

## Argumentation Analyses for Early Career Researchers

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### Abstract

Proving processes in mathematics classrooms follow their own peculiar rationale, which raises the question of how to reconstruct and analyse the complex argumentative structures that arise in classroom discussions. In this workshop we will describe a method of analysis of argumentation processes in the mathematics class. At the beginning of the workshop, we will explain our understanding of arguments and argumentations and its relevance for the mathematics class. The method and methodology we use to reconstruct arguments builds on Toulmin's theory of argumentation (Toulmin 1958) and allows the description of both local arguments and global argumentation structures.

A three stage process is followed (Knipping & Reid 2015, 2019): i) reconstructing the sequencing and meaning of classroom talk; ii) analysing local arguments and global argumentation structures; and iii) finally comparing these argumentation structures and revealing their rationale. The second stage involves two moves, first analysing local arguments on the basis of Toulmin's functional model of argumentation (1), and second analysing the global argumentative structure of the proving process (2). We provide an example for the use of the method to analyse a transcript from a mathematics classroom.

### References

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**Keywords:** Argumentation, argumentation processes, argumentation structures, proof, proving, mathematics classrooms, model of argumentation.