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Achieving continuous professional development in higher education

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Abstract. *Traditional higher education technology emphasizes knowledge transmission. In contrast, the Community platform presented in this paper follows a social approach that interleaves knowledge delivery with social and professional skills development, engaging with others, and personal growth. In this paper, we apply learning and complex adaptive systems theory to motivate and justify a continuous professional development model that improves higher education outcomes such as placement. The paper follows action design research (ADR) as the research method to propose and evaluate design principles.*

Keywords: Action design research (ADR), complex adaptive systems (CAS), higher education

1 Introduction

Information technology (IT) use in higher education tends to focus on automating and scaling traditional isolated process such as video taping a lecture. This hierarchical, sequential, and siloed process originated from when universities constructed large lecture halls and organized education into packaged blocks of courses in the last century. Higher education can be more than just a factory that applies standardized procedures to create identical goods. Delors et al. [1, p. 37], asserted that "formal education systems tend to emphasize the acquisition of knowledge to the detriment of other types of learning; but it is vital now to conceive education in a more encompassing fashion." IT can play a much more transformative role in higher education rather than just achieve efficiency.

In this paper, we apply a lifelong learning model as a guiding theory and complex adaptive systems as a design philosophy to instantiate technological artifacts that improve the quality of higher education, specifically the 'professional development' of students.

2 Complex Adaptive Systems

Complex Adaptive Systems (CAS) theory can shed new light into the interaction among the agents beyond the traditional hierarchical views of higher education. CAS

is “composed of interacting agents described in terms of rules. The agents adapt by changing their rules as experience accumulates” [2, p. 10]. CAS can go inside the seemingly highly hierarchical outer shell of higher education and analyze a more nuanced reality to leverage the peer-to-peer under-structure instead of focusing only on the traditional one-to-many over-structure. The uses and consequences of IT “are often enacted through self-orchestrated interactions among users, technologies, and institutional properties rather than dictated by organizational policies or managerial intentions.” ([3] p. 505).

3 Design

The CAS model provides the conceptual and architectural instantiation of the Community platform. The platform is based on WordPress, an open source content management system, and BuddyPress, a social plug-in that adds member profiles, avatars, friending, groups, and private messaging. The platform includes a customized look and feel relevant to higher education, custom developed plugins (e.g., gradebook, leaderboards, e-portfolio wire, e-portfolio search, e-portfolio badges), templates (for course and e-portfolio creation), and tutorials. All content including courses, members, and the individual sites of each member including their profiles, e-portfolios, and activities are open and accessible over the Internet. All members are content generators and aggregators while white pages (profiles), internal messaging, site wide activity “wires”, chat, and commenting support interaction and discovery.

All student, faculty, and staff member create and maintain their online brand through an “e-portfolio” site. The open content promotes conversations and sharing. The site-wide activity feed on the front page (similar to the Facebook news feed) fuels additional interaction. In the feed, all sites get equal “billing” including student managed sites. Members update their profiles to indicate their interests as well as job status, and the changes are pushed to the community, while instructors’ use commenting, rating, and voting to sustain interaction. As of January 2015, the platform has hosted more than 7300+ members, 5900+ sites, 1200+ e-portfolios, 17,000+ posts, 48,000+ comments, and 300+ courses. The four key design principles of the platform are open, individual control, discovery, and aggregation.

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