

SEARCHING LINKS BETWEEN CONCEPTUAL AND PROCEDURAL MATHEMATICAL KNOWLEDGE

Co-ordinators

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The aim

is to discuss and share perspectives on the relation between conceptual knowledge and procedural knowledge. Research in this important domain seems to be neglected or at least eclectic, e.g. restricting mainly on terminological level. To what extent it can be revitalised and enhanced to develop a relevant overarching research paradigm - or even help to produce theories for concrete teaching?

Sessions

The first of the two 90-minute sessions is aimed to give an overview of researcher's views. The distinction between procedural knowledge and conceptual knowledge seems to be possible at a theoretical, epistemological and terminological level. However, many kinds of problems begin when this distinction is to be operationalized by acceptable tasks, and the relation between the two knowledge types is to be clarified.

The second session tries to share perspectives for resolving some of these problems by use of different mathematical content, age cohort to be taught, from historical perspective or other concrete contributions. The focus of the discussions is to search for links between the two knowledge types, and to check, whether research in this domain might have some relevant implications for teaching.

Preparation

for the discussion will be made via Internet. Potential participants are invited to send possible contribution for discussions via e-mail to the co-ordinators. This discussion within the next 2-3 months should offer a thorough warm-up for the group activities during the conference, as collecting theoretical studies on the topic. An example is the recent Haapasalo/Kadijevich paper in JMD 21 (2), 139-157.

Outcomes

Evaluation of the relevance of the topic will be made for the PME activities to come. Furthermore, a summary of the discussions will be made.