

Editorial

This is the first non-printed issue of NOMAD. Starting with this, the first issue of Volume 29, NOMAD is an online-only open access published journal. As a consequence, there are no more subscriptions as all articles are freely accessible for *everyone* to download immediately on publication

All articles are published at ncm.gu.se/nomad. The journal has an agreement with the Royal Danish Library to be published at tidsskrift.dk, the library's portal for publication of professional, scientific and cultural journals in digital full-text. The cooperation includes, in addition to the publication, a platform for handling manuscripts during the review process, all the way from on-line submission to publication. It will provide the editors with the opportunity to monitor the work-flow, assign all articles with a DOI index, as well as listing them in several databases. As soon as all articles have been uploaded to the library's portal they will be accessible at tidsskrift.dk. We hope this process will be completed by the end of 2024.

No workshop for doctoral students 2024

The editors are sad to announce there will be no NOMAD workshop for doctoral students this spring. Hopefully, the workshop will be back next year.

Thematic issues

The theme for the special issue of 2024 is *Mathematics teachers' professional identities*. The work with this issue started in the autumn of 2022. The theme was proposed by a group of guest editors; Jeppe Skott, Sonja Lutovac and Raymond Bjuland. Heidi Krzywacki is representing the ordinary editorial group. The editors are looking forward to an interesting issue, displaying the research activity in this field

For many years the last issue in a volume of NOMAD has been a thematic issue with invited guest editors. The intention of a thematic issue is to bring together researchers with a certain interest from all Nordic and Baltic countries. The theme for 2025 is *Mathematical modelling* and the interest has been large. The work with organising the review of the submitted papers is on-going.

As the work with a thematic issue spans over two years, it is already time to begin planning for the thematic issue for 2026. The editors would like to invite our readers to propose a theme. We would like to see a theme that will attract researchers from all Nordic and Baltic countries, as well as a group of guest editors from at least two different countries. Please contact the editors for more information.

In this issue

In the paper entitled *Norwegian student teachers' perspectives on linear equations*, Niclas Larson studies 146 Norwegian pre-service teachers' explanations of the solution of a linear equation, and how different parts of their explanation interact. Larson engages in this analysis by applying an analytical tool with 16 distinct codes that represent the objective of solving an equation and the operational steps in the solution to a solution. The study finds that the teacher students prefer a "swap sides swap sign" (SSSS) (identified in 64 % of the scripts) strategy for additive steps in the solution whereas a "do the same on both sides" (DSBS) only was identified in 21 % of the scripts. Moreover, Larson found that a vast majority of the students' explanations included procedural knowledge, whereas less than half of the scripts included conceptual knowledge. Larson concludes that, as both SSSS and DSBS have advantages and drawbacks, it is important for future teachers to be aware of both methods. Larson's study implies that for Norwegian student teachers, the DSBS method is likely to be in need of being emphasised in the additive steps.

Teachers of today need to possess substantial digital competence in order to integrate technology efficiently into mathematics teaching. The use of digital technology in mathematics education is a focus of attention in the next two articles in this issue.

In the article *Challenges in developing a TPACK survey for preservice mathematics teachers in the Norwegian context*, Ramesh Gautum and Arne Jacobsen attempt to adopt a US-administered survey of self-perceived Technological pedagogical and content knowledge (TPACK knowledge) to a Norwegian context, describing challenges in the survey adaptation and development. They found that the most prominent challenges were related to survey item composition and factor validation due to contextual differences and unclear boundaries between different TPACK domains. The authors clarify and discuss methodological issues involving both development and validation and end up with a survey of 30 questions covering six of the seven TPACK domains. The domain that could not be validated in the adopted survey was Technological pedagogical knowledge, which is a domain that does not explicitly

intersect with mathematical content knowledge, but nonetheless an important aspect of digital competence. Overall, the authors recommend the TPACK framework as a useful tool for pre-service teachers. The difference between measuring actual TPACK knowledge and self-perceived TPACK knowledge is also discussed.

When programming is brought into school mathematics it has an impact on classroom interaction. In the article *Facilitating exploratory talk through mathematical programming problems*, Morten Munthe investigates what contributes to and hinders exploratory talk in the context of programming. The article builds on Munthe's previous work on Mathematical programming problems (MPP), which are series of tasks designed to combine mathematics with programming to resolve a problem. When students in an advanced mathematics course working with an MPP were investigated, exploratory talk appeared in relation to either mathematics or the combination of programming and mathematics. Munthe concludes that that programming can facilitate mathematical exploratory talk, at least when programming is implemented to facilitate in-depth exploration of already-known mathematical concepts. However, further research is needed to investigate whether programming can facilitate mathematical learning.

Thanks to authors and reviewers

The editors wish to thank all authors for submitting papers to NOMAD. We also wish to thank our reviewers. The production of NOMAD would not be possible without your contributions. We are sincerely grateful to all for their continued engagement, in spite of a heavy workload for many of us. Below we present a list of all reviewers of manuscripts for which a decision was made during 2023.

The editors

List of reviewers

Alison Clark-Wilson	Klaus Rasmussen
Ana Donevska-Todorova	Lars Madej
Ana Stephens	Lisa Björklund Boistrup
Andreas Lindenskov Tamborg	Louise Meier Carlsen
Ann-Sofi Røj-Linberg	Maria Fahlgren
Anna Baccaglioni-Frank	Mario Sánchez-Aguilar
Anna Ida Säfsström	Mathilde Kjær Pedersen
Britta Eyrich Jessen	Mette Bjerre
Camilla Normann Justnes	Mirela Vinerean
Christian Bokhove	Mirko Maracci
Christian Büscher	Mona Kvivesen
Cosette Crisan	Morten Blomhøj
Daniel Thurm	Morten Misfeldt
Eirini Geraniou	Oda Heidi Bolstad
Eva Norén	Oduor Olande
Francesca Granone	Ola Helenius
Frode Rønning	Patrick Johnson
Guri Nortvedt	Per Nilsson
Hans-Georg Weigand	Raimundo Elicer
Helena Sagar	Stine Gerster Johansen
Hilja Huru	Suela Kacerja
Ingi Heinesen Højsted	Tamsin Meaney
Iveta Kohanová	Tomas Højgaard
Jannika Lindvall	Torulf Palm
Johannes Przybilla	Vaiva Graubaskiene
Jonas Jäder	Yvonne Liljekvist
Jónína Vala Kristinsdóttir	