

## TEACHER'S COLLABORATION WITH FRESHMEN UNDERGRADUATES TO IMPROVE FEEDBACK PRACTICES THROUGH COGENERATIVE DIALOGUES

Mitchelle M. Wambua  
University of Missouri  
mwqdd@mail.missouri.edu

Nicole L. Fonger  
Syracuse University  
nfonger@syr.edu

Keywords: Classroom discourse; Assessment and Evaluation; Instructional practices

Providing students with written feedback on their homework yields many benefits on their learning (Black, Harrison, Lee, Marshall & William, 2003; Fyfe, 2016; Landers & Reinholz, 2015). These benefits include providing students with information on their current levels of understanding, and in providing possible next steps for student improvement. However, in many cases, teachers take the position of “presenter of knowledge” (Black et al., 2003, p. 89), providing students with feedback that they assume the students need, and which may or may not match the actual students’ needs. Students, on the other hand, rarely read and implement change on their work based on the written feedback (Black et. al., 2003), making the feedback lose its effectiveness. To improve the effectiveness of written feedback, researchers suggest that teachers seek different ways of using written feedback in mathematics classrooms (Frey & Fisher, 2011). We conjectured that using cogenerative dialogues (cogens) (Emdin, 2016; Tobin, 2006) to invite students into deciding on the nature of written feedback they would be receiving, and ways of using it efficiently, may support more student-centered forms of feedback.

We carried out a practitioner-inquiry study (Samaras & Freese, 2009) in a first year undergraduate Probability and Statistics class taught by Wambua. The class consisted of ten students at a private university in the Northeastern region of the United States. We hypothesized that we could improve the effectiveness of written feedback in classroom tasks by leveraging student autonomy to shape the nature of the feedback they received and in deciding how they use the feedback to produce new work. For six weeks, we held 15-minutes long cogens (structured teacher-student dialogues aimed at co-constructing classroom practices) after each class with all participants. For data analysis, we used constant comparison method (Savin-Baden, & Major, 2013). We coded all cogen-transcripts, students’ worksheets and teacher’s feedback to look for evidence of improvement in the teacher’s feedback based on students’ comments.

Working closely with students through weekly cogens focused on improving written feedback as a formative assessment technique generated improvements in three areas: (a) helping the teacher transition from giving general feedback to give specific feedback, (b) providing students opportunities to state how immediate feedback supported their learning and (c) in transforming the classroom culture. By listening to and learning from the students, the teacher improved her written feedback from using general statements like “Good job” and “explain more” to providing more elaborate feedback that articulated what was right or wrong in the students’ work, and gave suggestions on how to correct the mistakes. The students highlighted that the cogens provided opportunities for prompt and focused feedback that helped them curtail practicing the same mistake in future. Finally, the cogens boosted students’ motivation in their mathematical abilities and served as an evidence that their perspectives and experiences are valuable in co-constructing classroom practices. In future, we hope to explore how cogens could leverage feedback provision in larger class sizes and in education levels beyond undergraduate.

### References

Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2003). *Assessment for learning: Putting it into practice*. Maidenhead, United Kingdom: Open University Press.

---

In: Sacristán, A.I., Cortés-Zavala, J.C. & Ruiz-Arias, P.M. (Eds.). (2020). *Mathematics Education Across Cultures: Proceedings of the 42nd Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Mexico. Cinvestav / AMIUTEM / PME-NA. <https://doi.org/10.51272/pmena.42.2020>

Teacher's collaboration with freshmen undergraduates to improve feedback practices through cogenerative dialogues

- Emdin, C. (2016). *For White folks who teach in the hood... and the rest of y'all too: Reality pedagogy and urban education*. Boston, MA: Beacon Press.
- Frey, N., & Fisher, D. (2011). *The formative assessment action plan: Practical steps to more successful teaching and learning*. Alexandria, VA: ASCD.
- Fyfe, E. R. (2016). Providing feedback on computer-based algebra homework in middle-school classrooms. *Computers in Human Behavior*, 63, 568–574.
- Landers, M., & Reinholz, D. (2015). Students' Reflections on Mathematics Homework Feedback. *Journal of Developmental Education*, 38(3), 22–24.
- Samaras, A. P., & Freese, A. R. (2009). Looking back and looking forward: An historical overview of the self-study school. In C. A. Lassonde, S. Galman and C. Kosnik (Eds.), *Self-study research methodologies for teacher educators* (pp. 3–20). Rotterdam, The Netherlands: Sense Publishers.
- Savin-Baden, M. & Major, C.H. (2013) *Qualitative Research: The essential guide to theory and practice*. Abingdon, Oxon: Routledge.
- Tobin, K. (2006). Learning to teach through coteaching and cogenerative dialogue. *Teaching Education*, 17(2), 133–142.