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understanding by multiple audiences. Yet, comments from these prospective teachers seemed to suggest that they might write a solution in a particular way based on which instructor would be grading the work.

#### What are the Lessons for Future Collaborations?

In this paper, we have highlighted some potentially problematic issues that prospective teachers noticed with respect to planning, teaching, and assessing when courses were co-taught. When we read through their comments, we were surprised by their perception of disagreement as conflict. For us, what prospective teachers perceived as conflict was actually academic discourse that served as the catalyst for improving our practice. Having had the opportunity to consider the perspectives of these prospective teachers, we now recognize the importance of making the nature and content of instructors' discussions explicit to the students. In future classes, we will draw attention to what prospective teachers might see as conflict, and help them join the conversation by considering the importance of professional growth and learning how to address multiple perspectives.

The issues we faced in sharing our classroom space with our colleagues and what we learned from our students suggests there might be much to learn from opening up space to other collaborations. What similarities and differences to our experience might exist if mathematicians co-teach courses with engineering faculty for future engineers, or with biology faculty for future biologists? Although collaboration is difficult and time-consuming, it can be rewarding for the instructors and for the prospective teachers, highlighting the benefits of collaboration, which they may experience professionally in their future careers

Note Denisse R. Thompson at the University of South Florida participated in drafting an earlier version of this paper, but is not included here because of limits on participation in ICME papers

#### References

- Conference Board of the Mathematical Sciences. (2001). *mathematical education of teachers: Part I*. Washington, D.C.: Mathematical Association of America.
- Conference Board of the Mathematical Sciences. (2012). *mathematical education of teachers II*. Washington, D.C.: American Mathematical Society in cooperation with the Mathematics Association of America.
- Grassl, R., & Mingus, T. (2007). Team teaching and cooperative groups in abstract algebra: Nurturing a new generation of confident mathematics teachers. *International Journal of Mathematical Education in Science and Technology*, 38(5), 1581-1597.
- Heaton, R. M., & Lewis, W. J. (2011). A mathematician-mathematics educator partnership to teach teachers. *Notices of the AMS*, 58(3), 394-400.
- Sultan, A., & Artzt, A. F. (2005). Mathematicians are from Mars, math educators are from Venus: The story of a successful collaboration. *Notices of the AMS*, 52(15), 1348-1349.
- Thompson, D. R., Bénéteau, C., Kersaint, G., & Bleiler, S. K. (2012). Voices of mathematicians and mathematics teacher educators teaching prospective secondary teachers. In J. Williams & W. R. Speer (Eds.), *Professional collaborations in mathematics teaching and learning: Seeking success for all* (pp. 229-241). Reston, VA: National Council of Teachers of Mathematics.