## Harnessing the Power of Teacher Feedback to Enhance Learning Outcomes: The Roles of Students' Feedback Orientations and Learning Engagement

Teacher feedback shows one of the 10 largest effects on students' learning outcomes, according to Hattie's (2009) study of over 800 meta-analyses across two million students. However, existing studies show that not all students effectively use teacher feedback (Hattie & Clarke, 2019; Price, Handley, Millar, & O'donovan, 2010). Notably, the self-processes system (SfPS) model conceptualizes students' self-determination role in making evaluative judgments of contextual factors (e.g., school climate, teacher feedback) affects engagement in learning, which subsequently affects achievements in learning. Based on the SfPS model, we theoretically propose and empirically test one set of mechanisms: students' feedback orientations influence their engagement with teacher feedback, which in turn affect their learning outcomes. Feedback orientation consists of multiple dimensions (usefulness, competence, relatedness). Students' perceived usefulness of feedback, competence to apply teacher feedback, and social awareness to use feedback for establishing good student-teacher relationships jointly determine a student's receptivity to feedback and autonomy to respond to it. Our proposed study will test the relationships between these feedback orientations, learning engagement and learning outcomes with a sample of 702 Chinese secondary school students from Hong Kong, Macau and mainland China via a structural equation model. The results will shed light on the relationships between feedback orientations, learning engagement and learning outcomes based on the SPS model. This study will help determine the mechanisms underlying student use of teacher feedback. Informed by these results, teachers can design and provide effective feedback that students (a) perceive as useful and (b) use to facilitate their active engagement and improve learning outcomes. Teachers can also help students reflect on their feedback orientations to understand their perceived usefulness of teacher feedback and their responsibility to use it. Recent education reforms emphasize the importance of equipping both teachers and students with assessment for learning literacy, in which feedback is the core pillar (EDB, 2019), so the results of this study regarding students' feedback orientations and mechanisms to engage students in learning can inform these efforts to harness the power of feedback and make it work more effectively in the classroom to enhance learning outcomes.