

## **Empowering Classroom Groups: A Driving Obligation of Math Faculty in Open-Access Institutions in Chile**

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**Abstract:** We studied how instructors' interactions with student groups relate to instructional practices and decision making in the teaching of mathematics in open-access institutions of higher education. We define instructors' interactions as the moment in which an instructor visits a group of student working on a mathematical task, which in our case are problem-solving activities. This is a mixed methods study, based on two types of data sets: videos of classroom teaching and videos of discussion sessions. Both complement each other. Through the analysis of classroom videos, we described and measured the types of interactions we observed in the classroom. From the analysis of discussion sessions, we obtained the meaning instructors gave to these interactions and the decisions they made. Thus, measures and meaning together tell us a deep picture of what drives what instructors do in their classroom and the consequences of these motivations. Overall, we found an overly student-supported environment. When instructors were asked to implement the problem-solving activity, they tended to control the classroom in order to keep students focused on the task. However, they also discovered opportunities to empower the groups. Furthermore, we found strong evidence that when instructors used an inquiry-based approach and more students talked and gave their arguments, the group went further into the math content of the task.