Our project aimed to co-produce and roll out an innovative learning resource on the neuroscience of ADHD and its impact on higher education teaching and learning experience, which would form part of the learning resources for an innovative elective module on the Science of Learning offered at Imperial College London. In this module, Undergraduate students are invited to explore the concept of learning through three different angles; as a biological function of the brain, as a psychological function of the mind, and as a socially situated activity. By harnessing the collective lived experience of faculty and students diagnosed with ADHD into informing the design, production and delivery of this resource, we explored the affordances of authentic curriculum development aimed at enhancing the educational experience not just for neurodivergent staff and students, but for all.

Full paper

This paper reports on the equal, collaborative procedural pipeline between a faculty member and an Undergraduate student, both diagnosed with ADHD, in the conceptualising, designing and developing of resources on the neuroscience and behavioural impact of ADHD on learning within the HE context. In this project, we sought to (1) address individual learning inequities resulting from face-to-face to fully online/hybrid/blended learning modes, (2) enhance student self-efficacy and self-regulated learning in a credible, research-informed and research-led way, and (3) translate and share insights on ADHD in the Science of Learning curriculum, as part of ongoing, longitudinal efforts to enhance teaching and learning locally at Imperial, and potentially globally through suitable dissemination channels. We harnessed the lived experience of ADHD from the staff/student co-PIs to co-produce educational neuroscience resources for use as asynchronous learning materials in the iExplore STEMM module 'The Science of Learning'. Specifically, the developed resources will be incorporated into the module Science of

Learning, which invites Undergraduate students from across Faculties to decode the process of learning and to identify what strategies and approaches work best for them through engagement with the theory and research practices of educational neuroscience and sociology. This module has been running successfully for 4 academic years, seeing a yearly intake of approx. 80 students. A recent working definition by Privitera et al. (2023, p.13) describes Science of Learning (SoL) as *"the scientific study of the underlying bases of learning with the goal of describing, understanding, or improving learning across developmental stages and diverse contexts."* The purpose of many SoL programs is to elaborate on pedagogical approaches that faculty and students can use to enhance teaching and learning (Horvath & Lodge, 2016). Currently, SoL students are expected to engage with 2hrs of independent, pre-sessional learning activities ahead of each of the two Neuroscience sessions. These learning segments are designed to be asynchronous, and introduce concepts such as the biological underpinning of learning, understanding the research methods and data types that educational neuroscientists use to 'measure' cognitive domains associated with learning (i.e. selective attention and working memory), and introduction to neurodivergence (ASD, ADHD, dyslexia, dyscalculia, dyspraxia) as a lens through which to understand the important of individual variability in definitions of efficient (Bandura, 1977) and self-regulated (Zimmerman, 2002) learning. To the best of our knowledge, there is little evidence in the educational literature by way of highlighting the importance of lived experience in curriculum co-design – with the exception of some public health degree programmes– particularly when it comes to topics which both directly and indirectly have been thought to significantly impact one's aptitude for self-regulated (Zimmerman, 2002) and self-efficient learning (Bandura, 1977). In this project, the two PIs are navigating academia with ADHD and were motivated to capture what ADHD in the context of HE learning means in a personable, non-judgmental and engaging way. We will be presenting the outcomes and impact of this collaboration, as well as explore the advantages and potential pitfalls of the design process including possible future scalable applications. Finally, we will conclude by revisiting our main aim of this resource acting as an instigator for students to engage with and explore the topic of neurodivergence and individual variability in learning. By communicating the real-world experience of navigating the HE context while managing ADHD to a captive audience of educational advocates that make up the typical Science of Learning cohort, we will offer fresh insight, inspiration and aspiration not just to the neurodivergent staff and student cohorts, but beyond.