PolyFeed—Enhancing feedback literacy and strategies with feedback analytics

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Quality feedback is crucial to student success and learning experience; yet higher education continues to struggle with the provision of effective feedback. Scholarship in feedback studies has shifted from viewing feedback as a product transmitted from teachers to students, to promoting it as a two-way process in which students and teachers engage in interactive dialogue (Yang & Carless, 2013). However, predominant feedback practices still follow a one-way paradigm, with teachers having very limited understanding of how students engage with feedback. This is partly due to the difficulty in tracking ways learners interact with feedback. Consequently, there is a lack of support for students to benefit from feedback and for teachers to improve feedback strategies.

To bridge the gap between students and teachers in a feedback process, we propose feedback analytics as a solution. Feedback analytics collects, analyses, and reports on students' interactions with feedback. Such data-based insights have great potential to scaffold the development of students' feedback literacy, manifested in active involvement in seeking feedback, interpreting it, acting on it, and regulating the emotions that may arise during feedback processes (Carless & Boud, 2018). By capturing, analyzing, and reporting data about learners' interactions with feedback, feedback analytics can enhance reflections among learners on their learning progress and teachers on ways to support learners.

In this presentation, we introduce a novel feedback analytics system that builds on key feedback theories including feedback literacy (Carless & Boud, 2018), dialogic feedback (Yang & Carless, 2013), and learner-centred feedback (Ryan et al., 2023). The tool can: a) support students to make sense of feedback and act on it; and b) support teachers to track student interactions with feedback and provide targeted support. The system contains a student-facing tool and a teacher-facing tool, both leveraging AI technologies to support key functionalities. The student-facing tool enables students to highlight and label feedback, create reflective notes and action plans, seek further explanations from Generative AI or teachers, and track their strengths, weaknesses, and action progress across multiple assessments and courses. The teacher-facing tool supports teachers to enhance feedback quality by assessing the alignment of their feedback with learner-centred principles and suggesting ways to improve it. It also helps teachers shape feedback strategies by providing data about students' interactions with feedback through the functionalities mentioned above, in addition to students' feedback requests and perceptions of feedback usefulness. The tool has been piloted in both lab and authentic learning settings, receiving positive feedback from educators and students on its potential to transform feedback practice, while noting the need to balance human judgement with AI suggestions.

Keywords: feedback analytics, feedback literacy, dialogic feedback, higher education, human-AI interaction

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