Understanding Student Engagement with the Feedback Provided by Generative Artificial Intelligence: Patterns, Dynamics and Influencing Factors

Feedback is a crucial yet challenging aspect of higher education policy and practice (Molloy, Boud* & Henderson, 2020). Among the primary challenges is students' disengagement with feedback, exacerbated by large class sizes, heavy teacher workloads, and restricted curriculum time and space (Carless, 2023). Generative Artificial Intelligence (GenAI) offers the potential to mitigate these constraints and enhance student engagement with feedback. However, assuming GenAI is a cure-all for feedback disengagement is risky (Zhan* et al., 2024). Without understanding how students engage with feedback provided by advanced technology, merely exposing them to it will not ensure effective learning improvement (Jensen, Bearman & Boud*, 2022). To maximise the power of GenAI feedback over learning, several research puzzles need to be solved. These puzzles include how students cognitively, emotionally, and behaviourally engage with feedback provided by GenAI, how such engagement varies across individuals and over time, and what constitutes GenAI feedback ecology and how it influences student engagement. Accordingly, this proposed project will use a sequential exploratory mixed methods design to explore the patterns, dynamics and influencing factors of student engagement with the feedback provided by GPT-4o (the latest version of ChatGPT, one of the popular GenAI tools). In the qualitative phase, 20 students will be invited to write monthly reflective journals, provide their log data of interaction with GPT-4o and participate in three individual interviews over a semester. This phase aims to develop an in-depth understanding of student engagement with ChatGPT feedback, laying the groundwork for the quantitative phase. In the quantitative phase, a scale measuring student engagement with ChatGPT feedback will be developed and validated with 300 students. Subsequently, a survey will be conducted at the start and end of an academic year with 600 students. The survey data will be utlised to verify the patterns, individual differences, temporal change and influencing factors of student engagement with ChatGPT feedback in a large sample, thus enhancing the research's impact. The innovation of this proposed project lies in revealing the complexity and dynamics of student engagement with GenAI feedback in natural settings, considering distinct interactions between human and non-human actors. More importantly, an evidence-based framework for student engagement with GenAI feedback will be created through an ecological lens by synthesising quantitative and qualitative data. All these research efforts will provide students, instructors, GenAI designers and policymakers with actionable practical and policy recommendations on GenAI-enabled feedback practices in higher education.