Effective feedback is a central tenet for project-based learning, but the limits of feedback resources become increasingly evident as class size increases. For example, time demands preclude instructors from providing frequent, detailed feedback for every student in large classes. Instructors often turn to peer feedback systems to provide feedback at scale. However, existing systems struggle to engage students in the peer feedback process, improve feedback quality over time, and support reflection on peer feedback.

In this thesis, I describe my work to use interactive learning techniques to address these challenges of peer feedback systems. Interactive learning techniques ask students to generate novel learning-related materials and to collaboratively engage with them, which optimizes learning. My work identifies opportunities to use interactive learning techniques to improve the peer feedback process. I articulated a theoretical framework for in-class peer feedback activities, developed a novel interaction system for in-class peer feedback, and analyzed its impact on the feedback provided. I examine how interactive learning activities introduced both before and after peer feedback exchange impact peer feedback quality, perceived value of peer feedback, and both student and instructor attitudes towards peer feedback.