MATHEMATICS TEACHER EDUCATORS’ KNOWLEDGE

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THEORETICAL BACKGROUND AND AIMS

The roles of content and pedagogical knowledge and their contribution to the knowledge required by school mathematics teachers have received considerable attention in recent years. The concept of pedagogical content knowledge (Shulman, 1987) has been a particular focus in mathematics education research. It has been elaborated by Ball and colleagues (e.g., Ball, Thames & Phelps, 2008) in their extensive and influential work on mathematics knowledge for teaching. In contrast, however, the knowledge required by mathematics teacher educators (MTEs) (i.e. those who teach mathematics and/or mathematics pedagogy courses to teachers) has received relatively little attention but is an emerging field of research interest. A Discussion Group (DG) is therefore timely to consider what exists and set directions for future research. This DG builds on the work of an ICME 2012 DG of this topic that we co-led with key aims to facilitate discussion of issues related to the knowledge required by MTEs and identify research directions that will move the field forward.

Session structure

The two sessions will be guided by three themes of questions that include: (i) To what extent are the various knowledge types for mathematics teachers applicable/transferable to MTEs? (ii) What are the dilemmas and opportunities associated MTEs researching themselves? What evidence is there of the knowledge required by MTEs? (iii) How is knowledge for MTEs acquired? What theories of learning are useful? Participants will have opportunities to share their experiences, ideas, and research regarding these themes and any others they suggest. In the first session, this sharing will be facilitated by the co-leaders presenting related literature for each theme and examples of their own work. Participants will then select a theme and work in small groups to discuss it and propose ways of thinking about it in terms of framing research. The second session will be used to share and discuss participants’ generated ideas. In the last 30 minutes, the group will summarize major ideas discussed, generating a set of questions and issues that require further examination by the field.

References
