The Connected Learner: Design Patterns for Transforming Computing and Informatics Education

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ABSTRACT

The Connected Learner is a re-orientation of undergraduate computing and informatics education to focus on student learning that connects to peers, the profession, and the community. The vision for this project is to transform the student entering an undergraduate computing and informatics program from a person with an interest in computing to a person with an identity as a computing professional. The project equally will transform the faculty attitude towards education, shifting their attitudes and behaviors away from mere knowledge transmission and lecturing toward a refreshed approach of developing educational activities that scaffold the computing knowledge and skills to build successful computing professionals. The project will catalyze and sustain this transition with the identification of pedagogical design patterns for The Connected Learner to guide all faculty in teaching courses in the undergraduate computing and informatics curriculum. The intellectual merit comprises innovative teaching and assessment practices across an entire undergraduate computing and informatics curriculum demonstrating the applicability and efficacy of these practices across a student body diverse in terms of socio-economic status and demographics. The project will develop taxonomies and design patterns for knowledge and assessment to facilitate scaling and disseminating educational innovation in computing. Additionally, the project will examine the key factors in building a sustainable practice of educational innovation, which includes faculty attitudinal shifts and infrastructures to support and sustain learning practices.