

## SIG Mathematics Birth to Eight Years

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## 1. Aim of the SIG:

The EECERA SIG Mathematics aims to coordinate and disseminate international research on the discourse in the emerging early childhood mathematics education field. It creates 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 pedagogy, policy and practice in relation to mathematics.

## 2. Activities 2024-2025:

At the 33<sup>rd</sup> EECERA conference in Bratislava in August 2025, the SIG had a very productive SIG meeting. 18 members participated, of whom 5 were new. The SIG elected Cath Gripton from the University of Nottingham (UK) as the SIG's new co-convenor and brainstormed ideas for new projects. The ideas were collected in a Padlet: <https://padlet.com/hvl/eecerasig>. The most popular topics are STEAM/Arts & Creativity and Mathematics Anxiety.

The SIG had one self-organised symposium. The symposium was titled 'Play and Mathematics in Norwegian Early Childhood Education'. The three presentations were

- a) **Title: 'That's a bit unfair' How Norwegian five-year-olds use the stochastic concept 'fairness' in free play**  
*Presenter: Oliver Thiel*
- b) **Title: Increasing professional Digital Competence in ECTE with focus on enriching and supporting children's play with coding toys**  
*Presenters: Elin Reikerås and Francesca Granone*
- c) **Title: Kindergarten Teacher Educators' Experiences with Co-Creation and Playful Approaches in Language, Text and Mathematics**  
*Presenters: Elena Severina, Magni Lossius, and Maria-Rosa Doublet*

Additionally, Beyza and Agatha, two new members, invited the SIG to their symposium 'Early Maths Learning.'

In 2025, the SIG finalised the book '**Play and Mathematics in Early Childhood – Perspectives and Practices across Countries and Cultures.**' The editors are Oliver Thiel, Elizabeth Carruthers, and Chrystalla Papademetri. The book will be published in July 2026 in the EECERA Praxis Series. This innovative book examines the dynamic intersection between play and mathematics in early childhood education, challenging traditional educational approaches. Through international perspectives and practices, it demonstrates how mathematical concepts naturally emerge through children's play and how educators can enhance mathematical learning without disrupting the play experience.

Comprising eleven chapters that draw on diverse cultural and educational perspectives, the book explores how children engage with mathematical concepts through play across countries and contexts. It addresses critical issues for early childhood education and care practitioners, examining similarities and distinctions between mathematics and play and providing practical approaches to integrating mathematics into play across various age groups. The comparative international approach highlights both the universality of play in learning and unique cultural methods for facilitating mathematical understanding. Original research showcases how children's mathematical thinking surfaces in various play scenarios and offers pedagogical practices that support both play and mathematical development without compromising the integrity of either.

This essential resource serves early childhood educators, researchers, students, and policymakers committed to enhancing the quality and effectiveness of mathematics education. It provides practical guidance for promoting more equitable and engaging approaches to mathematical learning in the early years. You can find more information at <https://www.routledge.com/9781041238379>.

### **3. Future activities:**

At the 34<sup>th</sup> EECERA conference in Madeira in August 2026, the SIG will have three self-organised symposia:

1. **Title: Early Mathematics in Action: Practices, Representations, and Play from Birth to Six Years**

*Chair: Oliver Thiel*

*Presentations:*

a. **Title: Children's mathematical representations on the Blank Page: A study on diversity and graphic development**

*Presenters: Mequè Edo, Alba Torregrosa, Judith Fábrega*

b. **Title: Teaching early mathematical skills to toddlers**

*Presenter: Piia Parviainen*

c. **Title: The traditional Ethiopian board game Gebeta facilitates mathematical competencies in early childhood**

*Presenter: Oliver Thiel*

2. **Title: Children as Mathematical Thinkers and Co-Creators: Agency in Early Years Mathematics**

*Chair: Cath Gripton*

*Presentations:*

a. **Title: 'I was zero before I was one' Engaging Australian teachers in dialogue about young children's mathematical thinking through their classroom research.**

*Presenter: Elizabeth Carruthers*

- b. *Title: Children’s mathematics attitudes and experiences in the first years of school: Evidence from 4- and 6-year-olds in England*  
*Presenters: Catherine Gripton, Gabriel Lee, Bethany Woollacott & Balbir Kaur*
  - c. *Tentative title: Game design in kindergarten*  
*Presenters: Elena Severina, Magni Hope Lossius & a student*
3. *Title: Developing Mathematical Meaning in Early Childhood: Thinking, Talk, and Play*  
*Chair: Chrystalla Papademetri*
- a. *Title: Scoping review on children's probabilistic thinking: theories, methods and implications*  
*Presenter: Zoi Nikiforidou*
  - b. *Title: Preschool Teachers’ Views on Talk Moves for Supporting Mathematical Conversations*  
*Presenters: Benita Berg & Pernilla Sundqvist*
  - c. *Title: Play and Mathematics in Early Childhood Education – Perspectives and Practices across Countries and Cultures*  
*Presenters: Chrystalla Papademetri, Oliver Thiel, & Elizabeth Carruthers*

The next SIG meeting will be held on Tuesday, 25th August 2026, from 14:00 to 16:00 hrs WEST.

#### 4. Networks established with other institutions and organisations:

Children’s Mathematics Network: <https://childrens-mathematics.net>

Norwegian Centre for Mathematics Education: <https://www.matematikkcenteret.no/english>

Observatory for Mathematical Education: <https://www.nottingham.ac.uk/observatory>

#### 5. How do the SIG’s activities fit with aims and ethos of EECERA:

The Mathematics SIG’s activities are closely aligned with the aims and ethos of EECERA. The SIG provides an inclusive and sustainable academic forum for the development and dissemination of high-quality research in early childhood mathematics education. Its annual SIG meetings, symposia, and collaborative planning processes support democratic participation, scholarly exchange, and the involvement of both established and new members.

The SIG also facilitates collaboration between researchers in Europe and beyond. Its international membership and conference activities create opportunities for cooperation across countries, institutions, and research traditions. The self-organised symposia at the 2025 conference and the three planned symposia for 2026 demonstrate the SIG’s active role in building research networks and promoting dialogue on shared themes in early childhood mathematics education.

The SIG's work contributes to clearer links between research, practice, and policy. This is particularly evident in the forthcoming edited book, *Play and Mathematics in Early Childhood – Perspectives and Practices across Countries and Cultures*, which brings together international research and highlights implications for educators, students, and policymakers. The SIG's conference activities likewise address topics directly relevant to pedagogical practice and professional development.

In addition, the SIG provides opportunities for interaction, development, and support to those interested in early childhood education worldwide. Through its meetings, shared project development, and institutional links, it provides members with opportunities for professional dialogue, collaboration, and mutual support.

The SIG also contributes to raising the visibility and status of European early childhood research internationally. Its international membership, conference presence, and forthcoming publication in the EECERA Praxis Series strengthen the profile of research in early childhood mathematics education within and beyond Europe.

Overall, the SIG's activities reflect the values set out in EECERA's Ethical Code, especially its commitment to democratic values, justice and equity, multiple perspectives, social contribution, and rigorous, accessible dissemination. In this way, the Mathematics SIG makes a clear contribution to EECERA's mission and priorities.