



TSG 11 Teaching and learning of algebra

Co-chairs:

Rakhi Banerjee (India)
Amy Ellis (USA)

rakhi.banerjee@gmail.com
aellis1@education.wisc.edu

Team members:

Helen Chick (Australia)
Astrid Fischer (Germany)
Heidi Strømskag Måsøval (Norway)

IPC Liaison Person: Behiye Ubuz (Turkey)

Topic Study Group 11 aims to bring together researchers, curriculum developers, policy planners and teachers who investigate and develop empirical and theoretical accounts of the teaching and learning of algebra. The group envisages integrating young researchers and established scholars in the field with the hope of sharing new findings and current research trends in the teaching and learning of algebra. In addition, we aim to foster discussion of the conceptual/ theoretical issues challenging the field as well as identifying gaps in the research literature that call for additional work. The topic study group will engage a group of interested participants in rigorous discussions emphasizing the following themes:

- Early algebra: Children's early algebraic thinking, its nature and connections with later algebra, and the role of language and communication
- Algebraic thinking: Its characteristic features, curricular tasks promoting algebraic understanding, instructional environments that foster reasoning in algebra, and issues of representation, symbolization, and manipulation
- Conjecturing, proving, and generalizing: Their role in the learning of algebra, ways of characterizing and understanding their features and processes, and ways to promote productive student activity as they engage in conjecturing and proving
- Algebra instruction: The nature of instruction across different levels of school and different populations of children for developing algebraic thinking,

exemplary models, challenges in implementing effective pedagogical practices .

The group plans to function as a mini-symposium with time spent on plenary sessions giving an overview of the themes listed above and small group discussions around the same themes. In addition to invited talks, the group will also accept proposals for oral and poster presentations.