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Gail M. Tang* (gtang@laverne.edu), University of La Verne. *Spying on your students (mathematically, of course)*. Preliminary report.

There is a significant move towards promoting collaborative work in math classes. Often there are two issues with this pedagogy. One, assessing students' learning and understanding during group work is logistically difficult for us as instructors, whose attention is split between several groups. How can we accurately assess each student's contributions? How can we accurately assess learning and understanding based on the submitted written work?

The second is a comfort issue for the students: students who are extroverted can work well in groups, but those who are introverted can feel intimidated by groupwork. This can lead to limited participation and thus inaccurate assessments. How can we accurately assess the level of mastery of the shy students? How can we give them a voice so their thinking becomes visible?

In this talk, I will discuss two techniques to address these questions. One uses a pen in its most familiar state, and is fun and easy to implement. I will show examples from classes for non-majors and science majors. The other method uses an electronic Livescribe pen, which you or students must purchase. This method has been used in math courses for science majors. In both scenarios, instructors capture student discussions, misconceptions, and participation. (Received August 08, 2013)