



## REAL TIME EXPERIMENTS IN CHEMISTRY AS A WAY TO IMPROVE SCIENCE COMPETENCIES IN SECONDARY EDUCATION: THE SPANISH SITUATION

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The **design of student worksheets** (not so long, in a learning cycle,...)

Importance of **context** in which the activity is presented to students.

Importance of classroom management

The **teacher training model**, based on **reflexive practice**, improves the teaching and learning processes.

Teachers consider that to watch video films of activities and the videotaping of their own activities as an **important tool** to learn about how to perform these activities and how to improve their practices.





The acquisition of science competencies using ICT real time experiments

COMBLAB 517587-LLP-1-2011-ES-COMENIUS-CMP

**References**:<sup>1</sup> PISA 2009 Results: What Students Know and Can Do. Student performance in reading, mathematics and science

<sup>2</sup> Tortosa M., el Boudamoussi S. & Pintó, R. (2008). La visión de los profesores sobre las competencias evaluadas en las pruebas PISA. Alambique. 57. 53-63.

<sup>3</sup> Guitart, J., Domènech M. & Oro J. (2008). Relating Reflective Practice to ICT teacher training in Catalonia-developing a new teacher training course. In Demkaninn, P, Kibble, B., Lavonen. J., Guitart, J and Turlo, J. E ffective Use of ICT in Science Education. EU-ISE(226382-CP-1-2005-SK-COMENIUS-C21). (B. Kibble, Edinburgh, ed) ISBN: 978-0-9559665-0-7 p85-116.