

SUPPORTING GRADUATE STUDENT INSTRUCTORS IN CALCULUS

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Keywords: Post-Secondary Education, Teacher Beliefs, Metacognition, Design Experiments

Graduate student instructors (GSIs) teaching introductory calculus participated in a semester-long working group to learn to use Peer-Assisted Reflection (PAR) in their recitation sections (Reinholz, in press), an activity which was developed through a three-phase design experiment (Cobb, Confrey, Disessa, Lehrer, & Schauble, 2003). PAR involves students analyzing one another's work and exchanging feedback before revising their solutions, which helps students improve their explanations, collaboration, and persistence (Reinholz, in press). The GSIs met six times during the semester, for one hour each time. This poster focuses on the learning of Beth, a second-year graduate student with two semesters of prior teaching experience.

All six of Beth's lessons were coded for teaching practices. Two lessons were double-coded, with 90% agreement. The two disagreements were on teacher probing for explanations. Teacher position was coded holistically, while all other practices were coded for frequency (see Table 1).

Table 1. Beth's Observed Classroom Practices

Week	Teacher Position	Teacher Probes for Explanations	Teacher Links Student Responses	Students Respond to Each Other	Students Present at the Board
2	Front of room	2	0	1	0
4	Front of room	2	0	0	0
6	Circulating	6	0	0	0
8	Circulating	7	4	9	1
10	Circulating	11	2	5	0
13	Circulating	0	0	21	2

Table 1 shows a dramatic shift in Beth's teaching. In a post-semester interview, Beth noted:

I've definitely become a lot more reflective about my teaching, and I think about it a lot more than in the past. Just, I question, is this working. I feel like honestly when I first starting teaching, I would just do stuff, and think it's good, oh it's great, and I never really asked, is this working, do I think they are learning this way...compared to past semesters, I got students to come up to the board more and got them to explain their words more.

This poster highlights the potential of PAR to support GSIs to grow as teachers.

References

- Cobb, P., Confrey, J., Disessa, A., Lehrer, R., & Schauble, L. (2003). Design experiments in educational research. *Educational Researcher*, 32(1), 9–13. <http://doi.org/10.3102/0013189X032001009>
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