

In making such a commitment, the faculty and administrators of residential campuses should solicit a mutual commitment from the students to help their alma mater learn about the evolving demands of the workplace and adult life, as a means for updating/upgrading their curricula. The forging of these mutual learning agreements based upon the reciprocal needs of the institutions and their graduates should give rise to a particularly timely dialogue on collegiality and competition, an antinomy whose resolution will be crucial for society's successful exploitation of the information economy.

Those schools that are unwilling—or unable—to give themselves over to the transformational rapture of P2P networking and to a genuine, lifetime collaboration with their students will quickly find themselves in a post-secondary backwater that will increasingly be able to offer only a simulacrum of higher education. This is especially true for small, liberal arts schools, who report that they are currently enrolling fewer than one-third of their accepted freshmen. Many of these small campuses will become affiliates or franchise outlets for successful .com universities. If they survive at all as independent institutions, it will be as prep schools or as “club ed” senior learning hostels.

Of course, we're all living longer nowadays, and “age wave” marketeers tell us that many retirees plan to go back to school. Many of them will, no doubt, be pleased to return to the largely unchanged low-tech learning environments of their youth. But the promised surge of healthy, well-heeled Baby Boomer retirees won't hit the marketplace for another ten years. Given the probable continued inflation in their costs, many independent residential campuses in the U.S. are unlikely to remain viable that long without substantially enhancing the value added by the campus experience.

Peer-to-peer file-sharing software is about to bring a creative, chaotic explosion of grassroots innovation to American higher education. Online universities will make purposeful use of this technology to significantly improve the quality and marketability of their services. If America's campuses do not do the same by committing themselves to a lifelong online learning relationship with their graduates, they will have missed their best opportunity to maintain their pre-eminent role in higher education. Those institutions that elect to use the new technology not merely to extend their marketplace reach, but to broaden their charters to meet society's new needs for learning will have truly begun the process of transforming higher education into “longer education” for an era of ongoing innovation and change. ●

Challenging the Feudal Mind: Alternative Futures for the University

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Trends of changing student expectations (access to global systems of knowledge, including transparency and international accreditation), the Internet (virtual education, moving from campus center to person centered, and far more customized, individually tailored) and transformed content (multicultural education) will dramatically influence all the world's universities (Inayatullah and Gidley, 2000). In the next ten years there will be windows of opportunities to transform and be ahead of the curve. However, after that the window will close and there will be clear winners and losers. Indeed, after ten years many universities as currently constituted may not exist. I am thus not certain that the current campus-based, nation-funded, local-student oriented university will exist.

Corporatization

However, there is another trend which will create far more competition than traditional universities have been prepared for. This is the entrance of huge multinational players into the educational market. We all know that education is *the* big growth area. Total annual spending in education in the U.S. is estimated at about \$800 billion (*The Economist*, 2001). By 2003, the private capital invested in the U.S. will total 10 billion dollars, just for the virtual higher education market and 11 billion dollars in the private sector serving the corporate market (Best of Web-Forbes, 2000). Indeed, John Chambers, CEO of Cisco systems, calls “online education the killer application of the Internet.” Jeanne Meister, president of Corporate University Xchange (CUX), expects that by 2010 there will be more corporate universities in the United States than traditional ones. They are challenging the academy's monopolization of accreditation. These corporations have a huge capital base and with globalization they have the ability to cross national boundaries through the Internet. Pearson, for example, a large British media group that owns 50% of *The Economist*, as well as the *Financial Times* and with

extensive educational publishing interests, is betting its future on it. It is hoping that it can provide the online material for the two million people that will be seeking a degree online.

The money is in education. As a rule academics are not used to this type of language. For us, education is about scholarship, the pursuit of truth, about science. I know at one meeting, when a colleague asked about the level of scholarship in one program, the Dean said they had no money for scholarships. He had already forgotten what the university was about as he was always under so much financial pressure!

This corporatization of the university—Academic Capitalism—differs quite dramatically from the classical university, which was concerned about moral education. Moreover, as in Bologna in the 10th century, it was student-run. If the professor was late, he was fined by students; some teachers were even forced to leave the city. My point is that at one time the university was student-run. We know that that is no longer the case; if anything it is administration-run. The question is: who will run it in the future?

The classic view of knowledge for the cultivation of the mind has been supplanted by the industrial model. And, as you might expect, the big growth in jobs in the university are in the area of the bureaucracy. Whereas tenure is being eliminated in favor of part-time employment throughout the world, the university administration just keeps on expanding.

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Of course, with the computing revolution much of this could be automated—enrollment, library searches, etc. What should be automated? Who can be replaced by the Internet and Web education? Perhaps both the faculty and the administration will be problematic.

A third perspective is that there are not enough students. Thus each university now desires to globalize and have students from all over the world attend their physical campus as well as take courses from their virtual campus. This means that most universities are still thinking about students in narrow ways—as young people or as students from their own nation. But with the ageing population and with the Net, a university's paying students can be from anywhere. Is Tamkang University's market Taiwan's student population or the global market? And with lifelong learning, it is a dramatic mistake to see the main market as those between 18 and 25 years of age.

The other classical view of the university was academic-led—a shared culture focused on scholarship and science—but that too is being challenged. And, of course, the .com model even challenges what the university should look like. Should it be physically based or virtual? Should it be based on a model of hierarchy or a networked model?

The biggest challenge for academics is the concept of the university as a corporation. Big money is coming from the corporate sector; and, funding from the

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government is gradually being reduced (education is increasingly seen as a private good, and thus should not be subsidized). While most university presidents would prefer a different model, they have no choice. More and more education is becoming an economic good. Humanity departments are being downsized throughout the world since the contribution to jobs is not so evident. Unfortunately, this ignores the indirect contribution, that of creating smart, multi-lingual, multi-cultural individuals—what some call social capital.

Corporatization has some quite insidious effects. First, information is no longer open—it has been corporatized. In a 1996 study published in the *Annals of Internal Medicine*, 98% of papers based on industry-sponsored research reflected favorably on the drugs being examined, compared with 79% based on research not funded by the industry (Press and Washburn, 2000). Now what accounts for that 19% variation? And how will the public then see the university? As with the medical system, once patients believe that doctors are beholden to certain drug companies or Web sites they are less likely to trust them. This holds true for university research as well.

But there is another side to globalization. In 1999 in the U.S. there were 364 new start-up companies on the basis of a license to an academic invention. University technology transfer activities generated \$34 billion in the U.S. supporting 280,000 jobs (Press and Washburn, 2000). The university is becoming more global and also producing incredible wealth.

Virtualization

The .com revolution has also received mixed reviews. As an example, one Australian university administration changed its suffix for email from edu.au to .com. So, email addresses changed over night from, for instance, Professor Chen@edu.au to Chen@com. The academics asked why this had occurred. Some were upset that they had not been

consulted. Others were upset that the moral basis of the university was being transformed—they were deeply troubled by corporatization. The administration responded that it could no longer compete globally as a .edu.au institution and instead had to become a .com. Eventually the university went back to edu.au as the pressure was so great. But the university administration could see the writing on the wall: that the traditional model of the classical liberal arts, nationally subsidized university was ending—a new model is emerging.

Another impact of the .com revolution is that it creates the portable revolution. One can get an MA even through a CD-rom. When people ask me where I teach, I say, I just carry my university with me. So through the CD-rom, you enter a new pedagogical world. With this type of technology you can ask authors questions of their text and seek further explanations.

The nature of what constitutes education is dramatically changing from being text focused to being customer, student, focused, and from being campus focused, to being virtual. The university becomes a process: it is no longer simply a place, with fixed 9–5 work patterns, with fixed schedules for classes. It can become a network.

Multicultural Realities

The model of how to think about what is taught, not just how it is taught, is also changing. And this is the important trend of multiculturalism (Inayatullah). Multiculturalism ends the view that there is only one science. Western science, instead of being seen as the quest for truth, is considered to be one way of knowing among many. What's happening throughout the

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university is that scholars are contesting the content of scholarship—how is history taught, are all civilizations included, or are only Western thinkers, Western notions of discovery and culture honored? An understanding is being created that one can and needs to learn about other cultures from those cultures' perspectives. Thus, not only is the structure of the university changing, that is, virtualization, but also the content is being transformed.

Democratizing the Feudal Mind

The role of academics is changing as well. This is the generally the hardest notion for senior professors to swallow—the democratization of the university. We want democracy for government, but we don't want democracy for universities.

The university remains feudal. While the economy in East Asian nations has transformed, that is, feudalism was destroyed, the feudal mind has not changed. This is the grand question for East Asian nations. How to create a culture of innovation, how to go to the next level of economic development, instead of copying, creating. To create an innovative learning organization, you can't have a culture of fear. This means real democracy right down to the detailed level, such as what type of seating is in the room. It raises questions such as whether students or even junior professors can challenge senior academics without fear of reprisal. What is important is to create cycles of innovation through questioning traditional power and social relations.

Can the university be democratized? Of course, it is difficult to do this. No-one likes being challenged. We all have our view of reality, our favorite models that we believe are correct. But creating a learning organization means challenging basic structures and finding new ways to create knowledge and wealth. It doesn't mean always going to the president for solutions. Transforming the feudal university is very difficult. It is even more so within Confucian culture. However, I am not discounting the importance of respect for leadership, for discipline and hard work: challenging authority doesn't mean being rude; it means contesting the foundations for how we go about creating a good society. In Taiwan we see how economic feudalism was ended—the challenge now is to end the feudal mind.

The Future of the Profession

What is the role of academics in this dramatically changing world? The first possibility is the traditional professor—this is the agent of authority, great in one field but knowing very little about other fields. They may know traditional physics but not complexity theory.

The second role is the professor as Web content designer. Now, I doubt that many of us will engage in these activities, but younger people will. Even my five year old wants to be a CD-rom designer when he grows up. Other young people as well see knowledge quite differently than we do. They see knowledge as quick, as interactive, as multi-disciplinary and as always changing. They want to be Web designers and information designers. So the old role of academics was to write books, but the new role is that of creating new types of interactive content. And that content will likely be far more global, multicultural than we have so far seen. So an entirely different world is being created.

That also means, if you're the Web designer, your student becomes key. This means using action learning methods. Action learning means that the content of the course is developed with the student. While the professor may have certain authoritative knowledge, their role is more of a mentor, the knowledge navigator

to help the student develop his or her potential within categories of what is important.

You might say this is impossible in Asian nations. But many years ago I ran a one-week course in Thailand. The subject was the futures of economic development. The first four days consisted of heavy lectures, but on the fifth day my colleague, Tony Stevenson, said to the students: “you design the course.” For the first half-hour, the students looked dejected. But then they started talking and eventually designed the next few days.

The old role of academics was to write books, but the new role is that of creating new types of interactive content

My sense is that this example is good news for academics. Most of the professors I speak with would prefer less teaching—passing out information—and more communication. The mentoring role is far more rewarding and more personal. The old school was the long lecture. The new way of thinking is just tell the student to go the Web and find out. Afterwards there can be a discussion. The professor then has to learn how to listen to students’ needs and not just to lecture to them.

What is unique about our era is that we now have the technology to do this. The question is: do we have the wisdom and the political will?

REFERENCES

- Inayatullah, S. “The Multicultural Challenge to the Future of Education,” *New Renaissance* [<http://www.ru.org/artmulti.html>].
- Inayatullah, S., and Gidley, J. (eds.), *The University in Transformation: Global Perspectives on the Futures of the University*. Westport, CT: Bergin and Garvey, 2000.
- Press, E., and Washburn, J. “The Kept University.” *The Atlantic Monthly*, March 2000, 39–54.
- “Online Education: Lessons of a virtual timetable,” *The Economist*, 17 February 2001, 71.

NOTE

This article is based on a speech delivered to Tamkang University’s senior administrators and professors. ●

• PERFORMANCE BASE LEARNING Assessing Distributed Competence Software and Performance Base Learning

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This is the third of seven reports on the development of software to support performances in which learning takes place. We will introduce a school administrator study population in this article and follow up with three highly descriptive reports of their assessments of software-supported learning performances. The final report in this series will suggest 1) improved approaches for familiarizing educators with emerging educational technology and software; and 2) designs for schools offering both traditional teacher-directed learning *and* software-supported performances in which learning takes place.

In January 2001, 166 Minneapolis/St. Paul area school administrators were asked to assess education futures based on the use of software to assist students in all phases of Performance Base Learning (PBL). PBL was defined as the capacity to use software effectively in the accomplishment of cognitive and related tasks. Distributed Competence software (DC) was defined as software that directly supported students’ capacities to accomplish performance tasks. Software applications were to include ordinary classroom activities, experiential learning, simulation base learning, and examinations. The principals were advised that strong workforce trends associated with the evolution of routine software support suggested a likely transformation in schooling from brain base learning to person-software partnerships.

Gathering Data from the Principals

The principals were asked to sit for a workshop lasting about three hours. The first 40 minutes were devoted to a presentation outlining the current state of handheld technology and software, including projections of their development over the next ten years. Demonstrations of handheld technology and

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