

## Chapter 2.7

# A Model for Knowledge and Innovation in Online Education

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### ABSTRACT

The objective of this chapter is to introduce a model that outlines the evolution of knowledge and sustainable innovation of community through the use of social software and knowledge management in an online environment. Social software presents easy-to-use, participatory technologies, thus bringing increased interaction with others and a diversity of perspectives into the classroom. Knowledge management provides the opportunity to capture and store information so that content and learning can be personalized according to learner preferences. This model describes a circuit of knowledge that includes instructional systems design, individualization of learning, interaction

and critical reflection. It also represents a new framework within which communities develop and become more sustainable.

### Introduction

In this chapter, we suggest that the field of online education adopts effective practices from knowledge management, and the best social software tools to create a knowledge community. As social software tools become more available for formal online learning environments, current conceptualizations of online communities must be modified. Where are these social technologies leading us and what are the impacts?

This model proposes a more dynamic online classroom where learners use cutting-edge social software tools to capture and disseminate collec-

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tive knowledge from the participants in the course, as well as the virtual and local community. This model facilitates the evolution of knowledge within the classroom, and encourages a sustainable knowledge community, wherein innovation

may be enhanced. Our vision of this dynamic partnership of knowledge management, online education, and social software is described in the following scenario (Table 1).

*Table 1.*

<i>Futures of Technology and Knowledge in an Online Classroom</i>
<p>Fiona, Tim, and Vita are enrolled in Organizational Learning and Instructional Technologies (OLIT) 565, a graduate course designed to function as an interactive online course using multimedia content, information literacy tools, tests, assignments, and small group projects. The course requires intensive study of the content available in numerous formats for many devices, including desktop computers, iPods, and smart phones. The content can be read online or offline. Interactions with classmates, instructor, mentors, and experts are a critical component of the course and occur through discussion forums, chats, and Web conferencing in the learning management system (LMS), as well as wikis, blogs, and virtual content outside the LMS.</p> <p>Through a pre-assessment the students completed when registering for the course, the LMS captured their profiles, past performance, and interests. With this information, the LMS organizes several approaches to present course content according to learner preferences. An interactive concept map presents multiple ways of exploring and integrating the content with prior knowledge and outlines the suggested path for each learner. Clicking on the nodes in the concept map brings up the content, supplemental materials, assessments, and group discussions. The concept map also lists the times and places that experts who produced the examples will be available for discussion. The learners explore the content, applying their own structure to it. Additionally, the social networking software inside the LMS connects the three learners based on their shared interests.</p> <p>During the orientation, the instructor provides an introduction to the synchronous and asynchronous communication technologies, LMS and social software. The instructor, mentors, and learners negotiate ground rules, expectations, roles and responsibilities when using asynchronous and synchronous communication and social software technologies. The ground rules and expectations support active participation in achieving the development of a future sustainable community. The students come to realize that careful attention to one's online presence, reputation, and contributions to discussions is crucial, as they influence trust, cognitive presence and social interaction for learning purposes.</p> <p>On her way home from a movie, Fiona posts an audio message and a journal article she scanned using her mobile phone. She tags the document with metadata enabling future searching and sharing for reuse and repurposing. The wiki notifies Tim's iPhone and Vita's e-mail account. Tim responds to the message, agreeing with her ideas but providing minimal additional information. The LMS and Fiona both note Tim's brief response and prompt him to think more critically and elaborate on his message.</p> <p>Essential components of the online environment are evaluation and reflection. For this reason, users provide feedback on the user-created content, the contributions to the discussions, wikis, blogs, and podcasting, and the system. Learners are encouraged to rate each posting using rating systems similar to e-Bay or Slashdot. The ratings are used to continuously improve the posted content and to identify gaps in the material. With the abundant amount of choice in the ways information and knowledge are created and shared, Fiona looks for the tagging, certification of fact-checkers and group rating systems before making a content selection.</p> <p>Course designers specify multiple routes through a collection of learning objects. Just-in-time information is organized into small units and presented to learners precisely when they need it. The LMS identifies Fiona's preferences for learning, as well as recognizes that she needs to develop other ways of learning in case she encounters online courses without such individualized features. The LMS monitors and logs the student's individual learning processes and creates a collaborative memory to offer aid when needed. The instructor and group mentor review the logs before communicating with the individuals and group, and responding to the group's requests for guidance.</p> <p>The enrolled learners are not the only participants in the course. In previous courses in the OLIT program, instructors have encouraged emergent leadership from the group—meaning that learners with great interest in the content and technologies take a leadership role in the course. Some of these learners were so stimulated by the content and interaction that they have organized a community in which members meander in and out of courses, as they see fit. Additionally, the social software outside the course LMS is hosted, and the content created, reviewed, and shared by community members. Previous course enrollees and program graduates bring their work experiences to the community. The lessons they have learned through interacting in the world, reflecting on the experiences, and making sense of them through collaboration with others in the community become powerful stories that create part of the community's resources and memory.</p> <p>This community of learners and experts may choose to participate in the online OLIT courses; however, they may also decide to focus on spreading the collective knowledge co-constructed in the community to local schools and organizations. This knowledge community expands and contracts throughout its existence, but the common feature is that a passionate group of contributors collaborate to solve problems within the community and share their learning and expertise with others outside of the community. The interaction within and between the course and the community creates a space for reflection where learners, leaders and instructors constantly consider necessary changes that need to be made so that the course continues to evolve, as does the learning. Belonging to such an innovative community that provides valuable learning opportunities gives identity to the members and further motivates their participation. This evolutionary process facilitates the innovation and sustainability of the learning community.</p>

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