

The Philosophy and Logic Behind the Adoption of Technologically Enhanced Campus Communications and Web-Based Systems

- *"Today, fueled by more than four decades of aspirations and more than a dozen years of sustained (if often ad hoc) experimentation, information technology has finally emerged as an essential component of college experience."¹*

The academic landscape has been altered dramatically in the past two decades by the infusion, almost transfusion, of technology (specifically computers and computer networking) throughout every aspect of the university campus.

The shift has been so persistent and so comprehensive that describing this evolution is seen as belaboring the obvious.

The Analogy

Business has adopted this revolution, and has even driven it, as the *productivity tools* serve as an enticement toward increased bottom line. These spreadsheet applications, allow one CPA to track, review and make adjustments on the records of clients that were previously served by dozens. Couple these with administrative tools, allowing managers to review and supervise specific successes and challenges of many employees in great detail, while also noting pay schedules, sick leave and myriad data collected and filtered according to the requirements of each company or division. Through these tools record keeping could become a vital and stimulating factor in business, rather than just a way of filling filing cabinets.

Of course communications too has also been forever altered during this information age. The need for immediate text transfer was readily apparent before the advent of email, with the facsimile machine, and Teletype. These precursors to email and its ubiquity were clear indicators that our culture was

¹ *"When the Wishes Come True: Colleges and the Convergence of Access, Lifelong Learning, And Technology." Change 31.4 (1999): 11-15. (Change: The Magazine of Higher Learning is put out by the American Association for Higher Education)*

tired of waiting: waiting a week, waiting two days, waiting five minutes. For business this immediate communication tool was as necessary as the telephone, in some ways more necessary. Interoffice memoranda flies at the speed of sound, but so too does information to stockholders. Any business that found itself unable to keep up in this facet of the technology rapids, found itself either retooling or retiring. Businesses that do not have a public presence soon do not have a presence at all. Computing has not replaced advertising, but a strong web presence is now and will continue to be requisite as proof of existence.

The Correlation

I pursue this extended illustration to highlight the rather apparent similarities between the two domains. Although Higher Ed. should not be seen as a business first, it does indeed function on market principles of supply and demand. The correlates that I describe are not so much about profit, popularity or even relevance—they are about efficiency, productivity and meeting customer expectation. Insofar as businesses have adopted certain technologies as necessities, educational institutions are mandated to look at these same tools and see if productivity, research efforts, communication, administration, record keeping/sharing, advertising, and even community service can be enhanced in a cost-effective fashion.

Five areas where educational institutions will be benefited by an up-to-date technological infrastructure are:

- Institution presence
- Course enhancements and replacements
- Social interaction and awareness
- Research base increases
- Administrative interface

Institution Presence

The existence of the campus façade and its institution's buildings and edifice becomes a metaphor of the campus itself. This has long been so, with clock or bell towers and ivy covered buildings serving as icons of the important work that takes place within these centers. There is now an additional icon or metaphor used by the public to identify the institution: this is the website. More and more all research begins not at the card catalogue nor at the school counselor's office, but at the keyboard where potential students first visit the doors of the campus.

In addition to the initial visit with mission statements and entrance requirements, their should be depth, so that visitors can go into each department and even into each course and faculty member to see what richness is available at the institution. What are its strengths and areas of emphasis, and who supports these goals? These answers, and the ability to contact those who have more information still, should all be available on line. Presently, in this "age of information", these affordances are not *bells and whistles* but are expectations.

- *"Many universities are simply unprepared for the new plug-and-play generation, already experienced in using computers and net-savvy, who will expect - indeed, demand - sophisticated computing environments at college. More broadly, information technology is rapidly becoming a strategic asset for universities, critical to their academic mission and their administrative services, that must be provided on a robust basis to the entire faculty, staff, and student body."*²

Course enhancements

Universities are a very specific type of vendor. Since information is our stock and trade, disseminating this in an efficient, and cost-effective fashion, that complements varying user styles is critical. The need for web-based enhancements is self evident. Some courses, which tend to be tactile by nature, (i.e. pottery, wrestling...) may be less obvious candidates for web-enhancements, but even these tough-fit courses have need for faculty/student

² James J. Duderstadt, *President Emeritus and University Professor of Science and Engineering at the University of Michigan.*

Source 1: *A University for the 21st Century* (Ann Arbor: University of Michigan Press, 2000)

interface with grades, attendance and often have a presentation component that might draw from computer visual aids. Many courses have an abundance of “handouts” or short readings, or other resources that are a natural fit as computer-accessed materials, which should be available through an instructor’s site.

There are also papers that are printed, marked on and handed back that then find their way into some file in a student’s desk. Meanwhile, the computer interface allows these to be turned in, commented on electronically and then amassed in a larger portfolio that can be retained by the student and shared for ongoing assessment. A clean web interface that makes this possible and uniform, seems another simple and appropriate use of technology. This takes the important work of research/writing, and then assessing, and finally storing and puts it in a simple template-based construct that expedites each step of this age-old process.

Presentation tools are also an enhancement that can be used to affect with a campus-wide application in place. Although one can argue the merits of filmstrip projectors, overheads, and PowerPoint presentations, it is not debatable that there are different types of learners. Those faculty members that use any projected media for their lecture may well want to be able to access these consistently in any meeting space where there is a net connection. They should also be able to share these visual aids or complete notes with students at any time, and to any locale. Again, this is only new as compared to all of human history—we are sharing notes with a culture that has every reason to believe that they can pay their bills, and look at their records and download their entertainment at any time from any place. And we are all part of this time-bending culture.

Inter-class communications may also be enhanced with a site available for asynchronous communication—in the traditional *bulletin-board* method, or synchronous textual communication in planned chat activities. These rather imply

a step further away from a *standard class* where that communication is reserved for the classroom itself.

Course replacements

This is not the usual nomenclature for “distance education.” But the term *distance education* rather assumes a correspondence-course tone. Universities around the country have been developing the current iteration of this concept over the past decade. Without revisiting the history of non-traditional or remote education, let it suffice to say that the ease of uploading data, and the simplicity of the current web interface for accessing it, has led many to use this as the preferred source of refereed education. Of these, many are not “distant” in the classic sense. For some the draw is the asynchronous delivery; for others it is the convenience of not leaving the home... Current trends indicate that there are many reasons and many modalities of use. The distance of the user from the point of origin is largely transparent.

- *“The former president of a major research university predicts that within ten years, students will spend only about half their time on his campus; the rest will be spent in field experiences combined with distance education courses.”³*

I use the term “replacement” to indicate the far side of a continuum. There might be an initial visit, or ongoing conference calls during a course, or a scheduled chat environment. There are as many variations on theme as there are users. The traditional classroom is transmuting into a place that falls somewhere along this path. The current campus must be aware of this constantly shifting transition, and recognize that the cliché of “clicks vs. bricks” represents not a choice but a continuum. Students will be assessed by “seat time” less and less, and will instead be asked to create portfolios of work and activity that reflects growth and project generation. The availability of a robust and consistent template or tool to accommodate this transition, coupled with a rich and informed action plan will make evolving into the new university model a reality.

³ <http://www.acpa.nche.edu/seniorscholars/trends/trends5.htm>

Lee Upcraft, Professor-Center for the Study of Higher Education, Pennsylvania State University.

*"Thus, a 21st century analog to the 19th century land-grant university might be termed a "learn-grant" university, designed to develop human resources as its top priority along with the infrastructure necessary to sustain a knowledge-driven society. The field stations and cooperative extension programs--perhaps existing in cyberspace as much as at physical locations--could be directed to the needs and the development of the people in the region."*⁴

Social Interaction and awareness

Clearly, a great deal of what a student acquires through their education is social. For the non-traditional student this may be less so. For the student who is not even on campus, this interaction may be replaced in other environments. But with that said, the knowledge of activities and the ability to interact--both actually and virtually—can be enhanced through vigorous communication efforts on campus. These can also be assisted through a web-based calendaring, and advertising. A campus is a microcosm, but no matter how valuable the community there are always those individuals or groups who feel disenfranchised. The aggressive information distribution to contact and reach out has in the past been limited to word-of-mouth and physical campus bulletin boards. Yet, there can be large parts of the campus community who remain unreached.

In a day and time where suicide on campus is still whispered about, but known to be far more common than one would like to admit, it is imperative that administration and faculty alike recognize that the obligation that we have to students exceeds the in-class interaction. Only a part of this interaction will be addressed by web-based portals, list serves and orchestrated student-body contact, but again the tools that can be provided and not duplicated may create a technical environment to help streamline, co-ordinate these efforts and allow fewer students to “fall through the cracks.”

Research base increases

This plank to a system-wide technology enhancement plan is largely in place already, yet since it is key to the appropriate use of computer-assisted instruction

⁴ *"New Roles for the 21st-Century University." Issues in Science and Technology 16.2(1999) 37*

on campus it is worth addressing this factor in this overview. Each department on campus requires research tools. One used to gauge the quality of an institution by the size of its library, and rightly so. In a recent interview with the research team at the Library of Congress in DC I asked how much of their research was on line. The response was 85-90%. If the majority of data is available in your computer screen, then why go across the street to the largest library in the world? Why Indeed. Dillon does not have a large collection as it is a moderately funded campus, which has had its library's budget unchanged for almost a decade. The answer is clearly on line.

Presently Lucy Carson has eight major collections available on line. The interface is acceptable, but if it can be joined to a campus standard, which also possesses an elegant, user-friendly look, the combination would be ideal. The interface to pay parking tickets, sign up for classes, check e-mail, see about homework assignments would all begin at the same efficient locale.

Administrative interface

As referenced above the various systems and services on any campus can be vast. The method and simplicity for accessing these services is integral to assessing their worthiness. If a campus offers a service (i.e. help with computing, counseling...) or shares records (i.e. transcripts, certificates...) and these cannot be readily accessed then the value of the service or provision is also diminished. There is no reason why a student should have to go to numerous locations, through redundant systems for their administrative contact, when one clean interface will provide this more efficiently and less duplicity.

There is also the need for Faculty to enter data into permanent records in a secure environment that also streamlines workload and primitive data-entry tasks. How a system is populated with data is in many cases an indicator of its overall worth. If records can be accessed through multiple application without reentry this is an exponential increase in productivity for the administrative staff.

This goes all the way back to the first reference of "institution presence." The primary task of administration is to serve as the providers of a safe and efficient

institution that is both academically significant and cost effective. Serving the community well in the year 2002 necessarily includes the combining of these multiple systems and trying them together in a competent and user-friendly fashion. Students and the community expect it, and they should.