

# AGENTIC IDENTITY CONSTRUCTION AS A PART OF STUDENTS' FEEDBACK LITERACY IN MATHEMATICS ASSESSMENT

Juuso Henrik Nieminen  
University of Eastern Finland

Recent years have seen a vast amount of assessment literature on 'the new paradigm of feedback' that emphasises students' active engagement with making sense and acting upon feedback information (Carless & Boud, 2018). This 'new paradigm' contrasts with the 'old paradigm', which frames feedback mainly as delivery of information. A similar shift can be identified in the field of mathematics assessment research as well, especially in relation to formative assessment. The notion of 'feedback literacy' has been used to highlight students' active role in feedback processes, and in particular their trainable feedback-related skills. Managing one's affect has been named as a central skill for feedback literate students. In this study I observe identity construction as a part of mathematical feedback practices especially in relation to affect, while bringing a much needed disciplinary knowledge to the general models for feedback literacy.

Earlier literature on the impact of emotions on feedback behavior (e.g. Molloy, Borrell-Carrió, & Epstein, 2013) and on managing one's emotions as a part of students' feedback literacy (Carless & Boud, 2018) has largely conceptualised emotions as a *barrier* for successful feedback practices. This notion might ring true in teacher- and examination-driven assessment cultures such as mathematics. Yet, taking into consideration the earlier works on mathematics-related affect with its complexity and embodiment (e.g., Hannula, 2012), I argue that 'emotional skills' as a part of feedback literacies reach beyond maintaining one's objectivity while receiving critical feedback (cf. Carless & Boud, 2018). Assessment type (e.g., summative/formative, low/high stakes) and feedback practices frame the situations in which students make sense and act upon their emotions in relation to feedback; thus, emotions play their part in how feedback moderates mathematical knowledge and ideas in mathematics classrooms.

Yet only some forms of feedback affect us as a person. Take, for example, a situation where a grade in mathematics examination strengthens one's perception of oneself as a mathematics learner. Elsewhere, a written comment by the teacher on a student's mathematical solution might not provoke any emotions or actions at all. In this theoretical work, I combine the theoretical frameworks of *feedback literacy* and *identity* to conceptualise how mathematical feedback and emotions not only shape but construct mathematical learners. Drawing on Sfard's and Prusak's (2005) analytical tool for identifying processes, I propose a theoretical model for understanding agentic identity construction mechanisms as a crucial part of feedback literacy in mathematics assessment. It is argued that feedback literate students can reflect on their emotions in mathematical feedback processes, while agentially taking part in their own identifying processes.

## References

- Carless, D., & Boud, D. (2018). The development of student feedback literacy: enabling uptake of feedback. *Assessment & Evaluation in Higher Education*, 43(8), 1315-1325.
- Hannula, M. S. (2012). Exploring new dimensions of mathematics-related affect: Embodied and social theories. *Research in Mathematics Education*, 14(2), 137-161.
- Molloy, E., Borrell-Carrió, F., & Epstein, R. (2013). The impact of emotions in feedback. *Feedback in higher and professional education: Understanding it and doing it well*, 5071, 50-71.
- Sfard, A., & Prusak, A. (2005). Telling identities: In search of an analytic tool for investigating learning as a culturally shaped activity. *Educational Researcher*, 34(4), 14-22.