

MATHEMATICAL DISCOURSE IN INSTRUCTION IN LARGE CLASSES

Mike Askew

University of the Witwatersrand, Johannesburg, South Africa

K. (Ravi) Subramaniam

Homi Bhabha Centre for Science Education, Mumbai, India

Anjum Halai

The Aga Khan University, Karachi, Pakistan

Erlina Ronda

University of the Philippines, Quezon City, Philippines

Hamsa Venkat

University of the Witwatersrand, Johannesburg, South Africa

Jill Adler

University of the Witwatersrand, Johannesburg, South Africa

Steve Lerman

London South Bank University, London, United Kingdom

This DG is for congress participants interested in discussing issues and challenges related to mathematics education in schooling systems where large classes (40+ students) are the norm. The fact that being in a large class is the reality for many students, particularly in developing nations, leads the organisers of this discussion group to consider the study of teaching large classes, at both primary and secondary levels, to be a worthy object of research and inquiry. In contexts where not only are class sizes large, but also teaching resources frequently limited, it is primarily the teachers' instructional practices that provide the main point of access to mathematics for the learners. This discussion group team have been working with an analytical framework for studying mathematical discourse in instruction, MDI, which is characterised by four interacting components in the teaching of a mathematics lesson: exemplification, explanatory talk, learner participation and the object of learning (goal). Anticipated aims of the DG sessions include identifying, sharing and discussing common key issues in teaching and learning in large classes and exploring the potential of the MDI framework to examine such issues. Through sharing cross-national and cross-phase experiences we aim both to broaden the base of lessons that the framework might be applied to and to explore ways in which the framework might be developed.

Tuesday, 16.30-18.00: Planned timeline	Topic	Material / Working format / presenter
16.30–16.45	Quick introductions and review of participants' interest.	Whole group.
16.45-17.00	Introduction to the organising team and a brief review of work to date.	Presentation from organizing team.
17.00-17.20	Introduction to the elements of MDI.	Presentation from organizing team.
17.20-17.50	Small groups working on applying the MDI to lesson transcripts.	Small group work on shared lesson transcript (common across the groups).
17.50-18.00	Report findings to main group.	Whole group discussion

Friday, 16.30-18.00: Planned timeline	Topic	Material / Working format / presenter
16.30–17.15	Small groups working on applying the MDI to a variety of lesson transcripts brought to the DG by participants.	Small group work on participants' transcripts (organizers will have additional transcripts).
17.15–17.30	Report of issues raised in the small group activity.	Small, cross group discussions.
17.30–17.45	Discussion of general issues raised with reference to researching large class teaching.	Whole group discussion.
17.45–18.00	Identifying ways forward.	Whole group discussion.

Suggested preparatory reading

Adler, J. & Ronda, E. (2015) A framework for describing Mathematics Discourse in Instruction and interpreting differences in teaching. *African Journal for Research in Mathematics Science and Technology Education (AJRMSTE)*, 19 (3), 237-254. doi:10.1080/10288457.2015.1089677