

Dear readers and members of the PATT community,

It is my great pleasure as Editor-in-Chief of the Techne Series to welcome you to take part of the PATT38 conference's peer-reviewed paper publication. The Techne Series' editorial board is pleased to offer this publication opportunity, which is the first of its kind for the series. The PATT publication broadens the series' scope from a Nordic context to a more global one. Nordic research in Sloyd Education and Crafts Science has many similarities with international research on craft, design and technology education. My personal hope is that researchers' better knowledge of each other and insight into ongoing research and development work, can enhance new collaborations and thereby strengthen and develop the subjects at hand in our various countries. This PATT publication consists of 53 papers of varying, current and interesting perspectives on craft, design and technology education. The work has been extensive and has involved authors, reviewers, section editors, technical editors, theme editors and the editor-in-chief. Thank you for all your work! A further presentation of the papers is made by the theme and section editors. Wishing you rewarding readings, new insights and an interesting PATT38 conference.

Professor Mia Porko-Hudd

Editor-in-Chief

Introduction to PATT38 theme issue: -

Technology in our Hands. Creative Pedagogy and Ambitious Teacher Education

The TECHNE theme issues of PATT38 conference is a double-blind peer-reviewed collection of 53 full papers. It consists of nine sections that were edited by an international team of section editors. In the review panel there were 48 members from all over the world. We sincerely thank for all review panel members for investing their time for the reviews and their valuable feedback for authors in encouraging them to develop the quality of the papers. We also thank the section editors for their demanding work in section editing and completing the full papers together with the 118 authors. The sections describe the current research interests and topics of the PATT-community.

The Section I: Methods and Agendas in Technology Education is edited by Nicolaas Blom (South Africa/ Ireland) and Marc J. de Vries (Netherlands). This section contains papers from a wide variety of perspectives and topics, all with the common aim to advance research- and practice-based agendas in technology education. **The Section II: The Value of Technology Education** is edited by John Williams (Australia) and Maria Svensson (Sweden). The section deals with technological literacy and systems and engineering in technology education. **The Section III Design and Technology in Education**, edited by Kaiju Kangas and Mika Metsärinne (Finland) includes articles, presenting interesting perspectives of promoting design and technology in education. **The Section IV: Technology Education in Early Childhood** is edited by Virpi Yliverronen (Finland) and Jeffrey Buckley (Ireland). The studies presented in this section highlight early childhood technology education from different viewpoints, whilst sharing the common feature of presenting the versatility of technological activity in early childhood educational settings. **The Section V: Assessment and Evaluation**, is edited by Kay Stables (United Kingdom) and Donal Canty (Ireland). The papers provide insights into how teachers make tacit and subjective assessment judgements, how assessing students' knowledge of technological systems

enables developing 'qualities' of knowledge, how assessing pre-service teachers' knowledge highlights levels of complexity missing in their understandings, and into a framework to support teachers' assessments at the point when a national curriculum is reformed. **The Section VI: Learning in Projects and Programming & Case Studies: Models and Concepts** is edited by Ari Alamäki (Finland) and Nina Kilbrink (Sweden). This section discusses papers on various learning projects and case studies. The papers describe teaching experiments and projects that aim to enhance learning and teaching practices in craft, design, and technology. **The Section VII: Spaces and Making** is edited by David Gill (Canada) and Ronan Dunbar (Ireland). The section deals with the physical spaces and human mediated activities that happen within the sphere of technology education. While generally taken for granted, the spaces that we occupy while enacting technology education have a profound influence on the outcomes of our making, and subsequently the teaching and learning that takes place. **The Section VIII – Teacher Education** section presents research and perspectives that contribute to identity development of pre-service teachers, creative endeavours, curriculum design and internationalisation in teacher education. This section welcomes a focus on supporting teacher development and emphasises the importance of the teacher. The section is edited by Niall Seery (Ireland) and Mikko Huhtala (Finland). The last **Section IX: Technology and Teacher Competence** is edited by Piet Ankwicz (South Africa) and Jonas Hallström (Sweden). The section focuses on the aspects of technology teachers' competence: Preschool teachers' support by their principals, junior secondary teachers' perceptions of using models, teaching modelling using digital design tools in junior secondary, junior secondary teachers' cognitive academic language proficiency and upper secondary teachers' attitudes towards teaching technology as an elective.

The collection of PATT38 full papers is a great effort of the 118 authors from various parts of the world during the Covid-19 pandemic that moved the PATT38 from 2020 to 2021. However, the conference theme *Technology in our Hands. Creative Pedagogy and Ambitious Teacher Education* is widely explored in the full papers and open an interesting view on the future of technology education. We sincerely thank all authors for their persistent work.

We are grateful for the TECHNE Series that the PATT38 full papers could be included to TECHNE as a special issue. We worked hard to encourage and support the authors, the reviewers, and the section editors in meeting the scientific criteria and templates of TECHNE. In the beginning of the process Anna Lundberg (Finland) helped us and in the final, crucial phase Arttu Korkeaniemi (Finland) did amazing work. The editor-in-chief, Mia Porko-Hudd (Finland) offered great expertise in scientific questions and the technical editor Juha Hartvik (Finland) made huge efforts in editing of the 53 full papers into one TECHNE theme issue. The electronic issue is a result of successful worldwide collaboration and commitment. We hope that the issue connects technology, design, craft/sloyd and engineering education researchers and teachers all around the world.

In Rauma, Finland 23 April 2021

Professor Eila Lindfors and Adjunct professor Malla Rönkkö

Review panel of the PATT38 theme issue

Dr. Aki Rasinen, University of Jyväskylä, Finland
Dr. Amir Dirin, Haaga-Helia University of Applied Sciences, Finland
Dr. Antti Pirhonen, University of Jyväskylä, Finland
Dr. Ari Alamäki, Haaga-Helia University of Applied Sciences, Finland
Dr. Caroline Forsell, KTH Royal Institute of Technology, Sweden
Dr. David Barlex, Independent Educational Adviser, United Kingdom
Dr. David Gill, Memorial University of Newfoundland, Canada
Dr. Eila Lindfors, University of Turku, Finland
Dr. Elizabeth Deuermeyer, Texas A&M University, United States
Dr. Elizabeth Reinsfield, University of Waikato, New Zealand
Dr. Eva Lutnaes, Oslo Metropolitan University, Norway
Dr. Gerald van Dijk, University of Applied Sciences Utrecht, Netherlands
Dr. Hanno van Keulen, Windesheim University of Applied Science, Netherlands
Dr. Inkeri Ruokonen, University of Turku, Finland
Dr. Jan Ardies, Artesis Plantijn University of Applied Sciences, Belgium
Dr. Janne Beate Reitan, Oslo Metropolitan University, Norway
Dr. Jeffrey Buckley, Athlone Institute of Technology, Ireland
Dr. John Williams, Curtin University, Australia
Dr. Jonas Hallström, Linköping University, Sweden
Dr. Kaiju Kangas, University of Helsinki, Finland
Dr. Kay Stables, Goldsmiths University of London, United Kingdom
Dr. Lars Björklund, Linköping University, Sweden
Dr. Malose Isaac Kola, University of Limpopo, South Africa
Dr. Marc de Vries, Delft University of Technology, Netherlands
Dr. Marja-Ilona Koski, Delft University of Technology, Netherlands
Dr. Marja-Leena Rönkkö, University of Turku, Finland
Dr. Marjut Viilo, University of Turku, Finland
Dr. Mart Soobik, University of Tartu, Estonia
Dr. Matt McLain, Liverpool John Moores University, United Kingdom
Dr. Mia Porko-Hudd, Åbo Akademi University, Finland
Dr. Mika Metsärinne, University of Helsinki, Finland
Dr. Mikko Huhtala, University of Turku, Finland
Dr. Niall Seery, Athlone Institute of Technology, Ireland
Dr. Nicolaas Niekie Blom, University of Limerick, Ireland
Dr. Nina Kilbrink, Karlstad University, Sweden
Dr. Pernilla Sundqvist, Mälardalen University, Finland
Dr. Piet Ankwicz, University of Johannesburg, South Africa
Dr. Remke Klapwijk, Delft University of Technology, Netherlands

Dr. Richard Kimbell, Goldsmiths University of London, United Kingdom

Dr. Ritesh Khunyakari, Tata Institute of Social Sciences, India

Dr. Rónán Dunbar, Athlone Institute of Technology, Ireland

Dr. Sarah Pule, University of Malta, Malta

Dr. Scott R. Bartholomew, Purdue University, United States

Dr. Sonja Niiranen, Tampere University, Finland

Dr. Toni Marie Mapuana Kauai, Nā Hunaahi, United States

Dr. Valentina Simkhovich, Belarus State Economic University, Belarus

Dr. Virpi Yliveronen, University of Turku, Finland

Dr. Wendy Fox-Turnbull, University of Waikato, New Zealand