Intelligent Scaffolding to Improve Students' Cognitive Learning in STEM fields

Fengxia Wang

In this project we will develop and test a new academic support tool --the intelligent scaffolding for STEM core courses which is based on mobile learning environments, networks, and database technology. The intelligent scaffolding will be developed to enhance the academic achievement-related self-efficacy of all students, including female, underrepresented, and not well prepared students, and hence foster their intrinsic learning motivations. The goal of this tool is to increase the retention rate while improving STEM graduates' technical competency. Although this pilot project is proposed for mechanical engineering core courses, it would have the potential to impact various courses in other engineering disciplines.