SPECIAL ISSUE: AN OVERVIEW OF THE CURRENT STATE AND FUTURE OF MATHEMATICS, SCIENCE AND TECHNOLOGY EDUCATION IN FINLAND

LETTER BY EDITORS

To secure a bright future for Finland, more students who are interested in mathematics, science and technology (STEM) subjects are needed. To make this possible, training motivated and talented teachers, and improving education research, play a key role. This special issue of LUMAT was conceived as an overview of our national STEM teacher training, and it provides food for thought for future development.

One of the main aims of LUMA Centre Finland (see http://www.luma.fi/en) is to improve pre- and in-service teachers' competence to teach STEM subjects, and to enhance research in STEM education, at both universities and schools. Furthermore, LUMA Centre Finland narrows the gap between theory and practice by working with multiple stakeholders. In order to reach these goals, a biannual national LUMA teacher training forum was launched in 2014. Counsellor of education Armi Mikkola, of the Ministry of Education and Culture, is the forum's patron. To date, the forum has convened three times to discuss timely issues and improvement of STEM teacher training.

In order to increase national awareness and collaboration on STEM teacher training, a special issue of LUMAT was proposed. An open invitation to contribute to the special issue was sent out to all STEM teacher educators in universities and teacher-training schools. This issue was made possible thanks to the contribution of many teacher trainings.

In total, 18 articles were submitted to this historical special issue on STEM teacher training, giving a good overview of the current state of STEM teacher training in Finland. All of the articles were peer-reviewed to produce a high-quality result: two reviewers from different universities gave constructive feedback on each article. This special issues contains a number of articles for general audience (general articles), two review articles and three research articles. Most of the articles are in Finnish, but in all cases, an English abstract is available.

The articles concern pre- and in-service teacher training, as well as novice teachers' experiences. Also included is an overview on how teacher training is integrated into activities of the LUMA Centre. In this issue, focus is on subject teacher training (grades 7-12).

In her article, *How is the teacher doing?* Counsellor of education Armi Mikkola discusses the current state and challenges of teacher training in Finland. The other articles in the issue give a diverse overview of the creativity and enthusiasm of teacher trainers in Finland. Overall, the issue highlights that teacher training is being constantly improved based on research findings, and by taking into consideration the focus points of the new national curricula (e.g. inquiry-based learning, ICT education, interdisciplinary education and

outdoor education). The articles also introduce new pedagogical innovations and discuss the current state and future of teacher training.

We thank all the contributors to the issue. Furthermore, we thank the editor, Dr. Sakari Tolppanen for helping bring the issue together and checking the language of the English abstracts.

We hope that the articles of this historical special issue will evoke discussions on teacher training, and help improve the quality of STEM teacher training around Finland. We also hope that the issue will help school teachers adopt to the new national curriculum.

In Helsinki, Joensuu & Turku, on October 29, 2015

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