Editorial

The first issue of volume 25 contains five articles. Due to a high inflow of manuscripts of high quality to the journal and the qualified work by our reviewers, the editors decided to increase the numer of articles. The plan is to have five articles also in the next issue, which will be published in June. This years thematic issue on *Students in need of support in mathematics* most likely will be a double issue published in the autumn.

The work with the next thematic issue on *Practice-based research on mathematics teaching* is progressing according to plan and a substantial numbers of manuscripts have been submitted. The editors are confident the work by the guest editors and the reviewers will lead to an issue with interesting articles in the autumn of 2021. The theme for 2022 has not yet been decided and the editors would like to invite our readers to propose a theme for 2022. Please contact one of the editors for more information.

Workshop for doctoral students

The eighth consecutive annual workshop, for doctoral students in mathematics education by the editors of NOMAD, will take place at the National Centre for Mathematics Education in Gothenburg May 14, 2020. The one-day workshop will give participants an opportunity to get feedback on their draft articles. More information can be found here: http://ncm.gu.se/nomad-workshop

NORMA 20

The ninth *Nordic conference on mathematics education*, NORMA 20, is hosted by the Department of Teacher Education and School Research, University of Oslo, and will take place in Oslo, June 2–5, 2020. More information can be found here: https://www.uv.uio.no/ils/english/about/events/2020/norma/

In this issue

In the article, *Avtryck i problemlösningsundervisning*, Camilla Sjölander Nordin looks at the Swedish in-service teacher training initiative *Boost for mathematics* (Matematiklyftet in Swedish) with a focus on problem solving. The phenomenological study describes how teachers for grades 4–6 and 7–9 experience their own teaching in problem

solving two years after attending Boost for mathematics. The study is based on a questionnaire survey and follow-up interviews with the teachers. The outcome of the study shows the teachers' thoughts on teaching of problem solving education, the skills of problem solving and collegial learning.

In the next article, *Meanings of decision-making in probability and statistics: comparing Chilean and Danish upper secondary school curricula*, Raimundo Elicer investigates the roles given to decision-making in probability and statistics upper secondary school curriculum, in a comparative study between Chile and Denmark. Drawing upon Fairclough's model for critical discourse analysis, the article offers an analysis of selected official curricular texts as examples of broader discourse practices. In particular, the focus is on the positioning of social actors and legitimation strategies. The evidence reveals a common search for linking mathematics education to democratic access to the decision-making process, but failing to specify the relevance of probability and statistics beyond the psychological scope. Still, decision-making provides a way of justifying the teaching and learning.

The third article in this issue, *Exploring engineering students' participation in flipped mathematics classroom: a discursive approach*, is written by Helge Fredriksen and Said Hadjerrouit. Using Sfard's commognitive framwork, the authors examine closely the development of university engineering students' participation in the mathematical discourse of a flipped classroom. The students took part of a course that used a flipped classroom design with two sessions per week, each consisting of out-of-class and in-class components. The out-of-class components were videos preparing the students for the in-class sessions, which in turn consisted of activities related to the material presented in the videos. The authors found that the students brought mathematical terms from the videos to the classroom and also that engaging in the videos seemed to contribute to the students' formulations of endorsed narratives. There was also evidence that the students were able to extend the discourse in the videos when trying to formulate their own narratives about the mathematical content.

In the next article, *Kystfiskermatematikk og skolematematikk: to ulike perspektiver på hva ei* méd *er*, the mathematics educator Anne Birgitte Fyhn and the fisherman Håkon Robertsen discuss and analyse two different perspectives on the concept *méd*. A traditional Euclidean description is that it is a straight line given by two points, while the coastal people have developed their own functional language related to the same concept. The coastal fishermen's language is part of Norwegian intangible cultural heritage. The paper contributes to making visible some

mathematics in this cultural heritage. It is enlightened how differences between coastal fishermen's mathematics and school mathematics is expressed by language and cultural practice.

In their article, *Understanding the relationship between length and area when changing the size of a two-dimensional geometric figure*, Jenny Svanteson Wester and Angelika Kullberg add to the research focusing on students' illusion of linearity when scaling up or down two-dimensional geometric figures. The article reports from a Learning study aiming at finding powerful ways of teaching scale to 14-year-old students. The students' experiences of the relationship between change in length and change in area when enlarging or reducing two-dimensional geometric figures were examined. The results indicate that teaching the change in length and the change in area simultaneously was one key to students' learning.