



Open Learning Approach with Remote Experiments

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The project "OLAREX: Open Learning Approach with Remote Experiments" (No. 518987-LLP-1-2011-1-ES-KA3-KA3MP) has been funded with support from the Lifelong Learning Programme (KA3 - ICT) from European Union.

The main goal of the project is to innovatively implement ICT-based learning materials, remote experiments, and e-didactic methods into formal and non-formal lifelong learning settings. It enhances and modernize science, technology, engineering and mathematics (STEM) curricula, foster student creativity and motivation, and develop professional skills and insights about the impact of evolving technologies.

The organized training courses for teachers, future authors of learning materials and modules, and museum employees will build the e-didactic competences in the STEM by providing remote lab work explanations, offering practically-oriented approaches for strengthening educational programs and technical practices.

During the training, at least 100 teachers integrate at least one learning module into their curriculum, test them in their classrooms, and encourage their students to apply what they learned in a final project.

The six comprehensive learning modules with remote experiments – in English and the national languages of the partners – were prepared based on the target groups' requirements.

The modules are:

- Black body radiation of common light sources (Physics /Optics)
- Farm Experiment: From an egg to a little chicken, step by step a new life (Biology)
- Working as a computer – Logic gates (Technology & Mathematics)
- Analogue circuits measurements (Physics), based on VISIR remote laboratory OR Spectral analysis of light sources (Physics /Optics)
- How does the current flow? (Physics), based on VISIR remote laboratory
- Simulation using existing simulation tools (Physics/Astronomy, Mechanics, Sport)

The learning and teaching materials are incorporated in an e-platform with personalized learning environment.

The remote experiments as a part of the OLAREX museum exhibition emphasizes hands-on experience, and context-based learning, making this output a unique non-formal e-learning tool.