

**Short report**  
**for IUPAC Committee on Chemistry Education meeting, Torino, 6-7 August 2007**

compiled by

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In our report for the CCE Meeting in Seoul we gave information on the project and web based teaching material STANDARDBASE (SB, a database for vocational chemical education, <http://www.standardbase.com/>). It contains 72 chemical analytical methods - originating from chemical industry - that can be used under vocational school conditions. In order to be able to compare the data measured in different schools and different countries the same quality of commercial products as samples are used.

Based on and as an improvement of SB we started in 2007 a new Leonardo da Vinci pilot project called PROBASE (problem-based learning in vocational science designing activities that develop the skills used by scientists in the workplace for integration into vocational science courses).

The practising technicians working in scientific fields (e.g. laboratories of factories, government or municipality sponsored institutes, universities or other research centres) need many professional skills and competencies. Often, however, little attention is given to their systematic development in vocational science courses of schools or other organisations dealing with vocational education and training (VET) in all over Europe. The purpose of this project is to provide a rationale, methodology and exemplar materials to develop those professional skills essential for chemical laboratory technicians to be effective in the workplace.

The outcome will be a web-based resource consisting of problem-based activities that may be integrated into a range of school and college vocational science courses. The activities will be set in the context of the main science employment sectors. Range of skills and related competencies that are required for the everyday work of technicians working in scientific laboratories are:

- use knowledge and understanding to tackle scientific problems
- observe, measure, analyse and evaluate scientific data
- manage time and workloads
- manage physical resources such as materials and equipment
- work with others and manage relationships with people
- communicate to a range of audiences both verbally and in writing, and using ICT.

Ideas for 32 complex problem-based activities will be collected by consulting with scientific researchers working in the industry, at universities or research institutes. Teachers in schools dealing with vocational science education and training will plan and write the activities. Each problem-based activity will be piloted by students in 2 different partner countries and the partners will share their experiences. The corrected versions will be collected on a web site (<http://www.pro-base.eu/>). Teachers Guide and its printer-friendly version will also be available. All products of this project will be free of charge to any users.

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