

**CHEN, Zhengxin, *RETHINKING THINKING: USING ONTOLOGIES FOR E-TECHNOLOGY ENABLED INTEGRATED PROBLEM SOLVING***

**Abstract:** Real-world problem solving requires integrated problem solving skills. However, in reality, various problem solving techniques have been covered in separate courses in computer science (or other Information Technology-related) curriculum, leaving little time for students to apply learned knowledge together. The advent of E-technology provides an excellent opportunity to change this. In particular, in this paper we take a look at the issue of using ontologies to enable integrated problem solving. We start with a general review on ontologies, pointing out the dual role of ontologies as an e-technology in education. We then focus on the role of ontologies for integrated problem solving by reviewing our recent experiences from a number of student projects in database management system (DBMS), artificial intelligence (AI), data mining (DM) and other senior level courses, pointing out the important role of ontology as a common theme to thread various aspects related to intelligent information systems. These projects have shown exploring ontology-related aspects is an effective way for students to develop skills in integrated problem solving.

**Keywords:** intelligent problem solving, ontologies, E-technology in education