

## QUESTION-ANSWER, VALIDATION AND FOLLOW-UP IN LESSONS OF MATHEMATICS

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Schwarz, Dreyfus and Hershkowitz (2009) point to the importance of analyzing the processes involved in classroom interaction to explore what is under the shared construction of mathematical knowledge. To represent “optimal” contexts for mathematical learning, in our own research we bring up a critical perspective that aims at supporting changes in classroom cultures toward dynamics of group discussion and pair work. We assume that interaction among students is central to their mathematical learning and to the orchestration of diverse forms of “good” teaching. In her ongoing PhD work, Chico explores several classroom episodes with pair work to better understand cooperative interaction that fosters task-relevant mathematical knowledge.

Cobo and Fortuny (2000) typify several mathematical exchanges in pair interaction, some of them with evidence of cooperation and some others with students working in parallel, and not really helping each other with the mathematics. In our analysis, we pay special attention to the identification of short episodes in which students accomplish cooperative interaction. By cooperative interaction in pair work, we understand a conversation in which the two parts make progress in the discussion of a certain task as a result of continuous processes of negotiation among differing views. We search for exchanges with indicators of interaction, namely: 1) question-answer (one part answers something that has been asked by the other, and eventually introduces either new information or another question); 2) validation (one part gives effect, values or repeats what has been said by the other, and gives or asks for further argumentation); and 3) follow-up (one part states a proposition that is mathematically expanded by the other part). At present and for different episodes, we have developed tables with empirical interpretations of the indicators above as a way to illustrate equitable contribution of mathematical information on the part of each student in particular cases of pair work.

### NOTES

1. The research is part of Project ‘Estudio sobre el desarrollo de competencias discursivas en el aula de matemáticas’, EDU2009-07113/EDUC, funded by the Spanish Ministry of Science and Innovation. The two authors are members of Group SGR2009-00364, from the Catalan Department of Universities.

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