

Editorial

The editors are very happy to present the third consecutive issue containing five articles. The inflow of manuscripts of quality to NOMAD is still high. The high inflow, in combination with the fine work by our reviewers, has generated a queue for finalised articles to be published. In order to reduce the waiting-time, the number of articles per issue has been increased. The fourth issue this year will also be extensive. It is a thematic issue on *University mathematics* with Simon Goodchild and Barbara Jaworski as guest editors.

We would like to direct your attention to two upcoming events in the near future. The first is Madif-11, the eleventh research seminar of the Swedish Society for Research in Mathematics Education. It will take place in Karlstad January 23–24, 2018, and will, as usual, be directly followed by Matematikbiennalen (www.matematikbiennalen2018.se). Invited keynote speakers to Madif-11 are JeongSuk Pang, Korea National University of Education, and Peter Liljedahl, Simon Fraser University. The deadline for submitting papers to Madif-11 is October 10, 2017 (<http://formular.ncm.gu.se/madif-11/>).

The second event is the next annual PME conference, PME 42. It will take place in Umeå July 3–8, 2018, and is preceded by the Early Researchers' Day July 2–3. The deadline for sending in research reports is usually mid January, and exact dates as well as more information can be found at www.pme42.se. PME (The International Group for the Psychology of Mathematics Education, www.igpme.org) is an international group of mathematics educators and researchers who gather once a year to share their work and interests at an annual conference. PME welcomes all who are interested in how students learn mathematics, how teachers teach mathematics, and how mathematicians, teachers and students do mathematics. PME also offers early career researchers to participate in a workshop, called Early Researchers' Day (ERD), one day before the regular conference. The conference is one of the largest yearly international conferences in mathematics education and there are usually 400–700 participants, whereof 40–50 take part in the ERD.

In this issue

In the first article, *Research as praxis, en route theory/practice teacher-researcher collaboration: a self-study*, Sharada Gade reflects on her collaboration with a teacher in relation to conducting a series of instructional interventions. Focusing on teacher-researcher collaboration as a unit of analysis and using a researcher narrative, she reflects on various practitioner actions taken in the history of their extended collaboration. She draws on cultural historical activity theory and demonstrates how a theory/practice or practice-theory-practice approach contributes to practitioner reflexivity, enabling teacher and researcher to grasp theory and practice simultaneously. She illustrates how she and the teacher became stakeholders in each other's professional practice and how running the interventions became a shared object of both teaching and research. The paper raises awareness of several problematic issues in mathematics education research and offers possible strategies to answer these.

The second paper, *A review of the impact of formative assessment on student achievement in mathematics*, is written by Torulf Palm, Catarina Andersson, Erika Boström and Charlotta Vingö. They have reviewed scientific journal articles considering impact of formative assessment on student achievement in mathematics. The reviewed articles focus on three aspects of formative assessment: teachers gathering information on student learning with subsequent instructional actions, teachers giving feedback to students and students' self-assessment with subsequent actions. The review shows that the various approaches to formative assessment have a positive impact on student achievement in mathematics. Based on the review, the authors indicate areas for further research.

The third article in this issue, *Theorizing the interactive nature of teaching mathematics: contributing to develop contributions as a metaphor for teaching*, is by a younger researcher, who has participated in a Nomad workshop. In his article, Andreas Eckert draws upon symbolic interactionism in order to theorize teaching. Whereas many other researchers have considered teaching and learning mathematics in terms of participation – referring to the two metaphors of learning proposed by Anna Sfard: acquisition and participation – the author establishes *contribution* as a main metaphor of teaching. The article presents a new conceptual framework (still in development), referred to as *Contributing to develop contributions* (CDC), and is as such mainly a theoretical piece. Still, the author also provides a relevant example from a lesson to illustrate the application of the theoretical perspectives. As remarked by one of the experienced reviewers of this article: "Unlike learning, mathematics teaching is an underdeveloped and under-theorized area of research. Whereas many studies that aim at investigating mathematics teaching

appear to focus on different attributes of teaching – or rather of classrooms – few focus specifically on the actual work that teachers do in order to support students' learning of mathematics." Eckert attempts exactly that.

The fourth article is written by Annette Hessen Bjerke and has the title *The development of pre-service teachers' self-efficacy in teaching mathematics*. Bjerke has used a questionnaire that allows mapping the development of self-efficacy in teaching mathematics during teacher education. The participants were pre-service teachers in a primary school teacher education program in Norway. The results show that self-efficacy in teaching mathematics develops during teacher education. In addition, according to the study, pre-service teachers tend to be less confident when it comes to tasks requiring them to explain.

In the fifth article in this issue, *Analysing genomgång: a Swedish mathematics teaching lesson event*, Paul Andrews and Niclas Larson look at the Swedish (or Scandinavian) phenomenon of "genomgång". As part of an interview study, Swedish upper secondary students were asked about the nature and purpose of school mathematics. The authors noticed the students' frequent reference to "genomgång", which in the Scandinavian languages is a feature of a mathematics lesson that has its own name. This is not the case in the English language, which led the non-Scandinavian author of this article to react, and the authors decided to analyze the interview data with a particular focus on this phenomenon. Based on this analysis, they identify four categories of "genomgång": transmissive; participative; instructional; and problem solving. The authors argue that "genomgång" can be constructed as a lesson event and discuss how the analyses of the students' perspectives may contribute to our understanding of classroom practice. Furthermore, this article is an interesting example of what may come out of having a pair of eyes from a different culture – even just a slightly different one – look at our mathematics instruction in the Nordic countries.

The Editors

