

Engaging and informed tools for learning conceptual knowledge

Beneficiaries:



University of Amsterdam (The Netherlands)
Human Computer Studies Laboratory
<http://hcs.science.uva.nl/>



Universidad Politécnica de Madrid (Spain)
Ontology Engineering Group
<http://www.oeg-upm.net/>



University of Augsburg (Germany)
Multimedia Concepts and Applications
<http://mm-werkstatt.informatik.uni-augsburg.de/>



University of Brasilia (Brazil)
Institute of Biological Sciences
<http://www.unb.br/ib/>



Tel Aviv University (Israel)
Science and Technology Education Center
<http://muse.tau.ac.il/>



University of Hull (United Kingdom)
Hull International Fisheries Institute
<http://www.hull.ac.uk/hifi/>



Bulgarian Academy of Sciences (Bulgaria)
Central Laboratory of General Ecology
<http://www.ecolab.bas.bg/main>



University of Natural Resources and Applied Life Sciences (Austria)
Institute of Hydrobiology and Aquatic Ecosystem Management
<http://www.boku.ac.at/hfa/>

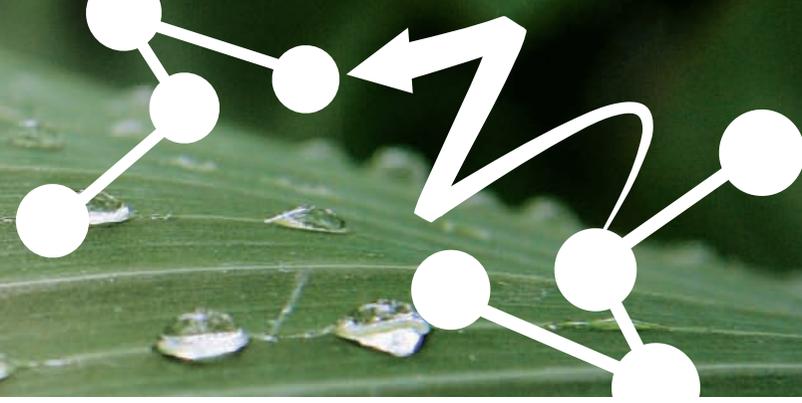
Contact

University of Amsterdam (Coordinator)
Bert Bredeweg

Phone: +31 (0)20 525 6788
e-mail: Info@DynaLearn.eu
www.dynalearn.eu



Co-funded by the EC within the 7th Framework Programme, Project no. 231526



Conceptual knowledge of system's behaviour is crucial for society to understand and successfully interact with its environment. Acquiring this expertise is therefore a valuable aspect of science education. Despite this importance, there is an alarming decline in the number of students choosing science subjects. Reasons for this include the perceived complexity, the idea that these subjects are uninteresting and tedious, and the lack of effective cognitive tools that enable learners to acquire the expertise in a way that fits its qualitative nature.

The DynaLearn project seeks to address these problems by integrating well established, but currently independent technological developments, and utilize the added value that emerges. Specifically,

- **Diagrammatic representations** will be used for learners to articulate, analyse and communicate ideas, and thereby construct their conceptual knowledge.
- **Ontology mapping** will be used to find and match co-learners working on similar ideas to provide individualised and mutually benefiting learning opportunities.
- **Virtual characters** will be used to make the interaction engaging and motivating.

The development of the workbench will be tuned to fit key topics from environmental science curricula, and evaluated and further improved in the context of existing curricula using case studies. Through this approach, the DynaLearn project will deliver an individualised and engaging cognitive tool for acquiring conceptual knowledge that fits the true nature of this expertise.

