

# Using Activity Theory to Guide E-Learning Initiatives

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## Abstract

Activity theory's visual and conceptual representation of activity-in-context provided an analysis and synthesis tool to help department faculty begin to develop an online instructional design and technology (IDT) master's program. Analyzing different activity systems for students, faculty, and administrators revealed that E-Learning goals overlapped, but differences existed in terms of rules-norms, community, and roles. Analysis results were then organized by existing faculty, student, and administrator concerns with potential boundary-crossing actions (Engeström, 2002). This paper first discusses the need for simultaneous E-Learning curriculum and administrative decision-making, then reports progress across four stages of developing the online program. Three implications of activity theory for E-Learning are discussed. Guidelines for using activity theory in program development are described.

## Background

Administrators push for E-Learning initiatives, which increase student enrollments but require an increasing amount of faculty and administrative time. Faculty are increasingly called on to revise or develop new programs but also to develop plans to market, recruit, and retain students, tasks that are new and foreign to them. Faculty groups work with little organizational experience to implement E-Learning initiatives. Traditional models of curriculum development take too long and academic organizations are not geared to address immediate needs and understand the complex contexts surrounding fast-changing market conditions that academia finds itself in.

Activity theory has been used to analyze educational settings ranging from computer-based training to better understand the workplace in which the training was used (Pang & Hung, 2001), as well to acknowledge teachers' beliefs about teaching and the power issues between teachers and administrators in public schools (Robertson, 2008). Activity theory has been used in higher education strategic E-Learning initiatives (Salomon, 2005) and to look specifically at asynchronous learning networks (Li & Bratt, 2004).

This paper documents the results of using activity theory to examine the issues of online programs. Viewing E-Learning through "activity" acknowledges the different constituencies that have a stake in such programs, as well as the context of curriculum and organizational needs. Nichols (2008) uses the three activity systems of organizational (management), technological (information specialists), and pedagogical (instructors) to characterize E-Learning. In this paper, the three activity systems are viewed as faculty, administrative (department chairs), and students are analyzed. Faculty members are familiar with the curriculum issues of program objectives, courses, and assessment. Administrators, meanwhile, deal with student recruitment, course staffing, and program coordination and evaluation. E-Learning initiatives suggest the need for both groups to address curriculum and organization simultaneously. From an activity perspective, two activity systems are in play with overlapping goals. A third activity system, that of the students, represents the key stakeholder.

## Conceptual Framework for Using Activity Theory

Activity theory is a socio-cultural perspective on understanding the interconnections of people, organizational rules and culture, and mediating tools, all directed to some outcome or goal (Bertelsen & Bodker, 2003; Cole & Engeström, 1993). Activity theory can be used to better understand the goals of E-Learning in an academic setting and in a way that includes all of the major constituents and the influence of social and cultural norms, values, language, and tools (Jonassen, Tessmer, & Hannum, 1999). Representing activity as a collective image of activity (Engeström, 1987, p. 78) includes goals, users, and tools, and the rules and norms, community practices, and division of labor.

Specific components of an activity system model for E-Learning initiatives include the curricular degree-granting program connected to program outcomes (the goal of the activity system); users including students, faculty members, and administrators; the division of labor (i.e., who does what); the rules and norms of that department; the cultural aspect of the department, or unique community of practice; and the specific E-Learning technical systems, known in the theory as mediating artifacts. Specifically, these tools include the online learning management system and the administrative system (see Figure 1).

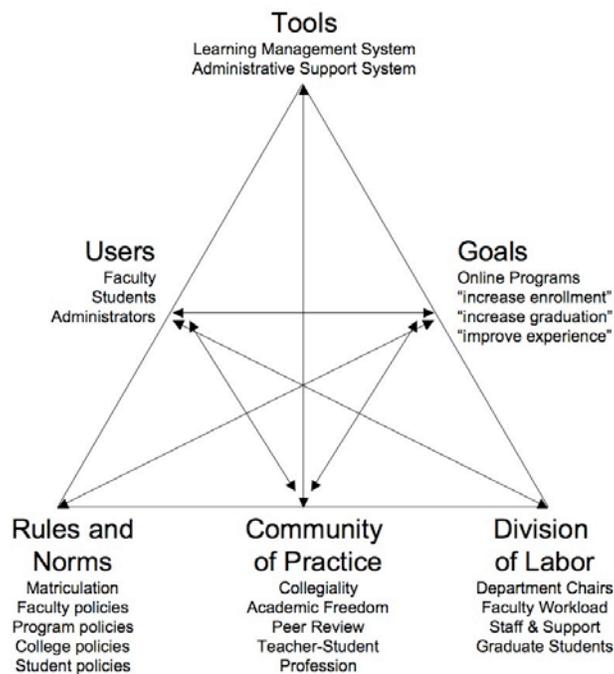


Figure 1. Activity System for E-Learning.

### Using Activity Systems for E-Learning Analysis and Synthesis

The activity system visual representation provided both analysis and synthesis opportunities. E-Learning development is summarized across four stages.

#### *Stage 1: Analysis Across Three Activity Systems: Faculty, Students, Administrators*

The activity theory conceptual structure was first used to analyze the different activity systems for faculty, students, and administrators (see Figure 2). Data collection occurred during a department meeting where issues were identified and afterwards mapped onto the activity system visual. The analysis identified an overlapping set of goals, which suggested that E-Learning was a mutual concern and that changes to address the needs of one group would impact one or more of the other two groups (see Figure 3). Differences existed in terms of rules-norms, community, and roles. A significant overlap of concerns existed with online courses and advising, meaning that any implemented changes will impact all three groups. One area of less concern for faculty and students, but significant for administrators was in the evaluating and improving the quality of the overall academic programs, including E-Learning components. This analysis revealed to faculty the need to include program evaluation in the design of all features of a program.

Despite overlapping goals, the immediate concerns of faculty, students, and administrators can be regarded as "divided terrain" where these individuals do not always talk or work with each other. The activity system suggested the possibility of analyzing a multitude of relations within the triangular structure of activity, including shared goals and differences in roles, and ways of working together.

The overall advantage to activity theory as an analysis tool is that the model raises awareness of the players to contextual and historical factors that comprise human activity. The different players can then discuss the potential impacts of this context on reaching the goals. Activity theory is not just a front-end analysis tool, as needs assessment is in instructional design, but a "heuristic aid" (Gay & Hembrooke, 2004) for the players to continually evaluate implementation and make revisions, but also to keep the needs and concerns of the interconnecting players in front of everyone.

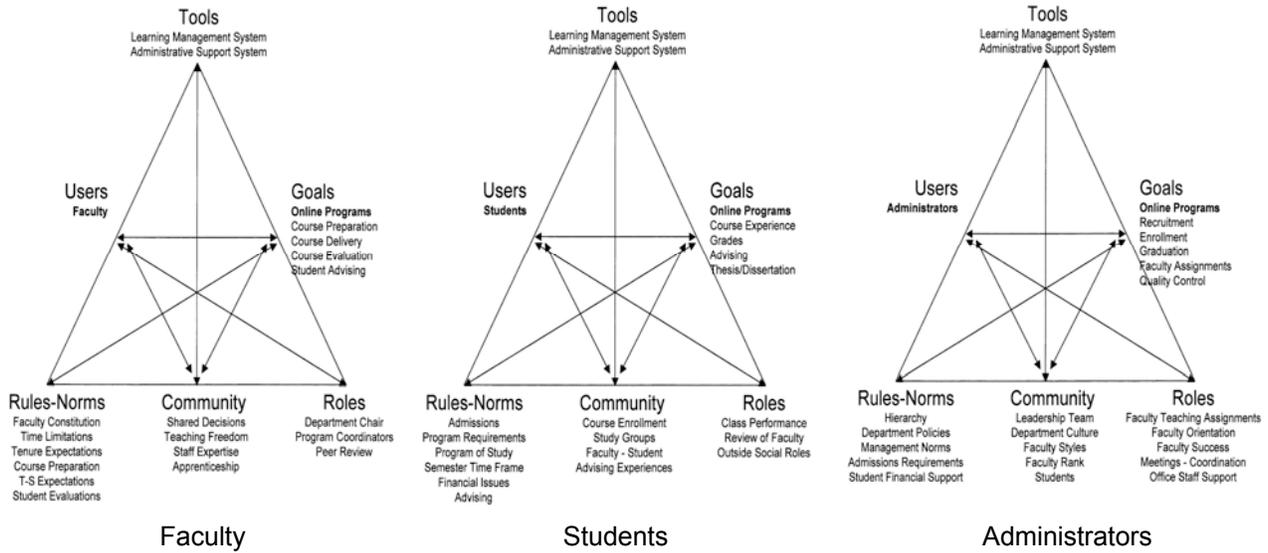


Figure 2. Three E-Learning Activity Systems.

Faculty Goals	Student Goals	Administrator Goals
<b>Online course</b> preparation, delivery, and evaluation	<b>Online course</b> expectations, grades, and performance	Faculty <b>teaching</b> assignments
Student <b>advising</b>	Program <b>advising</b> online/F2F Thesis/dissertation mentoring	Student <b>matriculation</b> : recruitment, enrollment, graduation
		E-Learning program quality control

Figure 3. Goal Overlap.

*Stage 2: Synthesis of Decisions for E-Learning*

The use of activity theory’s conceptual organization has helped our department to organize around a set of discussion points, ones that address the concerns and realities of all three groups. The next stage, currently ongoing through the academic year in the form of an online program working group, is to document issues for action and to make recommendations for different academic programs. Synthesis, in terms of decision-making, is now being facilitated by discussing how the use of E-Learning tools influences or mediates the goals of the three groups and what changes in rules-norms, communities of practice, and roles might be needed.

At this second stage, online courses and E-Learning programs require what Engeström (2002) calls “boundary-crossing” actions, which are two-way collaborative interactions requiring both renegotiation and reorganization decisions (see Figure 4). Both the overlapping and differing analysis results revealed opportunities, which have forced joint responsibility for E-Learning courses and programs on all three groups, that program development in E-Learning, given its uniqueness and newness, requires an ongoing, iterative, and collaborative set of practices (e.g., re-defining student contact hour) quite different from traditional academic courses and programs.

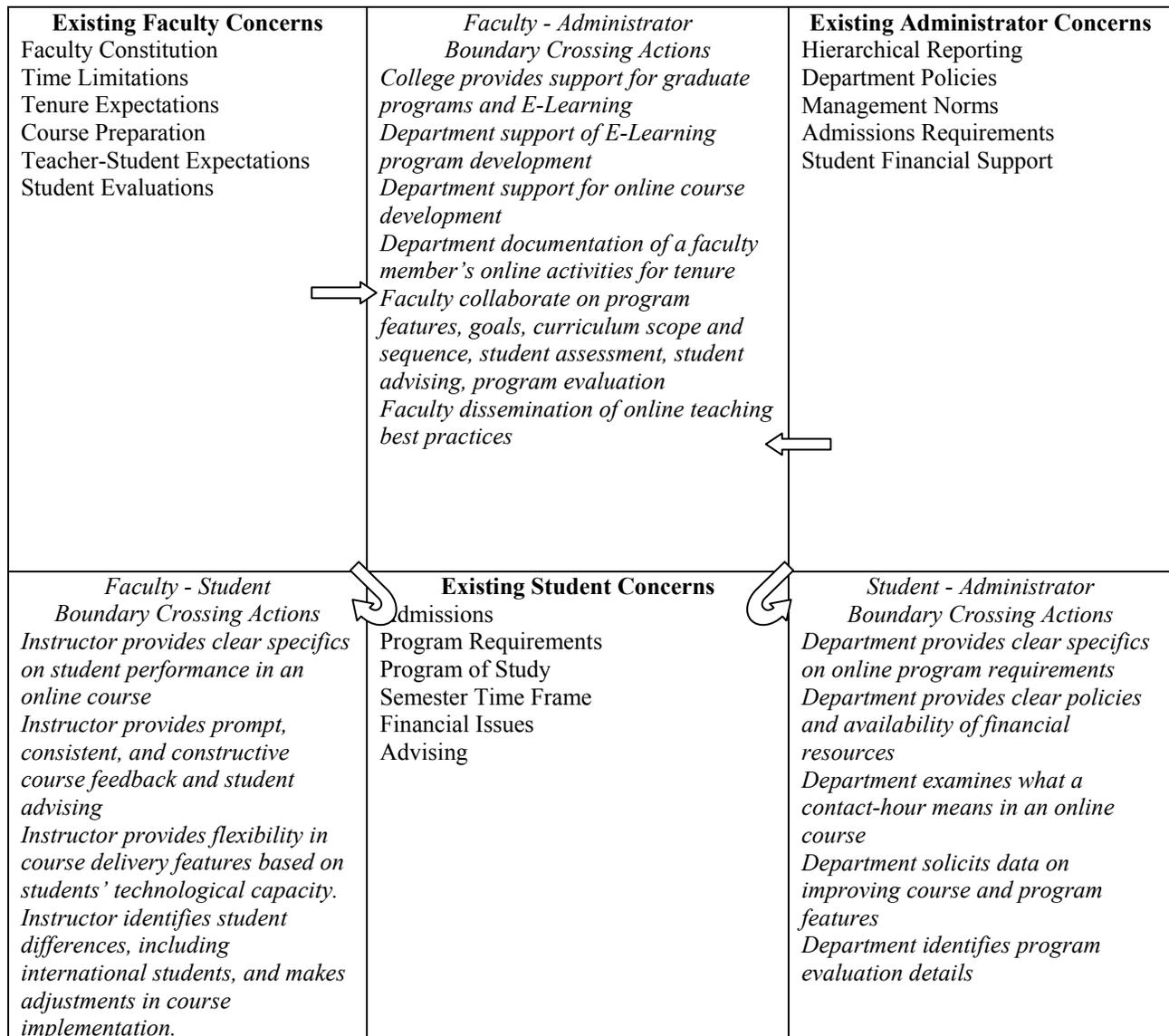


Figure 4. Boundary-Crossing Opportunities.

Examining potential boundary-crossing issues helped to develop two immediate action steps; namely program focus and marketing, and financial support for further development. In terms of Program Focus and Marketing, faculty identified the need to determine student focus and distinctive program features, and develop recruitment-to-graduation support system (“paying attention to online student needs”). In terms of Financial Support, an internal grant proposal was submitted to support individual faculty development of online courses for IDT Online Master’s Program. Priorities included the development of a common “look and feel” across the CMS product, online portfolio, program and course learning outcomes, and appropriate technology tools to support these outcomes.

*Stage 3: Action – Grant*

By the end of Spring 2009 a proposal for 12 IDT courses was submitted to the institution’s Extended Learning Online Program Grants. May 2009 the department was awarded \$25,000 for development of 6 courses to

roll out as online courses beginning summer 2010. \$4000 was awarded to individual course faculty members after department chair sign-off of course development completed.

#### *Stage 4: Current Status and Action Steps*

During the Fall 2009 semester faculty members met with Extended Learning to develop a Memorandum of Understanding that specified activities for Extended Learning staff (e.g., standardized CMS page layout; podcast creation) and individual faculty member (outcomes, assessment, engagement activities). Subsequent Fall 2009 activities included the development of marketing focus, student-centered features. A Faculty Development Guide was developed to orient faculty to working with Extended Learning and goals, features, and needs of the IDT master's program.

A Spring 2010 Faculty Working Group will be convened using the activity analysis discussion list and the boundary crossing opportunities table to discuss program features and development challenges and decisions to be made. Development with Extended Learning for the first courses will occur using an in-house course preparation checklist and the Quality Matters rubric (University of Maryland).

#### Implications for Using Activity Theory

Three implications of activity theory for E-Learning can be characterizing as (a) making explicit, (b) providing opportunities, and (c) sustaining growth. Activity theory makes explicit program goals and brings to the surface issues and concerns for the different constituents. Using activity theory as both analysis and synthesis tool identifies opportunities for conflict to be addressed, for what Engeström (2002) calls "expansive learning." Whether the scope of program development is viewed as global or local, top-down or bottom-up, activity theory can be useful to keep discussion, designing and trying out, and revision, a process that is proactive, scalable, and self-perpetuating, or sustainable embedding as characterized by Nichols (2007).

#### Guidelines for Using Activity Theory

Based on what has been accomplished so far the first guideline is to brief as many participants as possible on the purpose on the purpose of the activity systems. In an academic setting this activity demonstrates an attempt to use theory in an actual setting.

A second guideline would be to specify the procedures, although these may have to be adapted to the specific context of the program development. Jonassen, Tessmer, and Hannum (1999) suggest six steps:

1. Clarify the purpose for the activity system
2. Provide a big picture of the overall initiative
3. Specify the activities to be analyzed
4. Examine the role of the tools
5. Address the internal and external context
6. Monitor what is happening and document progress and the process

A third guideline is to collaborate continually and frequently, but take into account the time of faculty, students, and administrators. A fourth guideline stems from the third; namely, to share the results of the activity system approach and results in the decision-making process. A fifth guideline would be to document your activity and to report its results to participants.

A worksheet that provides the activity system visual as an analysis organizer can be found at: [http://web.me.com/nshambaugh/MediaCenter/Uploaded\\_Files.html](http://web.me.com/nshambaugh/MediaCenter/Uploaded_Files.html)

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