

Scaling Up and Sustaining Successful Interventions in Mathematics Teaching

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Education research journals regularly report on small-scale studies that have been successful in changing mathematics teachers' classroom practices. However, it is rare to find large-scale transfer of research knowledge into practice in mathematics education (Begg, Davis, & Bramald, 2003). In this round table discussion, we will share some early findings from research into an established, large-scale professional development project initiated and sustained by a state education system at a regional level and involving a large number of schools and teachers. In this project, we have developed a cluster model for bringing primary and secondary school teachers and principals together to analyse student performance data, create diagnostic tasks that reveal students' current mathematical understanding, and promote teaching practices that address students' learning difficulties in mathematics. The effectiveness of this approach is evidenced by reported improvements in teacher confidence and knowledge and in student achievement and enjoyment of mathematics, changes to mathematics teaching and assessment practices, and an ever-increasing number of schools volunteering to join the project and commit professional development funding. In our research, we seek to identify critical factors that support these mathematics teachers in instructional improvement on a large scale.

The round table will begin with an overview of the cluster model and then we will present some insights from interviews that we have conducted with teachers and principals. We invite MERGA members to join us and share their own experiences and ideas in response to the following research questions that are guiding our study (based on Cobb & Jackson, 2011):

1. What practices are effective in establishing a coherent instructional system supporting mathematics teachers' development of ambitious teaching practices?
2. To what extent do teacher networks and mathematics coaching of teachers support changes in mathematics teaching practice?
3. What features of school and district or regional leadership contribute to the scalability and sustainability of a cluster-based professional development model?

We also invite colleagues to suggest new lines of inquiry that could contribute to a theoretical rationale for sustained, scalable professional development.

References

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