Chapter 32

Using Digital Technology to Enhance a Century Old Partnership Between University and Cooperative Education Employers

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ABSTRACT

Cooperative Education (the systematic alternation of school and work) creates ongoing partnerships between institutions of higher education and their corporate partners. The beauty of co-op is that it allows feedback on student work performance while the student is enrolled in an academic program. The objective of this project was to use emerging digital technologies to capture partnership information and channel it back to faculty in charge of curriculum development for summative and formative purposes. The project was funded by the U.S. Department of Education’s Fund for the Improvement 

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of Postsecondary Education (FIPSE) through the grant Developing a Corporate Feedback System for Use in Curricular Reform. The project resulted in a system that captures the level and uniformity of student work performance and reports the data both numerically and graphically both separately and in combination. Performance uniformity as a measure is important, as it illustrates how well all students in a group absorb the instruction.

INTRODUCTION

The production of goods and services has, over the past 50 years, moved from a supply-oriented to a demand-oriented focus (Deming & Kilian, 1992). This evolution is reflected in outcomes-oriented assessment that, since the early 1990s, has been reflected in accreditation standards (Higher Learning Commission, 2003). Most of these criteria require that a methodology of continuous improvement be used. Effective assessment is further considered to be blind (instructor independent), direct (straight measurement of activity of interest), and contextual (measurement happens in the environment for which the student is being trained) (Banta, 2002; Suskie, 2004). Simultaneously, with the development of outcomes-oriented assessment, the world has seen the evolution of electronic networks that have no comparison in history. The project described in this case study integrates the latest assessment technologies with a Web-based delivery structure, resulting in a system that can be used for blind and direct measurement of student performance in the context of work. The system helps the university redesign programs to support the development of employable skills. The assessment methodology further measures the aggregate effect of changes pursued in a multitude of courses. The system further supports outcomes-oriented accreditation.

BACKGROUND

The research project is set in an environment of Cooperative Education (co-op) at the University of Cincinnati. The co-op model was pioneered by Dean Herman Schneider in 1906 at the university (Park, 1943). This educational initiative has transcended time, disciplines, and programs. Schneider’s cooperative system of education introduced the concept of linking theory with practice through the alternation of time spent in classroom instruction with time spent in work-based practical experience in the students’ chosen fields. A century later (Cates & Cedercreutz, 2008), the design of the corporate feedback system sought to re-examine and build upon the original core principles of the cooperative system of education through the use of digital technology.

The University of Cincinnati combines high-impact research ($378 million research budget) (University of Cincinnati, 2009) with a strong professional profile (approximately 5,000 student placements per year) (Cedercreutz, 2007). The structure of the UC co-op program is based upon full-time, alternating quarters of study and co-op work experience beginning in the sophomore year and extending over three years. Figure 1 shows a typical alternating University of Cincinnati co-op curriculum. This alternation paces the development of the student frame of reference with the progression of the curriculum. Every co-op work quarter is evaluated through a three-party online assessment process: by the student, by the employer, and by the faculty member (Cates & Jones, 1999). Analyzing the employer assessment data while a student cohort is still enrolled allows the university to react swiftly to changes in the environment.

Co-op students are assigned to a Professional Practice (co-op) faculty adviser by discipline area.