

A Collaborative Teaching and Learning Model between Academy and Industry for Multidisciplinary Engineering Education

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Abstract : In order to cope with the increasing demand for multidisciplinary learning between academy and industry, a collaborative teaching and learning model and related operational tools enabling applications to engineering education are essential. This study proposes a web-based collaborative framework for interactive teaching and learning between academy and industry as an initial step for the development of a web- and mobile-based integrated system for both engineering students and industrial practitioners. The proposed web-based collaborative teaching and learning framework defines several entities such as learner, solver and supporter or sponsor for industrial problems, and also has a systematic architecture to build information system including diverse functions enabling effective interaction among the defined entities regardless of time and places. Furthermore, the framework, which includes knowledge and information self-reinforcing mechanism, focuses on the previous problem-solving records as well as subsequent learners' creative reusing in solving process of new problems.

Keywords : collaborative teaching and learning model, academy and industry, web-based collaborative framework, self-reinforcing mechanism

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