

Teaching as Professional Learning: towards a more sustainable model for mathematics teacher professional development

Ban Heng Choy

<banheng.choy@nie.edu.sg>

Jaguthsing Dindyal

<jaguthsing.dindyal@nie.edu.sg>

National Institute of Education, Nanyang Technological University, Singapore

Recent efforts to improve the quality of mathematics teaching have focused largely on engaging teachers in various forms of teaching-learning inquiry to enhance teachers' mathematical knowledge for teaching, and to effect shifts in how they view mathematics, teaching, and learning (Clarke & Hollingsworth, 2002; Goldsmith, Doerr, & Lewis, 2013; Superfine, 2019). Despite adopting the best practices in professional learning (Timperley, Wilson, Barrar, & Fung, 2007), there are still many challenges for mathematics educators to enhance the teaching practices of teachers in mathematics classrooms. As highlighted by Superfine (2019), many of these professional learning activities, which are not sustainable in terms of support and duration, finish before any real changes in teachers' practices have taken place. The key to influencing teacher practices is then to design opportunities for professional learning, and focus on *how* teachers learn from these opportunities (Choy & Dindyal, 2019). Drawing on extant literature and our initial findings from a study involving mathematics teachers from three primary schools in Singapore, we propose a new professional learning framework to design learning opportunities for mathematics teachers to improve their teaching.

Keywords: Interactions-teacher/student; Interactions-teaching/learning; Teacher Experience; Teacher Perception; Teacher Education

References

- Choy, B. H., & Dindyal, J. (2019). Productive teacher noticing: implications for improving teaching. In T. L. Toh, B. Kaur, & E. G. Tay (Eds.), *Mathematics Education in Singapore* (Vol. 82, pp. 469-488). Singapore: Springer.
- Clarke, D., & Hollingsworth, H. (2002). Elaborating a model of teacher professional growth. *Teaching and Teacher Education, 18*(8), 947-967.
- Goldsmith, L. T., Doerr, H. M., & Lewis, C. C. (2013). Mathematics teachers' learning: a conceptual framework and synthesis of research. *Journal of Mathematics Teacher Education, 17*(1), 5-36. doi:10.1007/s10857-013-9245-4
- Superfine, A. C. (2019). Reconceptualizing ways of studying teacher learning: working with teachers rather than conducting research on teachers. *Journal of Mathematics Teacher Education, 22*(1), 1-4. doi:10.1007/s10857-019-09427-2
- Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best evidence synthesis iteration*. Wellington, New Zealand: Ministry of Education.

2019. In G. Hine, S. Blackley, & A. Cooke (Eds.). *Mathematics Education Research: Impacting Practice (Proceedings of the 42nd annual conference of the Mathematics Education Research Group of Australasia)* p. 798. Perth: MERGA