

To: EECERA Board of Trustees
From: Oliver Thiel and Bob Perry
Re: Special Interest Group on Mathematics Birth to Eight Years.
Report on activities undertaken and planned 2016-2017
Date: 11 April 2017

The Special Interest Group on Mathematics Birth to Eight Years was re-started in Crete in 2014. Since then it has grown continuously. We have 72 persons from 17 countries on our current SIG member list, but not all of them are members of EECERA.

Names and Emails of convenors and current members of the SIG:

SIG Convenors:

Dr. Oliver Thiel (Oliver.Thiel@dmmh.no)

Prof. Dr. Bob Perry (bperry@csu.edu.au)

Current SIG members:

Ahmet Sami Konca, Alexander Veraksa, Amy Mai, Andrea Eliadou, Andreas Ebbelind, Anika Wittkowski, Anne Hj. Nakken, Annemarie Geerts-Mulder, Bergþóra Vilhjalmsdóttir, Bert van Oers, Camilla Björklund, Chrystalla Papademetri, Connie Ompok, Daria Bukhalenkova, Doris Drexler, Dorota Lembler, Elin Reikeraas, Elizabeth Dunphy, Emma Wheatley, Filip Witzell, Fiona Richman, Gabriella Gejard, Gerd Åsta Bones, Hanna Palmér, Heike Hegemann-Fonger, Hildegard Urban-Woldron, Holger Brandes, Irit Wyrobnik, Isabel Sellas, Jan van der Zwan, Janna Pahnke, Jennifer Henkel, Jorrit van Bommel, Judith Fabrega, Kaouthar Boukafri, Karin Franzén, Kelly Mazerolle, Kerstin Bäckman, Klaus-Peter Eichler, Laura Vila, Laurence Delacour, Lisa Taylor, Lucía Casal, Maeve McCafferty, Magni Elen Hope Lossius, Mairead Conroy, Malin Norberg, Maria Figueiredo, Marianna Efstathiadou, Maulfry Worthington, Mequè Edo i Basté, Montserrat Prat Moratonas, Montserrat Torra, Oliver Thiel, Pamela Moffett, Per-Einar Sæbbe, Rebecca Runnalls, Reidar Mosvold, Riikka Mononen, Robert Perry, Sergey Goman, Sergey Leonov, Silvia Mion, Simone Dunekacke, Sinem Balikesir, Sue Gascoyne, Tone Salomonsen, Wendy Goff, Yuko Yamana, Yvonne Keating, and Zoi Nikiforidou

Activities undertaken by the SIG Mathematics in the years 2016 and 2017:

2016

- We organized two **self-organized Symposia** for the EECERA conference in Dublin 2016:
 1. Title: WE TALK ABOUT MATHEMATICS IN EARLY CHILDHOOD
Chair: *Oliver Thiel*
 - 1.1. *SUE DOCKETT, ROBERT PERRY, AMBER MARCUS AND AMY MACDONALD*
Young children noticing their own mathematics in play
 - 1.2. *PAMELA MOFFETT AND PATRICIA EATON*
Promoting early number talk - Evaluating the impact on professional practice

- 1.3. *(The third presenter had to withdraw due to personal reasons.)*
2. Title: INNOVATIVE APPROACHES IN EARLY CHILDHOOD MATHEMATICS
Chair: *Oliver Thiel*
- 2.1. LIZ DUNPHY
Picture-books as pedagogical tools for supporting mathematics learning in early childhood
- 2.2. OLIVER THIEL, ANNE NAKKEN, BEATE NERGÅRD AND YVONNE GRIMELAND
Young children explore a mathematics room
- 2.3. MARIANNA EFSTATHIADOU, ANDREA ELIADOU AND CHRYSTALLA PAPADEMETRI-KACHRIMANI
Supporting early childhood teachers to redefine learning through creative learning and play concerning mathematics
- In addition, there were five **more presentations** by SIG members:
 1. MARIA FIGUEIREDO, HELENA GOMES AND CATIA RODRIGUES
Mathematical pedagogical content knowledge in early childhood education: A study in initial teacher education in Portugal
 2. KERSTIN BÄCKMAN
Teaching Mathematics - Pedagogical content knowledge for preschool teachers in the Swedish preschool
 3. EMMA WHEATLEY, MAIRÉAD CONROY, GRÁINNE KENT AND JOSEPHINE BLEACH
Building capacity and promoting numeracy awareness - Dublin Docklands and East Inner City Early Numeracy Project
 4. MONTSERRAT PRAT AND ANGELA NOLFA CASTRO INOSTROZA
What can we know from length measure representations in childhood education?
 5. MAULFRY WORTHINGTON AND BERT VAN OERS
The emergence of mathematical abstraction in the nursery
 - The **SIG meeting** in Dublin was attended by only a few people because it was scheduled before the beginning of the conference. To avoid this problem in 2017, we have already announced the day for the next SIG meeting in September 2016. At the Dublin meeting we talked about possibilities for joint publications such as a special issue of the EECERA Journal about our research or a book in the EECERA Book Series for practitioners about how to teach mathematics in early childhood in a way that is playful, effective, feasible, and research based. Working on a book together will be a large project that will take many years to complete, while working on a special issue of the EECERJ can be a short term project. We agreed that we want to work on a special issue of the journal now, but keep the book project in mind for the years to come.
 - **After the conference** in Dublin, we did some intense work:
 1. We collected and shared papers that were presented at the conference.
 2. We discussed via e-mail the new requirements for EECERA SIGs.
 3. We started a Call for Papers for a Special Issue of the EECERJ in November 2016. The SIG convenors, Oliver Thiel and Bob Perry, are the editors of this issue.
 4. We received 21 expressions of interest in December 2016. We choose nine papers for the Special Issue, but we encouraged authors of another ten expressions of interest to write a full paper for the journal.

2017

- In the first months of 2017, we organised four self-organised symposia for the next EECERA conference in Bologna.
- By the end of April 2017, the editors will receive the first drafts of the papers for the EECERJ Special Issue. By the end of July, the editors will give feedback to all authors. Deadline for the final papers is November 15th. The papers will be submitted for peer review in December 2017. We expect that the Special Issue will be published as a second special issue of the EECERJ in 2018.
- The next EECERA conference will be August 29th to September 1st in Bologna, Italy. The SIG Mathematics will have **four** self-organised symposia at this conference:
 1. Title: Mathematics education in early childhood
Chair: *Oliver Thiel*
 - 1.1. *ROBERT PERRY AND SUE DOCKETT*
The place of proximal processes in young children's mathematical learning
 - 1.2. *MAULFRY WORTHINGTON AND BERT VAN OERS*
Mathematisation and agency in early childhood
 - 1.3. *MARIA FIGUEIREDO, HELENA GOMES AND GORETI DORIA*
Arithmetical operations in early childhood education: its kids play
 2. Title: Mathematics in transition to school
Chair: *Oliver Thiel*
 - 2.1. *CAMILLA JUSTNES AND ANNE NAKKEN*
Continuity in mathematics in the transition from kindergarten to school in Norway
 - 2.2. *WENDY GOFF*
Adult relationships that support the mathematical learning of children making the transition to school
 - 2.3. *OLIVER THIEL AND LARS JENSSEN*
Early childhood teacher students' mathematics anxiety
 3. Title: The Big Idea Approach
Chair: *Chrystalla Papademetri*
 - 3.1. *MARIANNA EFSTATHIADOU*
Be a skilled observer and a reflective thinker: Helping prospective early childhood teachers to plan their mathematical activities through analysing children's play
 - 3.2. *ANDREA ELIADOU*
Teaching Mathematical Concepts VS "Triggering", as opportunity to learning and teaching, through the "Big Idea approach": Attempt at designing mathematical activities with young learners
 - 3.3. *CHRYSTALLA PAPADEMETRI*
Stories of young children 'cycling around' mathematical ideas against the fragmentation of knowledge
 4. Title: Early childhood teachers' thoughts about mathematics
Chair: *Chrystalla Papademetri*
 - 4.1. *LIZ DUNPHY*
Factors influencing preservice teachers' choices of picture book for mathematics learning in early childhood

4.2. PAMELA MOFFETT

ECEC teachers' views on abstract representation in mathematics

4.3. ELIZABETH CARRUTHERS

Really Listening to Children's Voices in Mathematics - Levels of Teacher Understanding and the Pedagogical Implications

Planned SIG activity post Bologna 2017:

- Collecting and sharing papers from SIG members.
- Finalising the Special Issue.
- Planning the 2018 EECERA conference.
- Working on a book in the EECERA Book Series for practitioners about how to teach mathematics in early childhood as a long term project.

The links and networks established with other institutions and organisations:

Links to our networks in social-media are:

FACEBOOK: <https://www.facebook.com/groups/1515014682076863/>

LINKEDIN: <https://www.linkedin.com/grp/home?gid=6928873>

GOOGLE-drive:

<https://drive.google.com/folderview?id=0B8xyCbNTmQeWanNyOUtEX19mZHM&usp=sharing>

How SIG activities fit with aims and ethos of EECERA:

In line with EECERA's main principles, the SIG Mathematics Birth to Eight Years provides an academic and rigorous forum at European and international level to develop and disseminate high quality research on early childhood mathematics education. It aims to coordinate and disseminate international research on the international discourse in this emerging field. It intends to create a space for shared thinking and for creating synergies between participants from a wide range of professional and scientific contexts to encourage a clearer articulation and understanding of early childhood mathematics education.