# Getting Horizontal Toward Becoming a Digitally-Enabled University

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**Abstract:** This writing addresses the current state of a private university that is growing its use of technology. The 'horizontal' organization is a theoretical ideal, in that common information and processes no longer exist in function area silos. This ideal state might also be called the digitally-enabled university. Our university shares the enrollment drops being suffered by many business schools, at the same time as it is using technology more. These contrary forces are modulated by a third, that our students are savvy technologists, and have greater expectations of their college experience. This writing addresses two questions: How do we now move to the next higher level use of technology? What does that higher level look like, and how might it work? Information technology does not of itself solve any problem. Improved use of technology should be in service to better communication and improved processes that serve students. A conclusion is that the need for human contact – discussion, discourse, problem-solving, mediation, and counseling – is not lessened by greater uses of technology. Technology has to complement and support how people interact with their world.

## Introduction and Overview

The objective of this writing is to address the current state of a private university that is undertaking significant changes in its use of technology, across its academic and administrative processes. In information technology parlance, this is generally referred to as a flattening process, wherein information can be taken out of function area 'silos' and made available across the organization. The ideal end result is a 'horizontal' organization, in that common information and processes are increasingly shared among users at all levels. This ideal state might be called the digitally-enabled university, where processes are openly shared and mediated by technology.

Our university is in significant flux, sharing the enrollment drops being suffered by many business schools, at the same time as we are increasingly integrating technology. These contrary enrollment and technology forces are modulated by a third, perhaps the most telling one, which is that our students are technologically savvy, and have high expectations of their educational experience.

During the past few years, the university has made technology improvements into administrative functions: a major vendor institutional database, some components of an Enterprise Resource Planning system from the same vendor and upgrades to student databases used for records and faculty advising, making them more user-friendly. Technology is increasingly used to monitor enquiries and to provide some automated responses to student questions.

On the academic side, we have a successful Cybercampus (http://www.ggu.edu/cybercampus). Each instructor can Web-enhance courses, and we offer courses in multiple teaching modes, across regional teaching sites. We have multiple training/mentoring opportunities, Web tools (intranet, online grading, rosters, HR functionality) and a generally good communicative environment.

We are also in the early stages of the regular accreditation process by the Western Association of Schools and Colleges (WASC; http://www.wascsenior.org/wasc/). Our institution is at a crossroad of sorts, in that we are now tech-savvy enough to understand what is, and what is not being helped or accomplished by our use of technology. This is an issue aside from enrollment, accreditation, and day to day functional matters.

The questions are:

- How do we now move to the next higher level use of technology?

- What does that higher level look like, and how might it work?

My tentative conclusion is that, no matter how much technology is interjected into the spectrum of educational processes, the need for human contact – discussion, discourse, problem-solving, mediation, and counseling – is not lessened. Putting IT increasingly closer to the middle of any equation does not of itself solve any problem. Improved use of technology is a desired outcome, but in service to better communication and improved processes that ultimately serve students.

We now understand the distinction between technology-driven innovation and market driven innovation (Levy, 1998). Like many people and institutions, we initially purchased and used technology without understanding its "meaning" or best uses, and we are suddenly face to face with technology as both content for teaching learning, and context for doing business, in a competitive educational marketplace.

The remainder of this paper will discuss the university's use of information technology to supplement procedures and interactions in several areas, and conclude with some suggestions for moving forward, that will hopefully be useful to fellow participants in the TCC conference.

**Administrative Functions and Technology**

At our school, there is an increasing amount of communication and improved procedures between faculty, administration and students. The improved student and faculty information in systems makes students' records transparent to a larger number of users, so that faculty and admin staff can have less frustrating dialogues about student situations. In our system, for example, there is an expectation that people who interact with students provide information on a particular screen, which is then available to other viewers. This capability and process expectation alone are no doubt saving hours of phone calls and aggravation.

Students can chose advising times online, for either in person, online or no appointments. This means that much advising is now done via email and phone calls; both students and faculty have access to student evaluations, and students can generate 'what if' evaluations for possible degree changes.

There is now automated response to initial student enquiries, followed by paper/mail contact. Other student matters, such as financial aid and transcript management data, are also readily available.

It should be noted that some schools are now offering total transcript management as a service to students. That is, the university of application can offer to electronically retrieve records of students' previous college work. This brokering process is in its infancy, but will no doubt become the norm, and of course, an additional cost to be managed between universities and students.

Overall, our systems and communication between them are greatly improved over 3 years ago. But at what cost? There are now fewer people doing each job, meaning that people ("resources") are stretched thin. There is a great degree of turnover, meaning that there are fewer 'go to' people, and more people perennially in training; these trainees must turn to (you guessed it) the existing 'go to' people for answers. We are a "right-sized" organization, and as a result have too few people to do what is required.

**Faculty and Technology**

Full time faculty members in our school are taking on an increasing range of functions that were once performed by administrative and marketing staff. We are called on to be a primary point of contact for students, in many fora. We contact students who have taken only one course. We are also called on to proactively call students who have taken a range of courses, but have not appeared for a semester.

FT faculty maintain advising schedules, and manage advising appointments; these are now technology-mediated, and are generally working well. As noted above, however, when spiny questions are asked that are not part of an advisor's expertise, we still need to get access to information for students from other overburdened colleagues in other

departments. We advertise convenience and transparency in process, but we still struggle to deliver.

**Teaching**

Technology has impacted the horizontal-ness of teaching in many ways. Teachers tend to be siloed by nature, closing their doors in real time classes, and doing what they do without a lot of oversight. Many aspects of teaching which were not previously attended to are now subject to scrutiny, however, because of the increasing expectations of students, accrediting agencies, the drive to improve processes and, of course, competition.

Course evaluations with quantitative and written comments remain the primary tool for student input about teachers and courses, but now we pay a lot of attention to qualitative comments in addition to the numbers. It is a known and curious phenomenon that in many classes where there are a number of student complaints, a teacher's evaluation numbers can remain high. More and more, we react to student comments in training and rehire decisions, so that overall numbers are only one criterion.

This evaluation process is a traditional one, but something new is the electronic dissemination of outcomes to administrators and faculty. Now, soon after a semester ends, we can see and share summary information from courses taught by mode, region, teacher and program. This data-driven approach is helpful in both local and global planning and oversight as well as teacher oversight.

We're finding that we need to put our energies into managing teaching in some specific areas. One is teaching practices in various modes. In addition to face to face courses, we offer online courses and fully accredited (WASC) degrees via our Cybercampus, which is now a major force in the institution. We offer mixed mode courses, meaning half of the class sessions are online, half face to face. Our ITM (Information Technology Management) courses are now taught in a conferencing environment, that is, real time, multi-site, face to face.

Each of these modalities represents separate teaching challenges. Not long ago, we might have thought that teaching a course in a different mode was a matter of managing and repackaging content; it is not. Each teaching/learning mode is an expanded universe of student/teacher expectations and behaviors that must be attended to. Put another way, the horizontalness, or student flexibility, offered by the course modes (and student inputs from each) hasn't yet been well enough addressed by our current mentoring/training efforts.

**Students**

I earlier mentioned the changing expectations of students. Most if not all of our younger students, both international and local, come from backgrounds where expectations are high, and where a service orientation toward their needs is a given. Our target students, the working adults (who are frequently younger themselves), have these same

expectations, amplified by their attention to cost-value ratios. As fees go up, so do expectations of performance on the university's part.

Gros (2002) correctly noted that students' expectations as well as learning styles are shaped by the influences of technology on culture. This is true; our students expect what is called seamlessness, in IT parlance; that is, processes move from one to another without noticeable transitions. They are coming to expect it in their entire experience here, from submitting transcripts, to admission and advising, scheduling and taking classes. Their expectation is that they should not have to stand in lines, should have people answer phones on the first ring, should have access to online information (online advising, text purchases, scheduling, registration for classes), and, of course, a classroom experience that addresses their perceptions. Polhamas, Farel and Stevens (2001) suggest another challenge, that students who work benefit from "support that is provided for the learners in their work environment." (p 264). This is an arena we have not addressed specifically, but given the amount of support built into classes available online, and teachers' willingness to communicate with students, we intend to provide an umbrella of information and support.

These are high expectations, yet such seamlessness in experience is what IT seems to promise, and businesses as well as schools have insinuated this notion into marketing: Come to us for your education and we'll make it easy for you. The problem is that promising and delivering are not the same.

One outcome of these expectations, and increasingly flexible transfer policies, is the growth of the one-semester student, the student who takes one course one semester and is never heard from again. At the other end of the spectrum, in some cases our students have begun, rather then ended, their complaints about a university experience, with the President. Take it up with the teacher or a staff person? No way? Way. I'll start at the top!

Overall, it's safe to say that students have low tolerance for many of the traditional institutional processes that many of us still take for granted. The ubiquitous cell phone is a minor miracle to me, not to my students. I accept standing in line, voice mail and waiting 2 days for a response as somewhat, not completely, normal; I grew up dealing with the California Department of Motor Vehicles.

I understand that teachers can have bad days and emergencies, but students more and more don't, unless those bad days and emergencies are their own. If they don't get value and value added for their classes according to their increasingly high standards, they grumble, and take those grumbles to their friends. We increasingly see in our students characteristics of what Schwartz (1996) calls The Global Teenager, a composite of teen age characteristics and behaviors, united by technology, global culture, and the high energy and high expectations of the young.

**Solutions**

The root problem in business case studies is nearly always grounded in poor communication. I believe this to be true in our situation. Our use of technology has created an umbrella of available yet hidden information and potential communication that isn't yet matched by our practices. We have technology that offers horizontal-ness of information, but many or our practices are still vertical.

It's of great interest to me that our use of technology has exposed many practices that can be improved, and that much of this exposure has been created by questions from students, who are both our clients and our gadflies. Students' unending and repetitive questions to me about what are essentially university interior processes have given me some insight into solutions. Following are brief descriptions of a major problem area and some solutions.

"They told me to come see you . . ."  I hear this endlessly. Many times I can address a student's need, but many times someone has sent the student to me so they don't have to deal with a problem. This is inefficient, insulting . . . and students are tired of it. This represents an underlying problem area, analogous to an iceberg, rather than a particular problem. That problem is that there still remain boundaries around processes, so that students have to visit various people, for solutions and signatures.

Technology can perhaps mediate this problem. First, people involved should undertake a business process study of the common situations encountered and questions asked by students, and the trails they create as run the elevator endlessly between floors, seeking answers and signatures. Nonaka and Takeuchi (1995. p. 133) discuss the knowledge creating company, and cite Jack Welch's notions that innovation can come from the removal of boundaries, or silos, around information, creating what Welch called "boundarylessness," which was characterized by removal of vertical, horizontal, and institutional walls. Attempts to implement boundarylessness might occur in activies such as the following:

1. Meet with students, staff and teachers to quantify their needs. Discuss current processes and problem points. Be sure that meetings are action oriented, that is, they are not gripe sessions, or, worse, meetings that simply end without creating active outcomes.

2. Institute processes that address these needs. This may not be easy. In stressful times, people become more protective of their colleagues and their processes, so this part of the effort should be handled carefully and respectfully. We increasingly understand that students are our clients, and we are all clients of each other, but still, it is easy to ruffle our colleagues' feathers, and vice versa.

3. Create a useful, updated Web-based FAQ and/or WIKI in which an ongoing dialogue about these process questions can be addressed. The WIKI or perhaps Internet Messaging approach is good here, because of the real time aspect. FAQ's are less effective unless they are seen as living documents.

4. Individuals should model and foster communicative behavior.

5. Be a problem solver, or a case closer. Each person who deals with a student should aim to provide an acceptable outcome to the encounter. Unless absolutely necessary, no student should leave my office with an unsolved problem. In practice, this does not happen often enough.

**Faculty**

The situation with adjunct faculty represents other opportunities. Full time faculty members are closer to problems, given the small pool of full-time faculty, as a result, faculty are also mentors and trainers. While some adjuncts are actively interested in teaching, many operate in the traditional freeway-flyer mode, coming to class (or logging on to teach classes), without any particular desire to modify their teaching to address different modes or student needs, or to be involved with the institution other than at a distance.

At our school, evaluations show that the most important factor in the success of an online course is the teacher's involvement with the students. That means successful teachers are those who are available, accessible and who provide timely feedback. This factor regularly listed above course content or teacher's content expertise. Students are aware of which teachers provide such grounding, and which do not.

Good online teachers are a two edged sword in the world of high student expectations: in days gone by, students might tolerate good and bad teachers in a program; today, the good teacher is the model for what the student expects, meaning that there is less willingness on the part of students to accept poor teaching. Students are clear that good teaching should be the norm.

Addressing the teaching quality issue is not easy. How do we continue to support good teachers, while we provide needed interventions with others? Solutions are grounded in various forms of communication with teachers, common expectations accompanied by real accountability, and institutional commitment to improve teaching. The real and potential roles of technology are clear in the following activities:

* Clarify institutional and departmental expectations across the faculty; act on performance expectations

* Do not rehire teachers who do not perform; make this information known

* Identify and quantify best practices/teacher in all teaching modes; make these available, and support their integration

* Make clear the role of front loading and management in online courses (Fulkerth, 1997)

* Use technology (streaming video, conference calls, Web materials, institutional intranet, real-time audio/video conferencing) to both provide training/awareness raising, and to clarify expectations of how tools can be used in the classroom.

As you read the above list, you can easily see how many of these functions are commonplace, how many are technology-centric, how many are not. Yet we have found that it is difficult to generate change among our faculty, even with the technology tools/toys at our disposal. Let me close this section with two suggestions that I think are of primary importance in the faculty / quality equation:

A. the institution at the highest level must support quality teaching, and make this support known at the teacher level. Teaching quality is an institutional concern. The quality of the student teacher interaction is the product, and should be understood as such.

B. faculty charged with teaching quality improvement should be those with intuitive knowledge of technology use, must be good teachers, and they must have sufficient time, and clout, to do their job.

**General Suggestions**

At the beginning of the paper two questions were posed:

What does a higher level of technology use look like, and how might it work?
How do we move to the next higher level use of technology?

Given the nature of our technology infrastructure and use, I believe that the "next higher level use of technology" is not necessarily technology-centric, but is more centered on our ability to leverage what we've learned about the tools that we have, and how to use them more effectively.

What does that higher level look like, and how might it work? Here are suggestions and prognostications:

* Significant communication, interaction and outcomes-driven activities should be taken across an organization's functional 'silos', moving toward the "boundarylessness" noted by Welch.

* Specific to teaching, a systems approach to course creation and delivery of material will be taken, with significant oversight and mentoring during the input, process, output, and feedback portions of the course. The iterative, systems-driven approach can create a better communicative culture.

* Mentor/training faculty will interact with teaching faculty in the creation of course material, appropriate for each teaching mode and course length. While the creation of courses and material will rightfully remain in the hands of individual teachers, there will

be checkpoints (training, performance matrices, interactive communication and feedback) during the creation of course material, and during the teaching experience. These data will be fed forward into subsequent iterations of courses and teaching.

* Course and programmatic outcomes should drive creation, presentation and evaluation/assessment of courses and programs. This approach of course serves accreditation needs, but these outcomes also serve as mission statements, that is, fairly straightforward, uncomplicated purpose statements that drive our activities, even at the course level.

* Specific to technology, current and needed resources will be exposed  and made known to all levels of the institution. The plethora of existing in-house tools, the learning objects approach, the use of the Internet/Web, demos, and other tools, have in fact created a rich storehouse of tools (many at no cost)  that may not be best used unless their presence and utility is revisited and packaged.

One simple example of using extant Web resources is the use of webcasts in coursework. At GGU, we have created a knowledge base of  webcast providers, and are now in a position going forward to make these resources known to teachers and students, with consistency. Webcasts are a wonderful example of information that supplements content; as well, since many are vendor-driven, it is an opportunity for students to apply critical thinking and management-level decision making skills to received information.

Another example is the use of podcasts. This technology is straightforward, although the iPod-ization of audio has given a new appeal to a traditional technology. Students and instructors are easily able to create and upload audio (lectures, reports, panel discussions, commentary) and make them available through the school network to classmates. The institution can leverage the technology by providing some storage and a user interface delivery mechanism, at fairly low cost.

Thus, courses will utilize the multiple resources of both the institution and the Internet/Web. These tools and approaches will provide not only the potential for teaching improvement, but should (fingers crossed) allow for a higher level of comfort during budget discussions.

In the world of business, the notion of organizational knowledge and the Learning Organization (Senge, 2000.  see also http://www.pfdf.org/leaderbooks/l2l/fall96/senge.html) have long been popular, even taken for granted. Organizations that share can learn and benefit from their experience have good communication. Heads talk to hearts, hands and feet, and each acts on feedback from the other. This sort of open communication among all constituencies should be a goal.

## Conclusion

How do we move to that next level, or set of behaviors and beliefs? The activities described in the paper that serve to transcend traditional information and process boundaries in the organization are a key tool in opening individuals and groups of people to the idea that an organization that can learn is one in which all aspects of the organizational body communicate well.

Each of us is a potential change agent in our institutions. Each of us interacts with numbers of people at multiple levels of our organizations as well as with our immediate colleagues.

As a teacher with a reasonable level of technology savvy as well as programmatic and teacher oversight, I have more power to make change, in my little corner of our world as well as in the organization as a whole. Technology has proven a great tool; our institution has participated in the rush to get technology, and we have gotten it, and now we are in the process of trying to use it well, and to better understand ourselves, students, and the organization as a whole.

The answers to the questions addressed in the paper above involve technology, but aren't necessarily grounded in it. The aim to create a seamless set of experiences and processes lie in our evolving understanding of how technology can support what are basically human communicative processes. We also have to understand the nature of our students, and the reactionary nature of educational institutions. As educators we're in a unique position to learn from each other, and to create the horizontally-enabled, boundaryless organization that technology enables.

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