1999; Grabinger, 1995; Duffy & Jonassen, 1992) that explains the social component of learning and demonstrates that “conceptual growth comes from sharing perspectives and modifying our internal representations in response to that sharing” (Grabinger, 1995, p. 669). Online learning communities provide the means for achieving “shared creation” and “shared understanding” (Shrage, 1991, p. 40). They are an excellent tool for integrating collaboration in online learning environments. The authors’ poster demonstration defines collaboration and learning communities and addresses their theoretical foundations. The authors will discuss the benefits of collaboration and learning communities in online learning environments and provide a case study of a new online learning community at Western Governors University.

The Construction of World-Wide-Web Resource for Chinese Medicine and Acupuncture
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As the information technology makes great strides in recent years, Internet has irresistibly reached into every aspect of our daily life. With its unique capability of well-integrating text, image and video, World-Wide-Web has been pervasive in the dissemination of medical discovery, the promotion of medical education and the application of clinical medicine. The issue of capitalizing on the state-of-the-art web technology to build Chinese medicine and acupuncture multi-media web resource is well addressed in this thesis. It is organized around:

1. The largest Chinese medicine news web site domestically.
2. The Chinese-medicine-centric high resolution multi-media Video on Demand in the field of Chinese medicine.
3. The electronic journal on Chinese medicine in the field of Chinese medicine.
4. The virtual classroom with complete features on Chinese Medicine and group-learning systems.

In addition, all the relevant web sites on Chinese medicine will be listed and linked for the benefit of the public. Integrated with Chinese medicine database, this set of medical resource helps to present teachers and researchers with an informative environment surrounded by Chinese medicine data. And it gives students the chance of individual learning and the space for the development for voluntary acquisitiveness for knowledge as well as paves the way for academic exchanges and pervasion of the information on Chinese medicine.

Automatic Generation of the Optimal Tutorial-Plan in Adaptive Educational Hypermedia System
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Adaptive hypermedia system provides a good framework for web-based education. An ideal adaptive educational hypermedia system adapts to different learners during the whole period of the study. Aiming at the automatic generation of the adaptive tutorial-plan, we simply introduce the architecture of the KDAEHS: an adaptive educational hypermedia system adapts to different learners during the whole period of the study. Aiming at the automatic generation of the adaptive tutorial-plan, we simply introduce the architecture of the KDAEHS: an adaptive educational hypermedia system based on structural computing, propose the concept of knowledge structure graph represented by AND/OR graph and then discusses the algorithms used to obtain optimal tutorial plan. Combined with the pedagogical strategies specified by the instructors, KDAEHS generates the optimal tutorial-plan which adapts to different learners based on the knowledge structure graph and the learners’ knowledge level. Every tutorial-plan is well suit to the individual learner and can help the learner to fulfill the study goal efficiently.

Virtual Reality in astronomy teaching
Yoav Yair, CET / The Open University, Israel; Rachel Mintz, CET / Tel-Aviv University, Israel; Shai Litvak, CET / Tel-Aviv University, Israel

A new 3D model of the solar system with virtual reality (VR) features. It is based on powerful scientific visualization techniques and can be used as an effective aide in astronomy teaching is presented. The model allows for a powerful learning experience, and facilitates the mental construction of three-dimensional space, where objects are varied and different, but share common features and obey the same physical principles. The learner “enters” a virtual model of the physical world, journeys through it, zooms in or out as he wishes, changes his view point and perspective, as the virtual world continues to “behave” and operate in its usual manner. The new view helps to overcome the inherent geocentric view and ensures the transition to a scientific, heliocentric view of the solar system.

Uncovering cognitive processes in discourse synthesis using hypermedia
Shu Ching Yang, National Sun Yat-Sen University, Taiwan ROC

An exploratory study was undertaken to uncover the cognitive process of discourse synthesis within a hypermedia learning environment. The focus was on learners’ discourse synthesis behavior and the problem solving strategies they employed using the Perseus database. The data for the study was transcribed from tape recordings of the ‘thinking aloud’ protocols as the learners attempted to work on their tasks. All protocols were transcribed verbatim and categorized according to each strategies content. A functional taxonomy were developed to characterize the cognitive operations and thinking processes of the learners’ interactions with Perseus. The proposed taxonomy characterizes their cognitive engagement within hypermedia from a broader context. It is a multifaceted construct