

LEARNING SCHOOL MATHEMATICS *VERSUS* BEING MATEMATICALLY COMPETENT – A PROBLEMATIC RELATIONSHIP

Elsa Fernandes
University of Madeira

João Filipe Matos
University of Lisboa

It is not clear why the very same person seems to be mathematically competent in one setting (e.g. metalwork) but suggests enormous difficulties in learning school mathematics (Abreu, Bishop and Presmeg, 2002). Instead of addressing this issue as a matter of ‘transfer of knowledge’, in this study it was decided to approach the problem from a situated learning point of view, assuming learning as an integral part of social practice (Lave & Wenger, 1991; Wenger, 1998).

In order to analytically describe youngsters’ practices (not socially defined as mathematical) and try to understand how those practices relate to the school mathematics curriculum, a group of secondary school students’ participation in mathematics and metalwork classes within a course on metalwork, was observed during three months.

‘Becoming’ (a metalworker) turned to be the driving force for participation of students in the activities as it shaped their way of addressing the tasks and their alignment within both school mathematics’ practice and metalwork. The results of this study point to a problematic interpretation of the idea of mathematical competence which is nowadays being spread among mathematics teachers and mathematics educators (Fernandes & Matos, 2003).

References

- Abreu, G., Bishop, A. & Presmeg, N.C. (2002). Mathematics Learners in Transition. In G. Abreu, A. Bishop and N. C. Presmeg (Eds) *Transitions Between Contexts of Mathematical Practices*, pp.7-21. Dordrecht: Kluwer Academic Publishers.
- Fernandes, E. & Matos, J.F. (2003). *Onde está a Matemática? A Aprendizagem da Matemática na Serralharia*. Paper presented at the XI Conferência Interamericana de Educação Matemática (XI CIAEM) – Educação Matemática & Desafios e Perspectivas, Blumenau, Brasil, July 2003.
- Lave, J. & Wenger, E. (1991) *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Wenger, E. (1998) *Communities of Practice: Learning, Meaning and Identity*. Cambridge: Cambridge University Press.