

Editorial

The most recent event in our community, the seventh Nordic Conference on Mathematics Education, NORMA 14, was arranged June, 3–6 2014 at the University of Turku, Finland. At this conference NOMAD had a separate session where a brief presentation of the current work with NOMAD was given. The presentation described the situation at the moment as quite good when it comes to inflow of papers and the routines concerning the review process. The next issue of NOMAD will be a thematic issue on Mathematical Knowledge for Teaching, and a thematic issue on textbook research is planned for 2015. The work done by the Education Committee of the European Mathematical Society (EMS), together with the Executive Committee of the European Society for Research in Mathematics Education (ERME) to propose a grading of research journals in mathematics education, although taking place a couple of years ago, was mentioned. It is here worth noticing that NOMAD is one out of only 17 journals that made it to the final list of ranked journals (see http://www.mathematik.uni-dortmund.de/~erme/doc/EMS-ERME-Ranking_Journals_Project.pdf).

The composition of the Editorial Board has recently been considerably changed, and in addition three of the previous members of the Editorial Board now constitute an Advisory Board. Names and affiliations of all people involved in this can be found on the cover page. In connection with the reorganization of the Editorial Board it is the intention to involve the Editorial Board more strongly in the running of the journal. The first sign of this was connected to a new event in the history of NOMAD, introduction of the Best Paper Award. This award was presented at the NOMAD session at NORMA 14 to Magnus Österholm for his paper *To translate between different perspectives in belief research: a comparison between two studies*, published in NOMAD 16 (1-2), 2011. The process of the Best Paper Award went as follows. All editors that had been working with the volumes 16, 17 and 18 picked one paper each that they considered "the best" out of those that they had been responsible for as editors. This resulted in a selection of six papers. These six papers were sent to the members of the Editorial Board who was asked to pick three, and rank them in order of quality. From this ranking it was possible to pick a winner, which then turned out to be Magnus Österholm. He will get a free subscription to NOMAD on an indefinite basis. Unfortunately he did not attend the conference but he was called on Skype during the session so that he could be presented the news when it was announced. It is the

intention that a new Best Paper Award will be presented at the next NORMA conference, which is planned for 2017 in Stockholm.

Immediately following the NOMAD session was held the General Assembly of NoRME, the Nordic Society for Research in Mathematics Education. As the new chair of NoRME was elected Mette Andresen, representing Denmark. In addition the board now consists of Lovisa Sumpter (Sweden), Harry Silfverberg (Finland), Frode Rønning (Norway), Madis Lepik (Estonia), Olof Steinhorsdottir (Iceland) and Uffe Thomas Jankvist (NOMAD). Further details about the General Assembly will be available on the NoRME web pages (www.norme.me).

In this issue

And now to the presentation of the four articles in this issue. Indrek Kaldo is contributing with the article *View of mathematics – an investigation of Estonian students*. This is a study of almost 1000 first year university students at five different universities in Estonia. Kaldo emphasises that this kind of study has never been done in Estonia before. The students are enrolled in different study programmes but all programmes have in common that they require the students to take at least one course in mathematics in the first year. The empirical data for the study come from a questionnaire with 49 items to be responded to on a four-component Likert scale. The author is in particular interested in investigating whether there are differences in view from the perspective of gender, and from the perspective of science and non-science students. The questions are collected in seven groups (factors) and the paper presents the distribution of answers for a number of questions in each of the groups. In total the result of 35 of the 49 questions is presented. In addition correlation coefficients between some of the statements are presented. Kaldo points to gender differences in some of the factors and that the difference is that female students tend to hold a more positive view towards mathematics than male students. Also, and as should be expected, science students hold a more positive view than do non-science students.

The second paper of this issue is by Eugenia Koleza and addresses 6th grade students' conception of the formula for the area of a rectangle. The question asked in this particular paper is if students' difficulties with area somehow reflect historical obstacles of treating magnitudes. Hence, the study inscribes itself in a long tradition of considering epistemological obstacles (e.g. Bachelard, Brousseau, and Schubring) and of applying knowledge of the historical development of mathematical concepts in the teaching and learning of these concepts (e.g. Freudenthal) – sometimes also referred to as "historical parallelism". Although the

study of this paper is conducted in Greece, it relates closely to previous Nordic research on the topic (e.g. see proceedings from the Abel-Fauvel conference held in Kristiansand, June 2002) as well as to more recent Nordic frameworks for using history in mathematics education. For these reasons, the study has been deemed of interest for the Nordic community of mathematics education.

Strategies for working with fractions is the topic of the next paper. Its full title is *Students' strategies of expanding fractions to a common denominator – a semiotic approach*, and it is written by Andreas Lorange and Reinert A. Rinvold. The authors follow two groups of Norwegian 11 year old 6th grade students using multilink cubes as an artefact in their solution processes. One interesting aspect of this study is the use of a semiotic-cultural framework based upon Luis Radford's theory of objectification and his construct of "layers of generality". Hence, this particular paper may also be seen as an introduction of Radford's theory to the Nordic community of mathematics education. By means of Radford's theoretical constructs the authors are able to deepen the analysis of their empirical findings of five different types of student strategies for expanding fractions to a common denominator. From a theoretical point of view, the paper points to an expansion of Radford's construct of "layers" to other mathematical domains than those to which it was originally applied (integer addition and subtraction).

The final paper in this issue is written by Kristina Juter and Jan-Fredrik Olsen, and they investigate the effects of so-called "Just-in-time teaching" (JiTt), a method designed to help students actively follow courses while focusing on conceptual understanding. The method has previously been applied to other subjects, but in this paper the authors apply it to the subject of mathematics, more precisely to an undergraduate course in calculus. The study offers both a quantitative analysis of the effect of JiTt on a basis of 137 Swedish university students, and a qualitative deepening based on follow-up interviews with four of the students. The effects are articulated and assessed in terms of conceptual knowledge and procedural knowledge as well as students' learning strategies. The mathematical concepts, which the study circles around, are those of limit and continuity of functions. Finally, the authors also address the issue of implementation requirements of JiTt seen from a teacher perspective. As one potential outcome of being exposed to JiTt, the authors tentatively suggest that students may adopt more productive study techniques or learning strategies.

The Editors

