

system Multibook we use modularized learning content stored in a knowledge base and describe these modules such that the combination of modules can be matched to the users preferences, represented in a user profile. In this demo we will show our knowledge base containing both the actual multimedia learning resource and the metadata in form of a terminological ontology, attributes for the resources and relations between the resources. Then we sketch the user profile and finally we show how these components are matched together

Math and Science Curriculum Revision: A Collaborative Approach to Improving Preservice Teachers' Use of Technology Knowledge and Instructional Skills.

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Reports on a Preparing Tomorrow's Teachers to use Technology Capacity Grant project, a consortium comprising Bryant Intermediate School, and Westminster College, both of Salt Lake City, Utah. The consortium participants engaged in collaborative curriculum development to provide preservice teachers greater exposure to the instructional uses of technology in education. Skills in the application of communication, presentations, and CLE technologies were explored. Teaching units integrating sound curriculum with technologies including: video-microscopes, CBL probes, graphing calculators, Excell, PowerPoint, various software programs, and the Internet were developed. Outcomes suggest improved teaching with technology skills, better real-world collaborative inquiry, greater focus upon multiple learning styles; and gains in extending the power of scientific inquiry into mathematical and scientific reasoning.

Integrating pedagogy, content and technology into your curriculum

David Stokes, Westminster College, USA; Wanda Carrasquillo-Gomez, Westminster College, USA

Perhaps there are fewer more daunting tasks to teacher educators than to find the time, means, and information to begin to more fully integrate technology as an instructional and learning tool into their courses. Over the past year the authors conducted a thorough curricular revision of technology courses offered in the Master of Education program at Westminster College in Salt Lake City. Courses were redesigned focusing curriculum upon technology as a communication rather than a presentation medium. Outcomes suggest this approach is beneficial to generating increased understanding of the role technology can play in teaching and learning, and in strengthening key linkages between constructivist theory and teaching practice.

SMILE Maker - An Intelligent Learning Environment for Problem Solving

Svetoslav Stoyanov, University of Twente, The Netherlands

This poster introduces SMILE Maker - a web-based tool supporting ill-structured problem solving activities of students involved in problem-based learning. SMILE Maker stands for Solution, Mapping, Intelligent Learning Environment. It is both a problem solving and a learning tool. As a problem solving tool it proposes a method for creative problem solving based on the synergy of some mapping approaches like concept mapping, mind mapping, cognitive mapping, flowcapping, and process mapping, and a systematic creative problem solving methodology. The method facilitates elicitation of tacit knowledge, an effective organization of the explicit knowledge, and avoidance of some negative individual problem solving syndromes like analysis-paralysis, functional fixedness, premature judgment, and etc. As a learning method it provides an individualized learning environment for studying and applying this method. It adapts learning to four personal constructs such as learning styles, problem solving styles, learning locus of control and prior knowledge.

An Adaptive Web-based Course in Financial Engineering with Dynamic Assessment

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The increasing relevance of interdisciplinary skills calls for the design and implementation of novel strategies to address the problem of teaching a corpus of knowledge to a heterogeneous audience. We have chosen a problem in financial engineering, the valuation of European options, whose mastery requires the interplay of mathematical, computational and financial tools. The target audience in financial engineering courses is generally composed students of either financial background or from a scientific, non-financial area (mathematics, computer science, physics). The course is designed within the framework of the TANGOW system (<http://www.ii.uam.es/esp/investigacion/tangow/present.html>), which provides the necessary mechanisms to construct a web-based course whose contents are dynamically generated according to the student's profile and actions. The system includes the possibility of dynamic assessment, which involves testing not only the student's ability to understand static knowledge, but also his/her ability to actively design procedures (programming analytical formulas, realization of simulations) to achieve the prescribed goal.