



TSG 31 Language and communication in mathematics education

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This TSG invites presentation, discussion, and reflection on the latest research on language and communication related to learning and teaching mathematics. We use “language and communication” in its broadest sense to mean the multimodal and multi-semiotic nature of mathematical activity and communication, using not only language but also other sign systems. We thus welcome contributions focusing on all modes of communication—oral, written, gestural, visual, etc. The TSG will build on the strong body of research in mathematics education that addresses these issues and also consider important questions that remain. Many resources can be brought to bear on these questions, including recent empirical research (not only from mathematics education but also other disciplines), as well as a range of theoretical and methodological perspectives. The study of language/communication in mathematics education greatly benefits from cross-disciplinary perspectives influenced by sociology, psychology, linguistics, new literacy studies, semiotics, etc.

TSG sessions will include a panel discussion on current research, interactive data sessions, and posters. We also plan a joint session with TSG32 “Mathematics Education in Multilingual and Multicultural Environments” to discuss intersecting issues and possible collaborations. Sub-themes within the topic include:

1. Relationships among language (and other sign systems), mathematical thinking, and learning mathematics

- relationships between forms of communication (through language or other sign systems) and mathematical thinking/learning

- these relationships across human development

2. Theoretical and methodological issues for the study of communicative activity in mathematics education

- using theoretical and methodological tools from sociology, psychology, linguistics, new literacy studies, semiotics, etc.
- identifying the particular nature of mathematical communication through language and other sign systems, and comparing to other subject areas

3. Language, communication, and mathematics in classrooms

- organizing communication for mathematics learning and teaching
- interactions among alphabetical literacy, the oral-literacy continuum, and school mathematical proficiency
- communication practices in home/community and school/classroom