Notes on the Online Learning Revolution

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PART I

INTRODUCTION

I retired from The Pennsylvania State University in 2007 after a long career in educational media at Penn State and the University of Maryland University College. In the last decade of my career, I served as Associate Vice President for Outreach for Continuing and Distance Education at Penn State and was the founding Executive Director of the Penn State World Campus. After my retirement, I began a blog and wrote many postings about my experience with educational media and, in particular, the emerging role of online learning at our universities. I've collected 16 of those posts into this collection, which I hope will be of interest to colleagues in the field. Because these were all independent postings, I am sorry to say you may find some ideas being repeated along the way, but I hope you will find the collection to be helpful in your own work.

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PART II

LIVING WITH TECHNOLOGY

CHAPTER 1

Reflections on a Life in Educational Media

I was born in 1948—part of the first blush of the Baby Boom. And, although no one knew at the time, we were also part of the first blush of the Information Revolution. Like many other aspects of the late 20th century, its roots were in the second of the World Wars that put a punctuation mark on the old traditions of Western Civilization and, at the same time, drove dramatic technological innovation. ENIAC, the first computer, went online in 1938. The first commercial television station went on-air in 1941. Little did the public know that the next generation would bring not only a revolution in the global political structure but a social and economic transformation as technology created a new global information society.

My mother, my brother, and I lived with my grandparents in a one-bedroom house that my grandfather had built on the edge of his lot as a temporary home while he built the big house. Unfortunately, the big house never got built, and we all crowded into the little house, just as my grandparents' five children had done in the 1920s and 1930s.

When I was very young, "media" meant "music." We had an

old player piano, a Victorola with a great collection of 1940s 78 rpm records—the Ink Spots were my favorite—and, of course, a radio. In fact, we had two radios; an old floor model and a new battery-powered portable. I remember listening to the Lone Ranger on the radio and my grandmother listening to her soaps. The record player got the best workout, though. There were no headphones or ear buds. When one of us listened to music, we all did. In addition to the Ink Spots, we listened to Vaughan Monroe, the Mariners, and others from the swing period, when my mother was on her own and bought a lot of music.

I loved the radio, too. My favorite local station was WHOT in Youngstown, Ohio, and disc jockey Boots Bell, the Booter Scooter. But late at night, my brother and I would try to tune in to Cincinnati and Barney Pip (who later moved to Chicago). It sounded like music from Mars.

By then, of course, we had television. We got our first television set around 1956. It was a Philco black and white console. When it was delivered, the delivery man set it on Channel 27—WKBN, the CBS affiliate in Youngstown. My grandfather had been the first on our street to buy a radio back in the 30s, but was not comfortable with the new technology. He would never allow us to change the channel for fear that we would break the set. So, we watched CBS for the next few years. Ed Sullivan, *Gunsmoke, I've Got a Secret, The Garry Moore Show, The Twilight Zone, The Alfred Hitchcock Hour*, and, of course, Walter Cronkite. It wasn't a bad fate. I had to go to my friend's house down the street to watch *Bonanza*, though.

In 1960, my grandfather died. Soon after, we changed the channel and, you guessed it, we soon broke the channel changer. We had to reach inside the back of the set to change channels, using a little mirror to fine-tune the station. Eventually, we got a new set, and one of my uncles set up an antenna on a pole so that we could get both UHF and VHF

stations. Now, we could tune in stations in Youngstown, Cleveland, and Pittsburgh. Life was good.

One night in 1963, my friend Ken called from down the street. He knew that our TV was broken, and he wanted to share the news. "There's going to be a war," he said. "Come down and watch." It was, of course, the Cuban Missile Crisis. I went down to Ken's house and watched President Kennedy's speech with Ken, his sisters, parents, and grandmother. It was social media for those days. The Beatles arrival in the U.S. and their first appearance on *The Ed Sullivan Show* is another example. Everyone watched it, it seemed. I was in high school and working evenings at Little Italy, a family-owned Italian restaurant in Hermitage. The owner, Mrs. Bishop, brought a TV in so that the family and their guests would miss neither the Beatles nor her mother's great wedding soup!

Radio provided portable media. It was in our cars, so we could take music with us everywhere, but there was nothing so good as sitting on the front porch with Ken on a hot summer day, listening to the Pirates or the Indians. Baseball was an ideal radio game. You didn't really need to see it to enjoy it, and the pace was very comfortable on a sunny summer afternoon.

Public Television: Serving Communities

In 1968, I transferred from Penn State's Shenango Campus to the main campus, University Park, to complete my undergraduate degree. I had been a Journalism major, but switched to English, which had an honors program that included small seminars rather than large classes. I was interested in media, but unsure how to navigate this large campus. I volunteered at the student radio station—WDFM—but that was limited to coming in between classes and writing some public service announcements. I never connected with anyone. I also trained as a camera operator for the University Division of Instructional Services, which operated an on-campus television studio that recorded

class lectures and distributed courses through a network that linked 24 classes with one-way video and two-way audio (more on that later).

I was still waiting to hear about a job with UDIS when a neighbor in my dorm suggested that I go across the street to Wagner Building, which housed the ROTC and where, three years earlier, the university had opened a public television station, WPSX-TV. "You're a writer," he said. "Maybe they will hire you to write press releases or something." So I went and was hired as a part-time production assistant. For the next two years, I learned television production from the ground up—set design, lighting, audio, camera—and got wonderful experience in helping to create a wide range of television programs, from talk shows to studio concerts and, of course, sports.

When I graduated, the station hired me full-time, and, suddenly, I had a career. I stayed in Production for the next year, then moved into Programming, where I was responsible for the daily program log and on-air promotion. From there, I moved into Public Information—and wrote a *lot* of press releases. After a few years, that position expanded to Viewer Services, in which role I was responsible for various ways to engage viewers. The station's founding manager, Marlowe Froke, counseled me that a press release was the first step toward creating an educated viewer—one who would be better able to grasp the program's message. Our monthly program guide allowed us to do longer background features on new programs. Beyond that, we engaged the viewer by providing supplementary materials (viewer guides and so forth) for special programs, by connecting with community organizations, sending faculty out to libraries to discuss program content, and, ultimately, by offering courses around broadcasts—telecourses, as they came to be called.

In those days, "public" television was very much "educational" television.

Before the station went on the air in March 1965, Marlowe Froke had met with superintendents of school districts throughout the station's 29-county viewing area to discuss how television programs could be used to support their curricula. The result was the Allegheny Educational Broadcast Council (AEBC), a nonprofit corporation through which participating school districts selected educational programs at all levels of the K-12 curriculum. The station then acquired them and devoted its daytime schedule—from 8 a.m. to 3 p.m.—to broadcasting programs that teachers could use to enhance their local classes. School districts paid a small per-student fee to fund coordination, printed teacher guides, professional education programs for teachers, etc. The Department of Education helped to fund program acquisition and some production. Programs were acquired from other stations and state educational television networks around the country and from Province-wide educational television centers in Canada (places like TV Ontario). It was a model used by many public TV stations around the country. In many ways, it was a precursor to today's Open Educational Resources movement.

The AEBC was a good early example of how educational media can bring institutions and people together around a common mission. It was essential in a one-way broadcast environment, especially in pre-cable days.

The station also had a University of the Air program, broadcasting courses for adults. These included *Your Future Is Now*, a GED preparation course, as well as college credit courses. Originally, the broadcasts were accompanied by periodic face-to-face sessions on campus, which limited the effective range of the program. Later, the video lessons were integrated with the University's Independent Study by Correspondence program, which delivered correspondence courses to students around the world. This made our television courses fully available to anyone who could receive the signal.

Instructional Media: Engaging Students

Public broadcasting was a new twist on a long tradition of educational media at Penn State. As early as the 1940s, Dr. C.R. Carpenter had experimented with the use of film for training. In the 1950s, he received a Ford Foundation grant to experiment with instructional uses of video on campus. As the campus burgeoned with returning GIs, the University created a Division of Instructional Services that included television and film studios, along with graphic and photographic services and an audio-visual library.

One of the key services of UDIS was an on-campus one-way video, two-way audio cable system that connected 24 classrooms to a television studio. Each classroom could accommodate around 30 students, so the system allowed one faculty member (with assistants in each classroom) to teach over 600 students at a time. This allowed the University to accommodate the increasing demand for popular courses. One of the most popular courses offered through this system was Accounting 101—Introduction to Accounting. It was taught by Dr. Kenneth Nelson, who used the system for over twenty years. He was a master at engaging students at a distance. He would identify a student who had a birthday and ask members of that student's classroom to sing "Happy Birthday." In Spring semester, he would give a mid-term right before Spring Break. The crew would create a beach setting in the studio. Ken would appear, sitting on a beach chair with a straw hat on his head, and tell the students, "I'm already on break. You can join me as soon as you finish your mid-term!" In this way, he taught more than half of the students who had ever taken Introduction to Accounting at Penn State.

In Engineering, one faculty member would rush over to the studio after class and record solutions to the problems he had just assigned. These would then be taken to the reserved

reading room of the library, so that students could check their work or get help if they were stuck on a problem.

Audio-Visual Services served both internal and external audiences. It acquired film and video programs that faculty members wanted to use in their classes. It also maintained a library of film and video produced by faculty and made these available for sale and rental to schools, colleges, and other customers worldwide. For example, AV Services distributed films that Penn State Anthropology Professor Napoleon Chagnon made during his research visits with the Yanamamo Indians of Brazil. It is a model that could easily be adapted in today's online world as an Open Educational Resource library.

In 1980, the University combined UDIS and public broadcasting into a new unit called the Division of Media and Learning Resources, headed by WPSX founder Marlowe Froke. This new unit was housed under the Vice President for Continuing Education and included two Continuing Education units—WPSX-TV and the Department of Independent Learning by Correspondence—and all of the former UDIS units. It also included a new unit—the Department of Instructional Media, which I was asked to lead. This unit combined the instructional production and delivery services of WPSX-TV with production support for on-campus courses. Media-based distance education courses were now offered through Independent Learning, so that we could easily serve the entire viewing area and, soon, reach far beyond campus.

Cable and Satellite: Networking

The Information Revolution hit educational television with a double punch in the late 1970s, as both cable and satellite television took their places in the educational media infrastructure. Pennsylvania—with its many small towns and rural areas—had given birth to cable television. In 1976, a group of cable operators approached WPSX about creating a statewide educational cable television channel, called

PENNARAMA. The system was fully operational by 1983, creating a great demand for video-based telecourses.

Around the country, local cable operators were making channels available to local colleges and universities to offer courses. The growing ability to network the delivery of educational media was already stimulating the growth of consortia and distribution partnerships. One was the To Educate the People Consortium—a partnership among labor unions, Wayne State University and other Detroit-area institutions, and Detroit-based auto manufacturers. Another was the University of Mid-America, which brought together the resources of several higher education and educational broadcast organizations in the Midwest. A third was the Telecourse People, an association of community college public television licensees that combined resources to share telecourses among themselves and to license them to others.

Glenn Jones, a native Pennsylvanian and a visionary cable operator who owned Jones Intercable, created the Mind Extension University with the goal of offering access to higher education on a national scale via cable. That initiative eventually evolved into Jones International University.

Around the same time, we joined a regional experiment in the use of satellites to distribute media- based education. Called the Appalachian Educational Satellite Program (AESP), the program was headquartered at the University of Kentucky and led by Nofflet Williams, one of the great innovators of this early period. Growing up in rural Alabama, Nofflet had a lifelong commitment to providing access to education to those who had lacked access due to location, time, or money. The AESP used an experimental ATS-6 satellite to bring graduate-level courses in nursing and education and professional development programs for firefighters and others to remote communities up and down the Appalachian range, partnering with local colleges and public education agencies to provide the needed local

coordination. It was the first satellite-delivered graduate education program. I was the point person for Penn State's participation and worked with area Intermediate Units and Penn State campuses to promote the use of courses that could be downlinked from AESP's satellite. AESP evolved with the technology; as cable television adopted satellite to interconnect individual cable systems, it became, first, the Appalachian Community Service Network and, eventually, the Learning Channel. Nofflet went on to become the Dean of Distance Education at the University of Kentucky and was widely honored as an influential pioneer and leader in the field.

In 1978, the Public Broadcasting Service shifted to satellite to distribute its programs nationally. This was a watershed in American educational media. It transformed how we used video to distribute education. The immediate impact was that every public television station in the country had a satellite downlink and that many also had uplinks. This allowed a stronger national program schedule, but it also gave stations a huge advantage in sharing programs within the network. It also meant that stations—especially those licensed to educational institutions—could share nonbroadcast resources among themselves. Within a couple of years, several new services arose.

PBS responded by creating the Adult Learning Service (ALS). ALS became a national distributor of video-based telecourses. It would acquire distribution rights to courses produced by member stations or other agencies. Local public TV stations would then preview the telecourses with higher education institutions in their viewing areas. If an institution wanted to offer a course, it would work through the local station to license it from PBS (usually at a cost of $300 per offering, plus $15 per enrolled student); the station would then broadcast it (or make it available on a local cable channel). This, in turn, created new

channels of communication between stations and the higher education institutions in their areas.

Other kinds of networks using the PBS satellite system emerged among university licensees. One was the National University Teleconference Network (NUTN), organized by Oklahoma State University to allow universities to offer live, noncredit, educational conferences nationally. Essentially, any NUTN institution could announce plans to offer a national satellite teleconference. Member institutions wishing to offer the teleconference locally would license it and arrange for a viewing room with audio feedback to the originating institution. When the conference was offered, all sites could show the event in their local meeting rooms and have local participants ask questions via telephone or return audio. The first national teleconference that Penn State produced for NUTN featured faculty from Penn State's Department of Nuclear Engineering. It offered faculty and researchers at other institutions around the country the opportunity to see video shot in the damaged nuclear reactor at Three Mile Island and get an evaluation of the damage and possible solutions.

Another example is Ag*Sat—the Agricultural Satellite Network—later renamed ADEC—the American Distance Education Consortium. Headquartered at the University of Nebraska, Ag*Sat connected Agricultural Extension centers at land grant colleges around the nation. Originally, the focus was on sharing specialized agricultural research and education programs, ensuring that the best research on any topic was available to all interested states. Over time, Ag*Sat expanded to include historically black institutions and Hispanic-serving institutions, as well as institutions from Latin America.

In the midst of this storm of technological innovation, Walter Annenberg, the publisher of *TV Guide*, gave a $150 million grant to the Corporation for Public Broadcasting to fund the development of high-quality telecourses that would feed the

growing demand for educational media via broadcast, cable, and satellite distribution. The result was a series of prime-time PBS telecourses that raised the quality bar and further stimulated interest in using these delivery systems.

UMUC: Innovating on a Global Scale

Another entry into this increasingly complex environment was the International University Consortium. IUC was the brainchild of the University of Maryland University College. Dedicated to serving adult students, UMUC had established a curriculum on the model of the British Open University (BOU—now the Open University of the United Kingdom), which had been established in 1970. The BOU offered highly interdisciplinary courses that included television documentaries produced by the BBC, along with study guides and texts. Typically, one Open University course was equal to three or more courses in the American curriculum. IUC was a partnership between UMUC and Maryland Public Broadcasting to adapt Open University courses to the North American curriculum. It then licensed the adapted materials to its member institutions, which offered them locally. Early members were leaders in media-based distance education in the U.S. and Canada. Over time, institutions in Australia, Hong Kong, Brazil, and other nations joined, and IUC began to develop its own courses through the academic resources of the Consortium's member institutions.

I joined UMUC as Executive Director of IUC in 1987, when the founding Executive Director, Allan Hershfield, was named UMUC Vice President, reporting to President Benjamin Massey. An institution fully committed to serving the adult, part-time student, UMUC was incredibly innovative. While its foundation was in providing higher education access to U.S. military on overseas bases in Europe and Asia, in the 1980s it was also expanding its programs for adults in the D.C. suburbs. A major innovation was a set of open learning degree programs based

on the model of the British Open University—an innovation that had given rise to the International University Consortium. At the same time, UMUC operated a video production center, a dedicated cable channel in Prince George's County, and the ability to deliver live video lectures, with audio feedback, to remote classrooms in Southern Maryland and in the northern suburbs.

UMUC also operated the Center for Instructional Development and Evaluation, a large unit staffed with media specialists and instructional designers. CIDE developed media-based courses for UMUC's undergraduate and graduate programs, but it also attracted federal contracts that allowed it to innovate on the cutting edge of technology. One example: a videodisc-based training program for the National Agricultural Library. Their contract-based experiments with innovative, technology-based training and education packages gave UMUC a head start in the digital era.

In the early 1990s, a group of electrical power companies approached the University of Maryland about creating a degree program in nuclear science that could be delivered electronically to sites in Wisconsin, South Carolina, Texas, and elsewhere. These companies hired many technical staff from the U.S. Navy Submarine Corps and were concerned that the government would require these professionals to have degrees. The College of Engineering at the College Park campus worked with UMUC to create the degree, which was one of the first university degrees to be offered at a distance online. Today, UMUC is a major provider of online degree programs.

While UMUC was experimenting with online education, national attention was on the rise of interactive videoconferencing. The University of Maryland System created an Institute for Distance Education designed to help the 14 System institutions make the most of this networked approach

to education. By that time, my role had evolved into that of Associate Vice President for Program Development. As such, I chaired the Institute, working with many UMS institutions to explore how interactive video could be used to extend programs from one campus to another.

Back to Penn State: The World Campus

In 1993, Penn State stepped back and took a fresh look at its long tradition of distance education. The University had been one of the pioneers in distance education, dating back to 1892, when it was one of the first three higher education institutions to develop correspondence courses, using the then new Rural Free Delivery to offer a "Home Reading Program" in agriculture. As cable, satellite, interactive video, and interactive computer-based technologies arose, the University decided that distance education should be more mainstreamed and created the position of Assistant Vice President for Distance Education. I was invited by Jim Ryan, then Vice President for Continuing and Distance Education, to take on this new role and returned to the University in January 1994.

Initially, the emphasis at Penn State was, like the University of Maryland System, interactive video networking. In 1995, we received funds from the AT&T Foundation to support a multi-year Innovations in Distance Education project, in collaboration with two other Pennsylvania institutions—Cheney University and Lincoln University. The goal was to explore both operational and policy issues in technology-based distance education. We held a series of three invitational policy seminars that explored policy issues from the perspective of administration, faculty, and learner support, out of which a set of 25 guiding principles emerged in five main areas: Learning Goals and Content Presentation, Interaction, Assessment and Measurement, Learner Support and Services, and Instructional Media and Tools.

At that time, most of the computer-based innovation at Penn

State was being done by the central Information Technology unit, with a focus on resident instruction. However, that changed in the summer of 1996, when Penn State President Graham Spanier called a few people into his office. He had been to a meeting of the Western Interstate Commission for Higher Education (WICHE) where he had learned of plans to create a Western Governors University that would use online technology to ensure access to needed degree programs throughout the multi-state WICHE area. He came to the conclusion that online learning was the way of the future.

We have three choices, he told the group. One, we can say that this new technology is not for us and continue to do what we have been doing with satellite and interactive video, plus correspondence study. Two, we can experiment with online learning without backing away from our commitment to these other media. Or, three, we can make a full commitment to the online environment and put all our resources there. In the end, though, he believed that the third option was the only viable path forward. If we don't invest now in online learning, we will be left behind, he said.

Jim Ryan and I were asked to put together a brief backgrounder for the University's leadership. President Spanier then named a Study Team to explore the idea further and to come up with a strategic plan for the development of what he was calling the World Campus (after a suggestion by Fred Gage at our Berks Campus). The Study Team included the leaders of key units whose support would be vital to the World Campus' success: Enrollment Management, Budget Office, Library, Information Technology, Graduate School, Undergraduate Education, several campuses, several key academic colleges, and representatives of the Faculty Senate and Graduate Council. Acknowledging that it would be hard to get this group together regularly, everyone agreed to meet over dinner every Thursday evening from November 1996 through

March 1997. At the end, we had a 70+ page report that included a vision and business model for the World Campus.

At the same time, Jim Ryan and I began meeting with leaders of the individual academic colleges to discuss the World Campus and identify possible degree and certificate programs that the academic units thought might succeed online. At the end of the process, we had identified around 90 possible programs. Penn State already had contact with the Sloan Foundation's Asynchronous Learning Systems program, headed by Dr. Frank Mayadas. Frank had visited Penn State in the early 1990s to explore the potential of online learning. When I returned from Maryland, Penn State was completing grant to develop a multi-media test preparation program for the Professional Engineering Examination. As the Study Team's work wound down, we got a small director's grant to conduct secondary market research around these programs. The result was a list of 25 programs with high potential for success. We then submitted a much larger proposal to the Sloan Foundation to underwrite the start-up costs. That grant was funded in June of 1997, and the World Campus launched in January 1998 with four courses and 48 enrollments.

The World Campus has grown steadily since then. Today, it boasts more than 40 undergraduate degrees and certificates and more than 60 professional masters degrees and post-baccalaureate certificate programs, serving over 14,000 students in all fifty states and over 40 countries around the world. I am happy to say that, in 2015, it was named the top online undergraduate program by *US News and World Report*.

Starting with that first Study Team, the World Campus has been an institution-wide team effort. Faculty have support from instructional designers, media content developers, and editors. Over the years, some of the more active colleges have created their own course design support units, so that instructional designers can be more integrated into the

academic culture of the college. On the other end, student support has proven to essential to helping adult learners survive the sometime delicate act of balancing learning, working, family and simply living. These services surely will continue to be important, even as online learning becomes more mainstreamed.

Perspectives

Just as the Internet has transformed many other aspects of daily life, online learning is proving to be part of a true revolution in how we conduct education at institutions around the world. More colleges and universities than ever before are reaching beyond their campuses to serve working adults and other students who could not otherwise attend their classes. In addition, online learning is allowing faculty members to greatly increase student engagement in learning, both on campus and at a distance. It has eliminated distance and time as limiting factors in how higher education reaches and engages students. In the process, it has helped position higher education to better serve our communities as they transform themselves to meet the new challenges that are inherent in the emerging global information society.

CHAPTER 2

Lessons from the Old Media: The Value of Sharing

The last two decades have seen significant growth and innovation in how educational institutions use the new technologies to engage learners. However, there is still much to be done—and some lessons to be learned from earlier technologies.

I was surprised, when the World Campus came along, about the new community that was forming around online learning. Previously, people tended to organize themselves around not the technology per se, but its use. For instance, those of us using public broadcasting, cable, and interactive video to reach beyond campus formed a new division within what was then called the National University Extension Association (now UPCEA—University Professional and Continuing Education Association). NUTN—the National University Teleconference Network—was also an association of continuing education folks. Similarly, AG*Sat brought together Cooperative Extension leaders and counterparts at Historically Black Institutions and Hispanic Serving Institutions who were interested in collaborating via satellite. NUEA, NUTN, and AG*Sat were all associations of continuing education/

extension/outreach units in public universities, and we all tended to report to the Vice President or Dean of Continuing Education at our institutions. However, when online came along, there was no common reporting line. Some online initiatives reported to the Vice Provost for Information Technology; other initiatives were housed in a particular academic program; others were in the Provost's Office or reported directly to the President; and, indeed, some reported to the Vice President for Continuing Education. Frank Mayadas at the Sloan Foundation did a wonderful service to the field by bringing together all of his grantees for annual conferences about progress in the field. These evolved over time into the Sloan Consortium (now the Online Learning Consortium). It was inevitable, however, that we would lose some of the knowledge and, more importantly, institutional relationships that had grown up in these other venues.

One example was the spirit of collaboration and sharing that had marked early distance education efforts. Online learning brought new institutions into the distance education community; it also focused on complete degree programs, making competition a real issue in some disciplines. This was a significant change from earlier technologies. The land grant universities offering correspondence study programs had set the example by publishing an annual catalog that listed correspondence courses available from all institutions. They also tended to share course materials and help each other out by proctoring exams for students who lived in their states.

Resource sharing was absolutely vital to the use of telecourses via public broadcasting. The entire purpose of PBS-ALS was to aggregate available telecourses and license their use out to other institutions served by local PBS stations. In 1978, the Public Broadcasting System shifted its national program service—which delivered programs to local stations for broadcast—from land lines to satellite. The result was not only

a new way to deliver programming to local stations, but a new national public satellite network that could be used for other, related services. The impact on course sharing was significant:

- PBS created the PBS Adult Learning Service as a centralized national distribution center for telecourses produced by local PBS stations and higher education institutions around the country. A collection of courses was fed by satellite to local stations every semester. Local stations worked with the colleges and universities in their viewing area and broadcast those courses that the local institutions licensed. PBS collected a fee (typically a standard $300 per course, plus $15 per enrollment) which it shared with the telecourse producer.
- The Annenberg Foundation gave the Corporation for Public Broadcasting (a federal corporation that distributed federal funding for public media) $150 Million to support the development of new telecourses for national delivery. The result was a collection of telecourses built around major public television documentary series.
- The University of Maryland University College established the National (later International) University Consortium, which worked with the Open University of the United Kingdom to adapt their materials to the North American curriculum. The resulting course packages were licensed to institutions throughout North America, as well as Australia, Asia, and Latin America. IUC also produced new courses, working with its member institutions and the Maryland Center for Public Broadcasting.
- The PBS satellite system also opened the door to other, nonbroadcast innovations. One was the National University Teleconference Network (now the National University Telecommunications Network), a network of colleges and

universities that used the PBS satellite uplink and downlink network to deliver live teleconferences nationally. An institution that wished to originate a teleconference would schedule the event with NUTN, which would announce it to its members. Members that licensed an event would arrange for a downlink and schedule a live viewing in the local community.

- AG*SAT used the satellite system to create a network of Agriculture schools at land grant universities, historically black land grants, and Hispanic serving institutions, with the goal of sharing local expertise nationally. AG*SAT later became ADEC—the American Distance Education Consortium.

In all these cases, the idea of sharing was encouraged by the fact that, while distribution was national, actual use of the materials by institutions to serve students and other clients was remained essentially local. We weren't competing with each other. Instead, we were using national technology distribution to enrich each other's programs.

Collaboration in the Digital Learning Era

The idea of sharing has come more slowly to the online learning environment, perhaps because of the fact that the Internet knows no geographic boundaries. That said, given that more institutions today are involved in online learning than were ever involved in video-based distance education, it seems reasonable to ask: Should we not begin to share organized curriculum packages more widely, reducing the cost of course development at each institution? Especially as institutions adopt the "flipped classroom" philosophy—in which content resides on the web and class meetings (physical or virtual) are focused on interpretation of content rather than simply transfer of content—it seems reasonable that idea of licensing content at the course level might be a good thing. As with

textbooks, the true value of a course should be less in the materials than in the unique interactions between faculty members and students and among student communities.

Tidewater Community College in Virginia demonstrated the potential for this kind of sharing when it developed a complete associate degree in business administration using Open Educational Resources (OERs). As Creative Commons reported:

> Tidewater identified 21 courses and signed up faculty members to design the curriculum. They started with the desired outcomes for each of the courses, and then built the curriculum with OER materials that would meet those outcomes. Developing the curriculum took about 12 months. One year into the program, the early results are highly positive.

The OER degree program had two goals – to eliminate cost as a barrier, and to improve teaching impacts. The textbooks for an associate's degree in business administration normally cost $3679, which is about a third of the cost of the degree from Tidewater. Adoption of OER reduces these costs to zero. Students and instructors alike are happy with the quality of the OER materials used in the classes. 96% of the students enrolled in the courses have rated the quality of the OER content as equal to or better in quality to the textbooks used in other classes.

This may signal a new level of institutional commitment to the OER concept that will reduce the cost of course development for individual institutions and greatly increase faculty access to content in order to serve students.

Sharing at this level might best be done within families of institutions—community colleges, private liberal arts colleges, etc.—or within academic discipline communities. ADEC has demonstrated the power of sharing content within agriculture disciplines, for instance.

Other new models for sharing have emerged that focus on

sharing students and faculty rather than materials. One example is the Great Plains Inter-Institutional Distance Education Alliance (IDEA), in which participating state universities work together to offer graduate degrees that include online courses from multiple participating institutions. This kind of collaboration ensures that students have access to the best content in a specialized discipline, while opening new doors to collaboration among faculty. Another example is the CIC CourseShare initiative in which participating institutions aggregate students in highly specialized courses to ensure a financially viable course offering that serves small groups of students at multiple campuses. Both of these initiatives allow partner institutions to give their students better access to courses that might not otherwise be taught locally on a reasonable schedule.

Cross-Sector Sharing

A second area where we lost momentum during the shift from video to online is the idea of higher education partnering with the public schools to improve the school curriculum. That was the original focus of educational/public television in the 1960s. Today, policy makers are beginning to see the need to regain the momentum here. Extending the Open Educational Resources idea to the schools is one option. In the sixties, public broadcasting was the broker that made the connection between school need and delivery of resources. Fifty years later, we need a new broker. The second option is for universities to make some online courses available as "dual enrollment" courses, through which students can earn credit toward high school graduation while simultaneously earning college credit.

The U.S. Department of Education has estimated that, in order for the U.S. to continue to compete in the global information society, we need to increase the percentage of high school graduates who go on to college from the current rate of

39% to about 60%. The problem is that, today, most kids who graduate from high school ready to go to college already do so. Thus, in order to meet the increased need for more college graduates, we need to increase the number of high school students who are ready for college when they graduate. In the 1960s, the American response to Sputnik drove investments in the production and broadcast of instructional television for the schools. In the 21st century, STEM and both the workforce and citizenship needs of the global information society should drive investments in OERs and dual enrollment online courses.

Above all, it is important that institutions not define online learning by the technologies they use but by the services they provide, so that they can be flexible and innovative as new technologies arise, as they most inevitably will. Technology is an enabler, not an end in itself.

Ultimately, I can see several benefits to sharing at this level: (1) to ensure that high-quality content is widely used, especially in specialized areas; (2) to reduce the cost of new course development, thus increasing the number of institutions that adopt online learning for their students; and (3) to increase access to higher education.

CHAPTER 3

Putting the Social Mission First

At a conference for online learning leaders, I was reminded of a tendency of many in and around the online learning community to see our work in corporate/industrial terms. The idea of defining everything we do in business terms is unsettling for someone whose entire professional career has been in the service of public institutions.

Public and most private higher education institutions do not operate by "free market" principles. Instead, our colleges and universities—excepting the small number of for-profit companies that offer accredited degrees (often to students who fund their tuition with public funds)—are complex organizations that are largely funded by the public and serve a public purpose. Some are owned by their states; others are nonprofit corporations. All operate with significant financial support from the public through a combination of direct government funding and tax-supported financial aid for students. In doing so, they fulfill a social contract that they will address the public's need for educated citizens and professionals in many walks of life. To speak of these institutions as if they were for-profit businesses denies the fundamental social purpose and values that define them.

There are undoubtedly many reasons why this perception

has come to the fore. One is the rise of a broad array of for-profit companies that sell services to institutions that want to offer online programs but that lack the technical and support infrastructure to quickly achieve scale without help.

Another part of the problem is that, typically, these operations are expected to be "self-supporting." I put that in quotation marks because very little of higher education is truly self-supporting. What I mean when I say that online learning is self-supporting is that, for the most part, they do not benefit from direct state subsidies. As a result, they typically are expected by their institutions to pay their own way and not divert public funds from other aspects of their institution's mission. Because they represent a new expense, they must generate new revenue. That said, many of the students that they attract may be funded by taxpayers through public scholarships or loans. The public mission is maintained.

Because it is a new mission at many institutions, there has been a need to isolate the online learning initiative so that it does not, in the attempt to serve new students, take resources away from existing programs serving more traditional students. Similarly, in most institutions (again excluding a small number of for-profit companies) after-cost revenue from tuition and fees is re-invested in the institution. Typically, this is what funds new program development, technological enhancements, professional development for faculty, expanded student services, etc. In some cases, excess revenue is distributed to academic units, where it can be used to support faculty research or other academic unit projects or returned to the central administration to support the institution in general. There is no "profit" involved.

Why do we offer online higher education? For many of us, online learning is a simple extension of a mission that we have pursued since 1892, when three relatively new American universities—Penn State, the University of Chicago, and the

University of Wisconsin—launched correspondence study, the first generation of American distance education. Our purpose—then as now—was to extend access to higher education to adult students who otherwise could not practically pursue higher education. Over the years, distance education has adopted many new technologies—from radio and film in the 1920s to broadcast television in the 1970s, satellite and interactive video in the 1980s and, since the mid-1990s, the Internet.

Today, the need for colleges and universities to extend access to adult students has never been greater. Our society is changing. The U.S. Department of Education has noted that, to ensure that our society can thrive in a global information economy, we need to increase the percentage of high school graduates who go on to higher education from the current rate of 39 percent to 60 percent. Currently, most high school students who are qualified for higher education do, indeed, go to college. In order to meet the societal need, then, we must reach out to adults were not able to pursue higher education at the traditional 18-22 age or who find themselves needing additional education in order to grow professionally. This is our social mission: to empower adult Americans to meet the demands of a changing society. To see online learning only in profit/loss terms only diminishes that critical mission.

Online learning often began, by necessity, on the fringes of our institutions. However, it is clear that this innovation will find its proper place in the institutional mainstream as the long-term societal need—and our ability to respond to it—become better defined. At this critical juncture—when we are no longer an experiment but are not yet accepted as part of the core mission—it is essential that we maintain our sense of purpose and not be distracted by corporate thinking. Innovations with online learning are not about how best to exploit a market but how to realize a mission and to serve the greater good. It

is time for those of us who have championed online learning innovations at our universities to stand proudly for our real mission: to structure higher education so that it can best serve the needs of new populations and, ultimately, the communities in which they live.

PART III

BUILDING ONLINE LEARNING FOR THE MAINSTREAM

CHAPTER 4

Getting Started with Online Learning

An *Inside Higher Education* report on an online collaboration that was voted down by faculty after the first year of operation got me thinking about the critical success factors that institutions should make sure they address as they start an online learning innovation. Here are a half-dozen planning factors that I have found to be important across different institutional types:

1. **Define Terms** – Lately, the idea of MOOCs has tended to dominate recent press about online learning. As a result, some institutions new to the field may assume that all online learning is about attracting very large numbers of students to free programs. In fact, however, online learning has grown over the past two decades not around MOOCs but around the idea of transforming traditional on-campus courses to serve both traditional and nontraditional student populations. If one is to create a true institutional commitment to innovating with online learning, it is essential that leaders begin by defining terms so that everyone is talking about the same thing. Frank Mayadas, John Sener, and I have developed a set of definitions (available on the OLC website: https://onlinelearningconsortium.org/updated-e-learning-

definitions-2/) for the vast majority of online courses. These can help institutions better define their goals.

2. **Define Your Mission** – Articulate the purpose of the online learning initiative—who will it serve and why you want to serve them – and how the initiative will complement the overall institutional mission. Then, create a vision that will help the institution judge progress toward that mission. Both the mission and the vision should be developed in consultation with a broad spectrum of the institution's leadership and shared widely.

3. **Target Your Student Population** – Online learning can be used to serve a variety of different student populations. Initially, many institutions targeted returning adult students who otherwise lack access to campus programs. Others use online learning to innovate with new pedagogies for traditional students. Still others focused on building partnerships with a particular industry or professional community or on collaboration with peer institutions. It is important, as a very early step in the planning process, to define your target population.

4. **Create a Governance Structure** – Higher education is a complex cultural organization that has a tradition of shared governance that ensures a balance between academic freedom and initiative and administrative oversight and management. Online learning is both an administrative and academic initiative. It is important that it operate within the shared governance principle. Institutions should create a governance structure that involves all academic and administrative units that will be affected by it and that may play a role in its success or failure. Any new academic or administrative policies should be approved through the institution's normal pathways for new policies.

5. **Guarantee Early Success** – One can anticipate that not all faculty or academic departments will be enthusiastic

about online learning at the beginning, so early programs should be those that are very likely to succeed. Initial programs should combine two features. First, they should be led by academic departments and faculty who are enthusiastic about the program. Second, once faculty have expressed interest, the program should be tested against several criteria, including: (a) the suitability of the program for online learning, (b) the program's reputation for quality, (c) similar programs offered online by other institutions, (d) the existence of an identifiable target student population that can sustain the program's cost over multiple years, and (e) the institution's ability to reach that population to promote the program.

6. **Create a Business Model –** It is important to create a business model that ensures that all new costs associated with the online learning initiative can be recovered through tuition and fees without weakening other, ongoing priorities at the institution and that any excess revenue is appropriately reinvested. As with other aspects of the program, it is important that the business model be openly shared with both administrative and academic leaders.

Business Planning Issues

Developing a meaningful business plan may be the hardest part of getting started with an online learning initiative. At many institutions, the idea of using technology to deliver complete degree programs to new groups of students who may never set foot on campus is a truly unique idea. In that case, there may be no financial models to follow. Here are some ideas.

First, treat the online initiative as a new cost center. That is, identify all costs associated with the initiative, with the goal that these costs will be recovered through tuition and fees. The online initiative should be expected, when it matures, to recover all of these costs through tuition and fees. Revenue from traditional programs should not be expected to cover

costs of the online program; nor should students in the online program be expected to pay for services that they do not use.

Identify all new costs that will be incurred as a result of the online initiative, anywhere in the institution. These might include:

- Technical Infrastructure—This would encompass the learning management system and other computer-based resources. If this infrastructure is to be shared with other functions (i.e., online activities for on-campus students and faculty), then calculate a share of that institution-wide infrastructure that should be borne by the online initiative.
- New Demand on Existing Units—This might include the increased demand on core services such as the Registrar, Financial Aid, library, the central IT unit, marketing, etc. Estimate the specific new demands that the online initiative will place on these units. In some cases, the best solution will be to fund new positions in these units.
- New Costs Directly Tied to the Online Learning Unit – This includes all costs that will assigned to the central unit that is coordinating the initiative.
- Academic Unit Costs – This would include all new costs incurred by the academic units that develop and offer courses through the online initiative. In some cases, these costs will be covered by the central online learning unit; in other cases, the academic units will bear these costs but will expect to recover them through tuition and fees

It is also important that all parties understand how achieving scale over time will affect cost efficiency and revenue distribution. Different kinds of costs contribute differently to achieving scale. For instance:

- Infrastructure costs—technology, website management,

licenses, library services, "brand" marketing, faculty professional development, etc. – will be recovered through each enrollment.

- Program costs – the cost of developing and offering degree and certificate programs (program design, faculty leadership, program-specific marketing, academic advising, etc.)—will be recovered through enrollments in those particular programs.
- Course development and maintenance (faculty and instructional design costs, etc.) are incurred every time a course is developed or updated and will be recovered through enrollments in those particular courses.
- Student services (registration, pre-enrollment counseling, financial aid, etc.) occur for each enrollment, regardless of the program or course involved.

Using the above, you can estimate how many programs, courses, and student enrollments you will need to break even. Also, decide how after-cost revenue will be used. For instance, to what extent should after-cost revenue be reinvested in new program development, new student services or co-curricular services; returned to the academic units that offer the programs for their own use; or returned to central administration?

A revenue sharing formula, based on the above considerations, should be developed early and shared widely with the administrative and academic units that will be involved in the initiative. It is important that everyone have a common understanding of how costs will be handled—who will take the financial risk if a program does not succeed—and how financial returns will be distributed. My own experience was that it was best to share gross revenue—ensuring that sponsoring academic units will receive a percentage of gross tuition in

addition to cost recovery–rather to wait until all costs are covered and share whatever remains. Risk should be with the central online learning administrative unit rather than with each individual teaching or support unit.

The business plan should be treated as new institutional policy and applied uniformly across all units.

Ultimately, each institution's revenue and cost model will reflect the organizational culture and needs of that institution. There is no single model. However, I hope these principles will help guide the discussion at institutions that are beginning new online learning initiatives.

Closing Thoughts

Institutions have been developing online learning programs for the past two decades. There is a growing community of institutions that have gone through the start-up process and that are now institutionalizing online learning as an ongoing strategy for realizing their mission in the Information Society. Organizations like the Online Learning Consortium and the University Professional and Continuing Education Association provide a meeting ground for this community and can help institutions get off to a good start.

CHAPTER 5

Recruitment Issues

In the September 18, 2014, issue of Inside Higher Education Scott Jaschik reported that higher education admissions directors were having a tough time meeting their recruiting targets. Is online learning—now entering its third decade as a force for change in higher education—part of the problem or part of the solution? Some thoughts:

The 2014 survey noted that admissions directors are focusing on finding more full-time undergraduates (81% of publics and 84% of privates) and minority students (73% or publics, 63% of privates), after which the publics and privates begin to diverge in their goals. Interestingly, neither public nor privates seem to be particularly interested in attracting part-time undergraduates (40% of publics, 15% of privates), although they are interested in attracting veterans and military personnel (70% and 42%) and first-generation students (71% and 50%). They are also interested in international students (53% and 63%) and out-of-state students (60% and 64%), but apparently only if they are full-time. In short, college admissions officers seem to want to attract the same kinds of students who came to higher education in previous generations and whose full-time presence on campus helped to pay for the dorms, classroom buildings, the grounds, the sports teams, etc.

The last year of the Millennials—the generation that arguably surpassed Baby Boomers in number—were born in 1999 and entered college as 18-year-olds in fall 2017. Their successor, Generation Z, is likely to be as big, if not bigger, than the Millennial generation. The question for higher education is whether they need the same kind of education as their Boomer and Millennial predecessors. Another 2014 *Inside Higher* Education article, "Ready or Not, Change is Coming," reported on a dramatic shift in student circumstances and student expectations of higher education. The author, Marni Baker Stein, noted that not only is this generation of students more likely to work while attending college, they have very specific expectations of higher education, including that they (quoting Ms. Stein here):

- attend, perhaps more than ever before, to the outcomes of their education;
- expect a return on their investment and increasingly demand internships, practical experience and direct windows into possible employment paths from the very start of their post-secondary careers;
- value personalization that is embedded in their day-to-day experiences and that responds to both their weaknesses and strengths;
- prefer optimized pathways that recognize and credit prior knowledge and experience and allow them to move at their own pace;
- opt to work across multiple institutions and multiple instructional contexts to get to goal; and
- demand a student experience accessible anytime, anywhere, and on any device.

That begs the larger question: What is the societal need for

higher education in this global information age? Is the job of higher education to prepare young people for lifelong careers? Or is it to help professionals stay vital through the coming decades of technological, social, and economic revolution? Is lifelong education the real job of higher education in this new environment?

Online learning has been attracting to our institutions an increasingly large number of students who, for various reasons, cannot drop everything to attend college full-time. However, it is also having an impact on traditional-aged students. In *Grade Change*, their 2013 survey of Chief Academic Officers, I. Elaine Allen and Jeff Seaman reported that 7.1 million college students have taken at least one online course. This is an increase of 411,000 over the 2012 findings. Note that this figure includes all students—full-time, part-time, on-campus, off-campus.

Clearly, online learning continues to have an impact. Online learning should be part of the strategy in attracting new students in several of the categories that admissions officers identified as being strategic:

Full-Time Undergraduates The U.S. Department of Education has noted that most high school graduates who are prepared to go on to college already do so. Thus, if we want to increase the number of full-time undergraduate students, we need to increase the number of high school students who graduate ready to enter college. Online developmental courses—high school courses offered by higher education institutions—can help high schools ensure that their students develop the skills they need to enter college. Colleges and universities can also use online courses as dual enrollment courses that give high school students an early opportunity to earn college credit as they earn high school graduation credit.

Veterans and Military Personnel Online learning is one of the few ways that service members can maintain progress toward their educational goals as they move from assignment to

assignment. Penn State World Campus is one of many online providers who have been recognized as military-friendly institutions.

First Generation Students In today's economy, many first-generation students will come to a decision about higher education once they are already in the workforce. Moreover, they often lack family support and personal examples that make it easy for them to make the decision to leave home and move to a university campus. Online learning allows these students to remain at home and to work and be part of their local community while they develop the confidence they need to become successful as full-time students. A first year of online **courses** also greatly reduces the total cost of a degree for most students, helping to minimize dropouts due to cost.

International Students Online learning is a global phenomenon. Higher education institutions increasingly are developing partnerships with peer institutions in other countries to offer joint degrees, especially at the graduate level. U.S. institutions wishing to attract undergraduate international students to their campuses might consider collaborative programs that mix on-line courses with residencies at both institutions or some other mix of experiences to attract international students and to give their own students an international experience.

Potential Completers In 2014, *Inside Higher Education* carried an article, "Within Striking Distance," by Paul Fain that looked at the 31 million Americans who have attended college but who have not completed a college degree. Of this group, about a third—10 million—stopped out after the first semester. Another 17.5 million stopped before reaching the third year, and 4 million had moved past the two-year mark. He calls the last group "potential completers." Fain noted:

The most common type of potential completer is 24 to 29 years old and has been out of higher education for two to

six years, the report found. About 600,000 women and slightly fewer than 500,000 men fit this description.

More than one in four potential completers enrolled in college continuously or intermittently for seven years or longer. And the study found that about 36 percent spread their enrollments over four to six years.

These students are often the core target for continuing and distance education programs. However, this is not just a marketing challenge. It is not enough to attract these students back to higher education. Experience shows that, if a returning student is not successful the second time around, chances are great that they will not return for a third try. There are many reasons beyond academic preparation why a student would need to drop out or stop out of college: financial problems, family crises, health, changes in one's personal goals, etc. Returning students often must continue to deal with these issues and, in addition, may bring with them new challenges, such as the need to maintain a full-time job while taking classes and to balance study with their roles as spouses and parents. Quite often, these non-academic life issues are the major barrier that adult learners face when they return to finish their degree.

As we enter the third decade of online learning innovation, one thing seems to be clear: the next generation of innovations should be focused on fully mainstreaming online learning, integrating it into institution-wide strategies to attract and hold an increasingly diverse set of students and continue to support their educational needs through their professional careers. This means integrating online learning into an institution-wide vision for how the institution can best serve its communities.

Marketing is not enough. Institutions that are serious about student success must invest in advising and counseling staff who can help these students integrate learning into their lives. Whether the institution is public, private, or for-profit, we also

have an obligation to the broader society—taxpayers who often help fund students through state and federal scholarships and loans—to provide compassionate pre-enrollment counseling and academic and personal advising to help returning adult learners find the best program for them and to succeed once they return.

CHAPTER 6

Big Data and the Rights of Students

In December 2013, the *Times Higher Education* website in Great Britain published an article about the use of big data in higher education.

Viktor Mayer-Schönberger, professor of internet governance and regulation at the University of Oxford's Oxford Internet Institute, was interviewed on the eve of the Online Educa Berlin conference about the increasing use of "big data" by higher education. He cautioned against using big data to track students and to narrow their choices as they begin their academic careers. Quoting from the article:

> "Until the beginning of the big data age, a student could write in his or her application…an argument outlining why the data might not be complete enough, and might not give a comprehensive prediction," he said. "I fear that as we move into the big data age…this argument will not hold much currency any more. Then I worry that the predictions will take over, and schools, universities and colleges will not take any risks anymore."

The concern that use of big data will make it harder for students

to chart their own educational—and, by extension, professional and societal—futures is important. Institutions need to make sure that, in the process of trying to optimize student success, they don't deny students choice. At the same time, we need to make sure that we honor our other commitments to students. Some points for discussion:

- It is important that students know what data is being collected and how it will be used, individually or in aggregate. Given the ways that big data can be used to guide the student's experience in the curriculum, it is essential that students be aware of how their actions are being captured and used by the institution.
- Institutions need policies regarding how they use data they collect. For instance, can the data be used to disqualify a student from a direction the student clearly wants to take?
- Institutions need to control the use of data. What is the student's right to privacy in this environment? For instance, should institutions be able to use student data for purposes other than helping the student succeed? Should they be able to use it, in aggregate, for recruiting? Should institutions be able to sell data or use it to promote non-academic products and services to students? If a third-party is used to collect information, what use, if any, can the third party make of the data?
- Who, besides an individual faculty member, should have access to student data gathered during a course? Historically, universities have protected communications in a course. Should institutions that collect student data in courses be able to share that data—individually or in aggregate—with other faculty, with advisors and other student services professionals, or with third parties (parents, potential employers, etc.)?

- At a UPCEA/ACE conference on online learning, one presenter described how big data was being used within courses to track how students use online content. The presenter described a case in which the course allowed students to request a "hint" when they were having difficulty with a problem. She noted that one student always used the "hint" as a first resort, which raised the question of whether the student was actually learning the course content. This raises two broad ethical questions: (1) In cases like this, should students be made aware of how over-use of a feature like hints will be seen by the instructor and encouraged to use the feature sparingly? And (2) If help is provided, should using that help be seen by faculty as a sign of weakness on the part of the student? It is an area that calls out for new rules and better communication about expectations.

Clearly, big data has great potential to help institutions better understand their students and, potentially, to help them guide students to success. However, for this benefit to be fully realized, institutions—and individual faculty—need to integrate the collection and use of this data into its culture and into the relationships that exist with students at the course level, the program level, and the institutional level. In the process, institutions must ensure that students are made aware of and are empowered by the data that the institution is collecting.

CHAPTER 7

A Note on Online Badges

Over the past few years, postsecondary institutions have expanded their use of online learning. Originally conceived as a way to extend credit courses and degree programs to off-campus students, online learning is now also being used to articulate and deliver a wide range of nondegree and noncredit programs. This, in turn, has led many online learning providers to adopt a new kind of credential—the "badge"—as a way to reward students for successfully completing an online learning course or series of courses. Badges can serve many purposes, to be sure. My goal in this posting is to suggest a couple of ideas about the use of badges as a way to formally recognize completion or achievement.

First, if the badge is to be a viable credential, it is important that the online learning community come to agreement on what constitutes a "badge" in this context. For many years, continuing education units at our institutions have used an international standard for recognizing noncredit learning: the Continuing Education Unit or CEU. The CEU is endorsed by the International Association for Continuing Education and Training http://www.iacet.org/, which defines a CEU as follows http://www.iacet.org/ceus/about-the-ceu: "One CEU equals ten contact hours of participation in an organized CE/T experience,

delivered under responsible sponsorship, capable direction and qualified instruction." The CEU is widely recognized and used by institutions and a variety of professional societies. Institutions and other providers of online learning badges can ensure acceptability of their credential by tying the badge to this widely accepted measure of noncredit learning.

Second, it is important that institutions that offer badges formally adopt the credential, however it is defined at the institution, and keep records of students who have earned them. It is essential that the institution itself recognize the badge as a credential, so that potential employers, professional societies, and others can confirm that the student has, indeed, earned a badge at that institution.

We are at a stage in the maturation of online learning where we need to institutionalize innovations that have arisen around experiments with technology-delivered education. The badge concept has evolved as a way to recognize online learning. Now, we ourselves must define it operationally and recognize it so that it has lasting value to the student.

PART IV

BUILDING LEARNING COMMUNITIES

CHAPTER 8

Re-Imagining Continuing Education

Continuing Education has a long and proud history in American higher education. The concept dates back to the early days of the land grant movement, when Agricultural Extension was created with the vision of the academic researcher working with farmers in their fields to improve agricultural production in order to sustain the forces of urbanization and immigration that were key to the Industrial Revolution in the United States. While Agricultural Extension grew throughout the 20th century, many institutions also created centralized "General Extension" or "Continuing Education" units to link other academic departments across the institution to the broader community that the institution served.

Over time, these centralized Continuing Education units became expert at matching university resources to community needs. In the process, they supported innovation and delivered a wide range of programs and services, including:

- community needs assessments
- evening and off-campus credit courses, certificate programs,

and degree programs, including provision of related student support services to adult, part-time students

- noncredit workshops, professional development programs, and consulting projects.
- academic research and technology transfer conferences that create academic and professional communities around university research interests
- summer youth camp programs
- liaison between academic units and employers and other community organizations on responses to community development needs

The Continuing Education function grew rapidly in the 20th century. As far back as 1915, institutions came together to form the National University Extension Association as an umbrella professional and organizational development for CE units. It is now called the University Professional and Continuing Education Association and includes 400 institutions throughout the U.S. and beyond. A shared sense of purpose matured around this community, as reflected in institutional mission statements for Continuing Education. Some examples:

> Our mission is to promote lifelong learning through the design and delivery of continuing professional education and training programs for individuals and organizations. —George Mason University
>
> The Center for Continuing Education's mission is to extend the educational resources and expertise of the University through innovative, non-traditional programs and services. —Mississippi State University

> We connect Penn State's programs, research, and services to a vast, diverse community. Our mission is to engage, empower, and inspire *global* learners through the transformative, boundless power of knowledge. —The Pennsylvania State University

> The mission of continuing education at the University of Washington is to extend knowledge and professional development, career advancement, and personal growth opportunities through teaching, research, and public service to the citizens of Washington State and the nation. —University of Washington

> The Division of Continuing Studies supports the mission of the University of Wisconsin-Madison and the spirit of the Wisconsin Idea by providing access to educational resources to nontraditional students, lifelong learners, and the community.–University of Wisconsin-Madison

The Wisconsin Idea, first articulated by University of Wisconsin President Charles Van Hise in 1904, captures the essence of Continuing Education in the U.S. It is *"the principle that the university should improve people's lives beyond the classroom. It spans UW–Madison's teaching, research, outreach and public service."*

Continuing Education in Transition

Many of the traditional continuing education roles—and the idea of a centralized CE function itself—have come under pressure in recent years for many reasons, not the least of which is technology. Online learning has created a much more diverse and convenient point of access to credit programs for adult students, giving students greater options and making traditional evening classes less competitive. At the same time, reduced state funding for higher education has made academic units more sensitive to the need to generate new funding and more aggressive about creating direct relationships with external clients. As a result, some longstanding Continuing Education roles have diminished and pressure has increased to decentralize the traditional role of Continuing Education as a single interface between the university and the community.

All this came into a fresh focus when *Inside Higher Education* reported in 2015 that U.S. Secretary of Education Arne Duncan

"was set to call for a new focus on accountability in American higher education." Secretary Duncan's immediate focus was on accountability for student success, on behalf of the students, parents, and taxpayers who fund the cost of educating traditional students. However, there is a broader accountability question. Recently, Pope Francis used the term "social mortgage" to describe the debt that institutions owe to the public that funds them. The question for higher education is simple: how can we best return value for the taxpayer dollars that states provide as general institutional subsidies? That is, how should the state taxpayer's direct investment in colleges and universities return value to the community? Part of the answer lies in our tradition of Extension and Continuing Education: to extend the university beyond the campus through teaching, research, outreach, and public service.

A Renewed Vision

Certainly, when colleges and universities properly educate individual students—turning successful students into successful professionals—they directly contribute to the economic and, in some cases, social success of the community. It is especially important that the commitment to student success extend to adult students, for whom re-entry into higher education is often a high-risk step. This is a core role for Continuing Education units that offer credit programs to off-campus adult, part-time learners. However, we must also consider the quality issue as it relates to other, less formal ways in which colleges and universities contribute to the community. These include professional development for a wide spectrum of professionals and technical workers in both public and private organizations; supporting organizational development for community institutions, from schools to museums to volunteer organizations; transferring the results of research from faculty members to individuals and organizations in the community; and providing informal learning opportunities for youth,

seniors, and others. Continuing Education can serve as a broker for these programs, identifying community need, matching that need with academic expertise, supporting student success at all levels, and funding the development of programs that respond to the need.

Here are some specific elements of a renewed vision that will allow Continuing Education to help academic units across the institution engage with the communities they serve:

- Risk-Free Innovation. Faculty should be able to serve the community without financial risk to the academic unit. When the central CE unit is set up as a cost center, with total budgetary responsibility for its programs, it assumes that risk. The assumption here is that the CE unit has total financial responsibility for any program that it offers. The CE unit can absorb the risk, balancing the risk of innovation against net revenue from other programs. To be successful, the CE unit needs two things: (1) a clear costing and revenue sharing policy that operates as institution-wide policy so that all units are treated equally and (2) a governing body with representation from across the major academic colleges so that risk is balanced.
- A Community Interface. A centralized CE unit can provide a single institutional point of contact with key client organizations, serving as the institution's ambassador to the community. This does a couple of things. First, it allows the institution to address multiple needs in client organizations. For instance, a company may have an immediate need for professional development of its engineering staff, but it may also need some help with marketing staff or with back office issues or customer relations. A central CE unit can survey needs across the organization and bring multiple academic units to the response. It can also manage the overall relationship with a client organization, as needs change.

- Adult Learner Support. A key benefit of a centralized unit is its ability to work with adult, part-time students, whose needs are often unlike those of traditional undergraduates. A CE student services group can help students deal with the many non-academic issues that they face in trying to integrate learning into already busy professional and personal lives. The CE unit can be a key player in ensuring student success for the adult, part-time learner.

These roles require a strong shared governance system in which academic units have a voice in policy, funding, and new initiatives, understanding that funding of new initiatives is based on net revenue generated by previous programs. All academic units thus should have a voice in CE governance. The Continuing Education governance should be on a par with the institution's other major missions, such as undergraduate and graduate education and research.

CE and Online Learning

Some institutions built strong boundaries between Continuing Education and Online Learning. That may have been necessary to get online learning started. However, two decades into the online revolution, it is clear that online technology cannot not be isolated, but should be widely available to help institutions better serve individuals and communities of all sorts. The online environment is part of the daily life of today's citizens. It affects how we work, how we socialize, how we find information and solve problems. It is part of the fabric of today's world. The question, then, is not *whether* Continuing Education should use online technology, but *how* best to integrate technology into its mission and services.

Already, some continuing education units have integrated online learning into their credit offerings, turning evening classes into blended learning courses that reduce the need for

adult students to travel to campus. This makes the courses more competitive and, at the same time, can improve instruction by better engaging adult students in the learning process.

Beyond that, however, online technology can be used in noncredit continuing education environments. Open educational resources, webinars, social media, MOOCs, and other variations all have potential to improve the connection between the university and the many communities it serves. Online technology can be used to bring together geographically dispersed clients—professionals, public servants, etc.—into sustained learning communities that can have an extended consulting and research transfer relationship with faculty in multiple academic units.

When Continuing Education effectively embraces online technology, it can better articulate the goal of serving the community with noncredit programs, research and technology transfer programs, support for K-12 education and community development, and related services.

Looking Forward

The original idea of Extension was a response to the need for innovation to support the Industrial Revolution. For the next century, universities used Continuing Education to help their state's employers, professionals, government agencies, and schools, hospitals, and other community organizations adapt to changing needs. Today, a generation into the Information Revolution, these communities are facing even more dramatic changes as they try to remain vital in the face of a global economy driven by information technology. Centralized Continuing Education support services, empowered by the new technology and by internal policies that create a culture of innovative engagement, offer a way that universities can help faculty engage the communities and individuals they serve and

whose taxes support many aspects of our public higher education system.

CHAPTER 9

Creating Communities of Engaged Learners

Massively Open Online Courses (MOOCs) were initially advertised as a way to extend education to under-served areas. However, it soon became clear that, for many, MOOCs were simply shadows of credit-based online courses, offered without cost but also without credit. For some, they also became a business. And, for many, they became simply a catchall phrase for noncredit work. True noncredit Continuing Education programming goes well beyond what the public identifies with a MOOC. Rather than get tangled up in a term that has been misused, let's start from scratch.

Continuing Education can best use online learning technologies in a noncredit environment by creating online "learning communities"—systems that allow universities to maintain an ongoing engagement with a client group through which multiple learning opportunities can be developed. Learning Communities should have several key elements:

- The ability for participants to enroll and participate in faculty-led noncredit online courses, research transfer

seminars, and training workshops. Some of these may lead to certificates, "continuing education units," or badges.

- Access to open educational resources (OERs) developed by the host institution to provide specific research-based content that users can apply in their local working/community environment. These may be small training modules, demonstrations of new processes and procedures, backgrounders on regulation, or academic content that members can use to train local staff. OERs might include video lectures, process demonstrations, computer models, etc.
- A social media environment that allows members to interact informally with each other and with academic experts on local issues as they arise and to share experiences in using OERs and other content acquired from the Learning Community.
- A data bank where ideas, discussions, etc., can be stored for later access.

Each Learning Community should be led by faculty in the sponsoring academic unit and administered by the Continuing Education/Engagement/Extension office. The institution should assume that the Learning Community's needs may extend beyond the major discipline around which it is organized; one role of the Continuing Education office, then, would be to help attract other disciplines to the Learning Community when the need arises. The Continuing Education office would also be in a good position to ensure that successful innovations generated by one Learning Community are shared with others.

Learning Communities could benefit any number of professional groups that are geographically dispersed or that work in different organizations within a community. Some examples:

- School Teachers
- School Administrators
- Hospital Professionals
- Farmers
- Local Government Professionals, such as Borough Managers, Financial Officers, Police, Firefighters, etc.
- Elected Officials
- Tourism Directors
- Small Business Owners/Operators
- Specialized Professionals
- Leaders in Civic Organizations
- Civic Clubs and Service Organizations
- Librarians

While each Learning Community should have a distinctive set of services and programs, all might operate under a similar business model that would have three major components:

- An annual subscription fee would fund basic operation of the Learning Community. The fee might apply to the organization as a whole or to a subset of its members. For instance, a school district could join a Learning Community, giving a specific number of teachers access in a given year; in that case the district's membership might be based on the number of teachers in that district who would have access.
- During the year, the Learning Community would offer a variety of formal noncredit training programs. An individual registration fee would be required of all participants (either paid by the member organization or directly by the participant).

- A Learning Community may choose to charge a subscriber to download OERs.

The goal should be to keep membership fees low, with the understanding that the value of the Learning Community increases with the number of members.

Ideally, each Learning Community would also have an advisory board that would give members a voice in governance and content.

Most institutions involved in Continuing Education/Engagement/Extension have some experience with organizing constituents in order to coordinate services. In many cases, existing business models could be adjusted to the online environment.

The Learning Community model offers new ways for colleges and universities not only to extend their academic expertise into the community, but to create an ongoing two-way relationship between faculty and their constituencies for research and technology transfer—and to identify new areas for future research and development.

CHAPTER 10

Public Media in a Multi-Platform Environment

The October 2014 issue of *Harper's Magazine* includes an article by Eugenia Williamson, "PBS Self-Destructs," that, for those of us who have a history with public broadcasting and value its role, is troublesome.

The article focuses largely on how public television funds major programs, how the sources of funding have changed over the years, and the challenges that producers and the system itself face as funding has migrated from direct federal support to foundations and private donors to corporations. Williamson argues that funding sources have always been a cause for tension and, in some cases, compromise in production and scheduling decisions. She notes that "For one brief, shining moment—which occurred before its actual creation—PBS was an uncompromised thing. It began as a Great Society initiative under the Johnson Administration and, like other public works programs of the era, was conceived as a way to level the effects of poverty and close the education gap." (p. 47). However, over the years, PBS and, by extension, the producers who create programs for national distribution over the system, have had to seek other sources of funds.

Williamson notes, ". . . the present state of PBS was almost an inevitability, the result of structural deficiencies and ideological conflicts built in from the very start" (ibid).

Clearly, the issue of who funds national public television productions and what impact the funding has on editorial decisions (both the short-term editorial impact on an individual project and the long-term impact on strategic thinking and program decisions), is an ongoing concern. In fact, it has been an ongoing concern for decades. However, it is critically important that we not take a narrow view of public broadcasting. PBS is not like commercial networks. The pressure on funding documentaries that Williamson describes is one part of the public media environment in the United States, but not the total story by any means.

At this point, I should note that I have a long history in this arena. I worked for a public television station for almost two decades and, in subsequent positions, worked closely with individual stations and with the PBS Adult Learning Service for another seven years. In short, I have a perspective that colors how I see issues.

Williamson notes that the media age of the PBS prime time audience is sixty-two. That may be true—and certainly, the fund-raising programs targeted at that audience do tend to reinforce the idea. However, this kind of generalization is a gross misunderstanding of the system's purpose and structure. While the PBS primetime audience is bigger than many national commercial channels, PBS doesn't go after a single audience (as commercial stations target the prime "consumer" market segment—people aged 18-35). Instead, they target programs to a wide spectrum of specialized audiences to meet the needs of specific groups of citizens. Here, from the PBS website are some examples:

- Over the course of a year, nearly 90% of all U.S. television

households – and 217 million people – watch PBS. The demographic breakdown of PBS' full-day audience reflects the overall U.S. population with respect to race/ethnicity, education and income. (Nielsen *N*Power, 9/24/2012-9/22/2013)

- In a typical month, 104 million people watch their local PBS stations. (Nielsen *N*Power, 9/30/2013-10/27/2013)
- 80% of all kids age two to eight watched PBS during the 2012-'13 season. (Nielsen *N*Power, 9/24/2012-9/22/2013)
- PBS had seven of the top 10 programs among mothers of young children in July 2014. (Nielsen *N*Power, 7/2014)

Local Stations: The Heart of Public Broadcasting

Another way that public broadcasting differs from commercial broadcasting is that its strength lies greatly in the local station and the connections between individual stations and the communities that they serve. The nation's 161 public broadcasting licensees (who together operate 351 local stations) fall into three major categories: 84 are community organizations, 52 are colleges/universities, 20 are state authorities, and 5 are local educational or municipal authorities. These stations are the true heart of public broadcasting.

Originally, many of them were founded in order to extend educational and cultural resources into their communities. Until the 1990s, many stations devoted their daytime schedules to instructional television programs targeted to the K-12 curriculum. Every year, station personnel would meet with local school representatives to preview new programs and identify those that met local educational needs. The station would then acquire broadcast rights and schedule those programs for broadcast during the academic year. When PBS moved to satellite distribution in the late 1970s, they added

an Adult Learning Service and distributed college-level courses that local colleges and universities could license and offer for credit around local broadcasts.

Today, PBS maintains PBS LearningMedia.org (http://www.pbslearningmedia.org/), a free online collection of educational video modules in science, math, social sciences and English language arts that teachers may download and use in the classroom. The collection is complemented by PBS Teacherline (www.pbs.org/teacherline/) which provides access to related teacher professional development opportunities.

This is one example of how public broadcasting's strategies for serving the community have changed over the years as technologies and needs have changed. When I first started in public broadcasting at Penn State in the 1960s, we had one channel that served 29 central Pennsylvania counties. Today, WPSU delivers programs over four video channels (one broadcast, three cable), one of which is a 24-hour PBS Kids channel. In addition, it offers three public radio channels with a mix of classical music, news and discussion, and jazz. And, our community also has access to a cable-based children's channel—Sprout—from the Children's Television Workshop, which developed *Sesame Street* and other children's programs that are identified with public broadcasting and that includes many of the same children's programs broadcast on the main public TV channel. And, even more, there is a PBS application for iPAD that allows viewers to watch full episodes of many nationally delivered programs.

Time, changing technology and changing need, as our communities adapt to a new economic and social context, have created both new challenges and new opportunities for how we use media to inform, educate, and enlighten citizens of the communities served by this unique system. Public broadcasting is better described today as public media, because it uses multiple media delivery systems—continues

to be an important way to bring high-quality information and artistic expression to communities and individual citizens.

Ultimately, the key to success lies in the links between local communities and their local station, between that station and the national PBS service. For instance, local stations could work with their local school districts to encourage the use of PBS Learning Media services, testing them against local teacher needs, identifying unmet needs, and encouraging sharing of ideas across school boundaries.

Increasingly, there is also a need to create links among stations that have similar missions to collaborate in the development and use of programs). One example is University Place, a partnership among three university-licensed Public Television stations at Ohio State University, the University of Wisconsin, and Penn State University to develop content in collaboration with stations' affiliated universities, and delivery of content to teachers and other audiences via the web, podcast, video-on-demand, and television broadcast. University Place was funded in part by the Corporation for Public Broadcasting. The project included development of a University Place Content Sharing Portal—a web-based service designed to help stations share, search and retrieve each other's programs.

In today's multi-platform environment, public media organizations can be, more than ever, agencies that make the match between community need and media resources, whether for instruction, community development, or cultural expression. Innovations like University Place and PBS Learning Media suggest some starting points for the next generation of public broadcasting.

PART V

LOOKING AHEAD

CHAPTER 11

Convergence or Transformation: A Personal View of Futures for Distance Education

Note: The following is adapted from a talk I gave in 2008 upon being presented with a Distinguished Service Award by the National University Telecommunications Network.

In 1992, I was invited by the American Center for the Study of Distance Education to project long-term trends in the field. It was an interesting time to be looking forward. We were about a decade into the rise of video in distance education—the movement from correspondence study to broadcast telecourses and satellite-delivered live interactive courses (the latter of which had spurred creation of NUTN in the early 1980s), but it was clear that the Internet was on the horizon. I identified four trends:

- The simultaneous diversification and convergence of technologies

- Changing relationships with students
- Changing relationships among institutions
- The emergence of a new mainstream

This was a year before the release of the first web browser, but there were already multiple ways to deliver video, audio, and print and to facilitate interaction through all three media. It was clear, however, that, amid this diversity, institutions needed to think in terms of convergence. We could not afford to have video, audio, print, and computer all in separate organizational silos. I predicted that "organizational structures that do not facilitate a mixing of technologies will find it difficult to reach their full potential in this new environment." This, in turn, would create a "new institutional infrastructure" where use of technology for instruction would be considered alongside its use for administrative and research applications, creating a "broader community of interest."

If that was true for the technologies of the early 1990s, it certainly is true in the 2010s. It is becoming increasingly clear that the Internet is changing the university infrastructure and, at institutions that have embraced technology, is creating new communities that have a potentially transformational impact on learning.

The second trend was a changing relationship between our institutions and our students and, particularly, the rise of synchronous and asynchronous "learning communities" as a critical pedagogical issue. I also mentioned another relationship issue: the rise of the "empowered student" or "community of scholars" as a result of students having better direct access to large databases, video and textual materials—what we now call "learning objects." This trend, I suggested, "will require that we rethink our definition of instruction, our assessment of learning, and our ideas about curriculum."

Today, we are still experimenting in this area, but with much higher stakes as the Web moves from a publishing environment to a collaboration environment and as we enter what some are calling a "conversation economy." Blogs, wikis, Facebook, YouTube, social bookmarking—all of these Web 2.0 applications are creating a demand for a new, more collaborative, more inquiry-oriented approach to learning—on campus and off—that reflects how people use technology at work and at home. The goal posts have moved a long way ahead of us on this issue, but there are some great things happening around the world as educators experiment with these new tools and as institutions and governments begin to set new policies on sharing content.

The third trend area was a forecast that the use of new technologies would also change relationships *among* institutions. The examples cited in 1992—the University of Mid-America, the International University Consortium, the National Universities Degree Consortium and the Mind Extension University—have long since passed from the scene, but we are seeing new forms of collaboration. Two examples point to the scope of change that is now gathering momentum: the Great Plains Interactive Distance Education Alliance (IDEA) and its mission of offering collaborative online degree programs for adults that no single institution can offer alone, and the CourseShare initiative in the CIC—the academic counterpart of the Big Ten—which uses online learning to share rarely-taught language courses across institutions to regular, full-time undergraduates on campus. When you look internationally, you can begin to see potential that is just now being explored. In the international sphere, collaboration takes many forms. Almost every regional association for open and distance education has an initiative to develop quality standards that will facilitate sharing, for instance. There are individual examples of institutions sharing courses at the graduate level, such as Penn State, the Universities of Leeds and

Southampton in the UK allowing their graduate students to take online courses in Geographic Information Systems from each other's programs. Perhaps the most dramatic collaborative initiative internationally is the Open Educational Resources movement. Here, the potential was articulated by a leadership group that met in Cape Town, South Africa, and issues the "Cape Town Declaration:"

> ...we call on educators, authors and institutions to release their resources openly. These open educational resources should be licensed to facilitate use, revision, translation, improvement and sharing by anyone, ideally imposing no legal constraints other than a requirement by the creator for appropriate attribution or the sharing of derivative works. Resources should be published in formats that facilitate both use and editing, and that accommodate a diversity of technical platforms. Whenever possible, they should also be available in formats that are accessible to people with disabilities and people who do not yet have access to the Internet.

I projected one other trend back in 1992: the emergence of a new mainstream in American higher education in which distance education is fully integrated into a broader institutional strategy to respond to what I called the "currents of social change." This has been a little less easy to track, but I suspect each institution represented here has seen some evidence of this kind of convergence. At Penn State, for instance, our online distance education program, the World Campus—which offered its first fully online courses a decade ago—is now a leading part of a broader institution-wide consortium called Penn State Online that tries to coordinate among the many different applications of online learning for students on campus and inter-campus, as well as at a distance. Several degree programs developed for distance education are now being offered as "blended" programs at some of our smaller campuses; some academic colleges have created their

own online services to support on-campus instruction and then make these courses available to World Campus students. We can also point to project like the National Center for Academic Transformation and the CIC CourseShare initiative as examples of distance education techniques being used to improve instruction on campus.

Another evidence of convergence—of the mainstreaming of distance education—is the incredible growth in the number of institutions that now offer degree programs online to off-campus students and, equally important, a commitment not just to courses, but to complete degree programs. As far back as 2004, the annual Sloan survey, *Growing by Degrees*, reported that 44 percent of all institutions that offered Master's degree programs offered at least one program online. Sixty-five percent of institutions were using primarily core faculty to teach their online courses—a rate comparable to face-to-face courses. In short, online distance education is emerging as an ongoing commitment of academic units, reflected in their long-term commitment to degree programs and to the assignment of core faculty to serve both on-campus and distant students.

Online Nation, the 2007 Sloan Foundation report on online learning, noted that the number of students taking at least one online course has grown to 3.48 million in 2006, more than double the number reported four years earlier (p.7). While the Sloan survey did not distinguish between truly distant students, full-time commuter students, and resident on-campus students, it is safe to assume that this dramatic growth was the result not just of increases in adult students at a distance but also increases in the number of commuter students taking online courses for convenience and scheduling flexibility, and the number of full-time on-campus students taking online course as part of their campus curriculum. As anecdotal evidence, a Penn State undergraduate student told me around

that time that every semester of his college career included at least one course with a significant online component.

However, online learning is not having an equal effect at all institutions. *Online Nation* reported that the greatest impact is in public colleges and universities, with community colleges leading, followed by public universities. The impact has been least felt on private, baccalaureate institutions (p. 12). In other words, those institutions that have a mission to serve off-campus or commuter students are more likely to fully embrace online distance education than those whose mission is more campus-centric. Interestingly, a clear majority – 59.1 percent – of academic leaders saw online learning as "critical to the long-term strategy" of their institutions (p.16).

Clearly distance education and the mainstream have continued to converge in the decade since that report. In the process, the mainstream has been changed and distance education—at least in some cases—has been more fully embraced—or, perhaps more accurately, re-invented—as a strategy for the total institution. This has been driven partly by market forces—the rising importance of continuing education for adults who are already in the workforce – by the need for local institutions to more effectively compete for commuter students, and by the growing willingness of traditional-age students to study online. Last, but certainly not least, the convergence has been driven by economics—the need to cut costs and improve efficiency on campus and the need to generate new tuition revenues from nontraditional students in light of reduced government funding and increased competition.

All that said, today, we are working in a vastly different environment—both inside and outside our institutions—than when distance educators began experimenting with online 15 years ago. People have begun to notice that the Information Revolution is not so much about how quickly information is

broadcast, but about how it brings people and ideas together in new ways. We are beginning to realize that the Knowledge Society, in reality, is a "Skills Society." Providing access, convenience, flexibility, and cost-effectiveness will continue to be important issues, but the emerging question for the next decade or so is: how can we help individuals learn how to build and sustain new communities built around collaboration and sharing of knowledge to solve both local and, increasingly, global problems? For professionals in distance education, the challenge is more focused: How can we use what we've learned about online distance education to help transform our institutions to meet the needs of this emerging society?

We can envision a broader strategic horizon in which distance education is a key part of a more complex picture, one that includes fully online courses offered to students both on campus and at a distance, hybrid courses offered on campus and through continuing education, blended programs that mix distance education and site-based experiences, and, more generally, an academic environment in which e-learning is seen as a utility available to all faculty and students. Access will continue to be a critical strategic issue, along with efficiency on campus and, perhaps most important, continuing to evolve a new pedagogy that responds to the new needs of individuals and their communities. A generation into the Information Revolution, some new trends are emerging that may signal where we need to go. All of them have something to do with the idea of building community, so let me use that as an organizing metaphor.

Traditionally, we tend to think of communities as *local*. A community is a village or a neighborhood of people who live inter-dependent lives. You may own the town bank, but my son teaches your daughter in the local school. The kids we went to school with grow the food we eat, run the shops where we buy what we need, attend the same churches, etc. In a globalized

economy that kind of highly localized interdependence is harder to find. Online learning removes geographic and time as defining characteristics of interaction. We need to re-perceive the whole idea of community to understand how we are inter-dependent in today's world and to develop the skills needed to work together in a new environment. For higher education, this has implications at several levels:

At the *institutional* level, we need to re-define the communities we serve and re-articulate our mission in those communities. For most of us, distance education has meant reaching very far beyond our local campus community in order to aggregate markets for specialized programs or serve widely dispersed professional groups. The very first Penn State teleconference through NUTN, as an example, allowed our Nuclear Engineering faculty to share with their colleagues around the country what they had learned from analyzing videotape of the core at the Three-Mile Island nuclear plant after the accident there. Today, we are starting to see institutions use online distance education as a way to more effectively serve local commuting students who cannot always come to campus. In addition, the movement toward blended programs is allowing institutions to more easily develop programs that respond to local needs by mixing on campus and online activities. Online dual enrollment courses—which allow high school students to simultaneously earn high school graduation credit and college undergraduate credit—signal another new relationship between higher education and the schools that is another trend in this area. These are starting points for rethinking how our institutions relate to our local communities.

At the *faculty* level, new kinds of academic communities are emerging that may redefine the relationship between faculty members and their institutions in the long run. Projects like the CIC's CourseShare, the Great Plains IDEA, and the Worldwide

University Network's shared programs—all of which I mentioned earlier—bring faculty from multiple institutions into an inter-institutional community where they can expand the impact of their specialized research. And, of course, the Open Educational Resources movement—something that began outside the distance education community but that presents great opportunities for it—allows faculties to retain control of their intellectual property so that they can share it with colleagues around the world.

Central to this transformation is the student. Here, "community" has two meanings. The first is the need to prepare students—of all ages—to become effective citizens and professionals in this new society—call it a conversation economy, an age of cognition, a knowledge society, a global information society, etc. Today's world demands that people have the skill to work collaboratively across boundaries and to participate in communities that are not defined by geography and time. This, in turn, calls for a new pedagogy that redefines what we mean by a "learning community." For most public colleges and universities—which need to be responsive to workforce and community needs—the new environment demands a curriculum that not only ensures that students gain discipline-based core knowledge but that also emphasizes active and collaborative learning, inquiry-based approaches that help students create useable knowledge out of information and apply that to solving problems. One can envision this as a new general education—not an introduction to the disciplines, but the development of general skills and attitudes that cut across all disciplines. Recent innovations with Web 2.0 innovations—blogs, wikis, etc.—point the way, but there is much to do before a new pedagogy is fully understood, accepted, and integrated into a new curriculum.

Finally, we can apply the "community" metaphor to new relationships that are beginning to emerge between

institutions. We can anticipate more collaborative degree programs, especially at the graduate level. We can also anticipate that Open Educational Resources movement will stimulate new partnerships among institutions that have related specialties and between universities in developed countries and those in developing or transitional countries. These new partnerships most likely will be highly variable. Some may focus on undergraduate curricula, others on graduate programs or collaborative research that builds institutional capacity, or assistance to industries served by multiple institutions. Institutions in Latin America have been working with colleagues in Europe and North America to develop collaborative doctoral programs—what the organizers call "sandwich" programs—in which faculty members from Latin American institutions can earn their doctorates from Northern institutions while building a research capacity at their home university. The programs use online elements to reduce the amount of time Latin American faculty members would spend away from their home institutions, in an attempt to reduce the academic brain drain.

The international dimension of distance education in a transformed university was brought into focus by Stemenka Uvalic from UNESCO, at a distance education conference sponsored by CREAD in Ecuador in May 2007. She painted this picture in her keynote: There are now 132 million postsecondary students worldwide; China and India have doubled their enrollments in the past decade. However, countries are having trouble funding capacity to handle demand. This has stimulated three trends: (1) new private (profit and nonprofit) institutions that do not receive government funds (she noted that 80% of postsecondary students in Japan are now in private institutions); (2) student mobility-2.4 million students went abroad in 2004, with 1 in 16 postsecondary students from Africa going abroad; and (3)

the growth in open and distance learning (ODL). The number of open universities has doubled in Commonwealth countries; the number of for-profit online providers is growing globally. This has an impact on student mobility. Fully a third of all international students enrolled in Australian institutions studied from their home country in 2004. Uvalic projected that "cross-border distance education may become the most significant development" in the years ahead.

Clearly, distance education has converged with the mainstream of higher education over the past decade. The challenge for the future is for us to help stimulate a broader transformation that will allow higher education to meet the emerging needs of a maturing knowledge society in which very local communities are affected by global events. In 2018, we will celebrate the 60th anniversary of the United Nations Declaration of Human Rights. Distance education organizations around the world are collaborating to produce special issues of their journal to recognize the unique role of distance education in providing equitable access to education. But 2018 is also the 50th anniversary year of the assassinations of Martin Luther King and Robert Kennedy, both of whom died in the process of trying to make real the ideals of the Declaration. It is a reminder to us that these rights are not "natural laws" but need to be claimed and made new in every generation. Higher education is a unique institution when it comes to helping our communities and individuals in them fulfill the promise of the Declaration. Our generations are lucky to be working at a time when distance education has the potential to help our institutions realize the mission of public education in a new and more complete way than has ever before been possible as our institutions adapt themselves to the needs of the Information Age. We can't do this on our own, but I think the distance education community—all of us in this room—have the experience and, as a result, the perspective,

that can help stimulate and guide change in each of our institutions. It is an important challenge and a wonderful opportunity at the same time.

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CHAPTER 12

Thinking Strategically About the Second Generation of Online Learning

I was privileged to participate in the first generation of online learning. The shift from print and broadcast television to satellite to online delivery was a true revolution in how colleges and universities define distance education and engagement in the 21st century. Today – a couple of decades later – as a new cadre of leaders step forward to guide the field into its second generation, I'd like to share some thoughts on where the field might go.

What follows is not about technology. I am sure we will continue to see technological advances in the coming decade, as we have seen in every decade since the 1960s. Instead, I want to focus on the larger issue of how the second generation of online learning can contribute to an institution's traditional mission of community outreach, service, and engagement. The first generation of online learning made every institution capable of reaching well beyond its physical campus to serve individuals with undergraduate and graduate courses,

certificates, and degree programs. This is now a mature function at many institutions. However, other aspects of outreach and engagement have suffered. Noncredit professional development and research and technology transfer, for example, have lost what once was a central position in the outreach mission at many institutions. The strategic question for the next generation is: how can the strategic use of online learning revitalize—perhaps even revolutionize – the institution's broader engagement with important communities that it serves? I'll focus on four kinds of engagement that can be strengthened by online learning.

1. **Supporting K-12 Education**

For three decades during the Cold War—from the 1960s into the 1990s—colleges and universities—especially university public TV licensees—supported K-12 education by creating video lessons at all grade levels that were then broadcast over both university-owned and community-owned public television stations. At Penn State, for instance, the university's public television station partnered with academic colleges to develop instructional television series such as *Investigative Science in Elementary Education (ISEE)*, which offered video demonstrations of various natural phenomena; *What's in the News*, a weekly social sciences series for middle grades; and *Art for the Day,* a series on artistic expression. We broadcast these and many other series that we acquired from other sources, every weekday from 9 a.m. to 3 p.m. during the school year and supported those broadcasts with teacher guides and in-service professional development programs for teachers. That service faded as nonbroadcast media—videocassette and videodisc, primarily—became easily available for teachers, obviating the need for a centralized distribution system.

Today, the motivation for engaging with schools is no longer the Cold War. Instead, the challenge is to prepare students

to succeed in a technology-driven globalized economy that is bringing new social and economic challenges to communities. The Information Revolution has made it essential that young people leave high school with skills in science, technology, engineering, and mathematics—the STEM disciplines—that they will need in order to move into careers that require these skills. We can envision several ways in which colleges and universities can use online learning to help K-12 schools address these curricular needs and, in the process, produce graduates who can move on to advanced study in the areas most needed by the new global information economy:

Dual Enrollment Courses Online learning makes it relatively easy for high school students to take online courses from a college/university and simultaneously earn both college credit and credit toward high school graduation. It requires an agreement between the two institutions. Students benefit by earning advance credit toward their college careers, reducing the time to degree and reducing the overall cost. Some states provide funds to support the cost of tuition and fees. The offering college/university benefits by filling vacant "seats" in an online class, by creating a relationship with potential future undergraduates, and by visibly serving the needs of their local communities.

Curriculum Support through Open Educational Resources In addition to offering full courses, colleges and universities can support K-12 education by providing curriculum support through OERs—online lectures, demonstrations, simulations, experiments, etc.—much as they did in the days of broadcast instructional TV. In some cases, OERs could be excerpted from full courses. In other cases, faculty (with support from the same instructional media design teams that work with them on full courses) could prepare material specifically to address instructional needs at different grade levels. When done at scale, this kind of effort requires a

close working relationship between schools and the university to identify needs, to evaluate available OERs, and to organize online delivery and support for the final products. In the days of ITV, production of new materials was often funded by the state Department of Education, while delivery costs were shared by the schools and the originating public TV station. While online learning has become a source of new revenue for many institutions, this service would be self-supporting but not necessarily a source of net revenue, unless the institution could tap into a national system for distribution of OERs. One important question for the fild is this: Who will convene the national discussion?

2. Engaging Professionals and Employers

One advantage of online learning is that it allows us to build communities that bring together people of similar interests across wide geographic areas. This offers a special opportunity for universities to engage employers to ensure that all employees, regardless of location, have access to professional development opportunities. This can operate at the state level or nationally and internationally. It can bring together specialists who otherwise would be too sparsely distributed to be able to justify a traditional classroom activity. Online learning has already been well-used to deliver undergraduate and, especially, postbaccalaureate certificates and degree programs that target dispersed professional specialties in a particular employer or group of employers. However, it can also include more targeted noncredit courses and nonformal services—OERs, TED-type presentations, and webinars that communicate new research findings and technology transfer opportunities, noncredit management or process training, updates on new regulatory policies, etc. The range of services and delivery modes can be grounded in an agreement between the university and the employer or group. In this instance, the field needs to develop a business model that institutions

can use to build relationships with client organizations—professional organizations, employers, etc

3. Promoting Inter-Institutional Collaborations.

Both of the initiatives described above can benefit from inter-institutional collaborations. In fact, institutional cooperation and collaboration may be critical to achieving critical mass and sustained success. In the K-12 area, for instance, collaborations could allow an institution to bring to nearby schools not only locally developed OERs but also resources from institutions around the country, making it easier for the institution to help schools meet curricular needs across grades and disciplines. Equally important, working within a network of institutions also will help to reduce cost and duplication of effort, while building quality standards and opening opportunities for collaborative content development, bringing faculty from multiple institutions together to improve the K-12 curriculum and to respond to regional needs.

Inter-institutional collaborations built around the needs of specific professions and/or employers can also provide additional value to both the participating universities and the client organizations. Such collaborations can help faculty from participating institutions identify opportunities for collaborative research and consulting with the client, as well as opportunities to develop courses that complement those of other institutions, so that a student can work toward a major at one institution and a minor at another. The opportunities for collaborative teaching, research, and technology transfer targeted to real needs in the profession are significant.

Similarly, multi-national collaboration among universities offering online programs can serve to internationalize the student experience at all participating institutions, providing new insights on subject matter, better preparing students to succeed in a global, multi-cultural workplace. At the same time, employers will come to know that their local university will meet

their needs by bringing the best expertise available, not just what is available locally.

Collaboration is not a new idea in our field. Over the decades there have been several important inter-institutional collaborations around media-based distance education. Examples include the National Technological University (NTU), the American Distance Education Consortium, the To Educate the People Consortium, etc. The early days of the online era saw collaborations around the needs of the nuclear power industry and other industry groups. The Great Plains Inter-Institutional Distance Education Alliance (IDEA) stands as a model for institutional collaboration to improve access to needed disciplines across state lines. The Worldwide University Network (WUN) is an excellent example of research universities that have come together to collaborate around applied research needs in areas such as climate change, public health, and understanding cultures. These examples illustrate the need for a governance and organizational structure to support collaboration. The K-12 OER environment, for instance, would greatly benefit from national partnerships among producing universities to coordinate access to OERs from different institutions and manage the sharing process. We need a system that is focused specifically on K-12 curriculum needs and through which we can help teachers identify needs, evaluate materials, share lesson plans and support materials within the community and, perhaps, offer professional development opportunities. In the days of video, PBS and several regional networks provided that umbrella. We need to build an infrastructure to support different kinds of collaboration today.

4. Preparing Retirees for the Third Act

In today's world, people live longer, more healthy and active lives. For many, retirement is no longer the end of active life, but the beginning of a "third act," when men and women can

look beyond the need to support their families and find new interests. Helping the first few generations of these new seniors find a place in society—whether it be in new professions or as volunteers or just active individuals—is a new way that outreach and extension units can bring university knowledge and expertise to bear to serve individuals and, in the process, strengthen communities. Older adults are a new and growing population who need access to university resources no less than they did as young professionals. And, our communities need older adults who are prepared to contribute in new ways.

These innovations are not technological per se, but they are facilitated by technology. They illustrate how public higher education can re-imagine the roots of its outreach/extension mission in the process of re-focusing on the needs of today's community. Over the past twenty years, universities around the world have proven that higher education can address a key stress point as society adapts to the needs of the Information Revolution: the need for a better-educated workforce. The challenge for a new generation of university leaders is to provide central support and encouragement for faculty who want to engage with the community to address the multitude of issues facing residents in their roles as citizens, workers, parents, and members of civil society organizations in the years ahead. This kind of engagement in this era of rapid and profound societal change is central to the continued vitality of public higher education.

Developing a Strategy

A useful first step would be for a foundation or other recognized leadership organization to convene interested institutions to explore the internal and inter-institutional policy, planning, and business issues that must be resolved in order to develop successful collaborations at the national level. The result would be a community of institutions committed to working together to use our now mature online learning

systems to meet the needs of schools and employers at a scale that will open new opportunities for innovation.

CHAPTER 13

Creating Conversations: The New Challenge of Engagement in Continuing Higher Education

In his 2005 essay, "Local Knowledge in the Age of Information" (in *The Way of Ignorance and Other Essays*), Wendell Berry discusses the tension between urban and rural elements of society in the information age. Noting that information is not knowledge and that some knowledge is centered on the specific attributes of a particular place, he argues that, "until the information is shaped into knowledge in some particular mind and applied without harm to an actual place, we will not know whether or not it is an asset or how valuable an asset it is" (p. 121). What is needed, he writes, is not simply one-way communication—from the university outward—but a *conversation* that goes back and forth between the center and the periphery. Such a conversation is, by definition, dynamic: both parties stand to gain from it. "There is always the possibility," Berry notes, "that a conversation, by bringing its

participants under one another's influence, will change them, possibly for the better" (p. 122).

For Berry, the situation calls for a new vision to guide the traditional extension mission of the land grant university:

> . . . I am talking about the need for a two-way communication, a conversation, between a land grant university and the region for which it is responsible. The idea of the extension service should be applied to the whole institution. Not just the agricultural extension agents, but also the graduate teachers, doctors, lawyers, and other community servants should be involved. They should be carrying news from the university out into the region, of course. But this would be extension in two directions: They would also be carrying back into the university news of what is happening that works well, what is succeeding according to the best standards, what works locally. And they should be carrying back criticism also: what is not working, what the university is not doing that it should do, what it is doing that it should do better (p. 123).

The extension mission dates back to the 1800s, when the national network of Agricultural Extension Services was established to ensure that the United States had the agricultural production power to sustain urban growth and immigration during the Industrial Revolution. Then, the vision was of the agricultural researcher working side-by-side with local farmers in their fields—a good match with the "conversation" vision. However, over the years, a variety of services—and other modes of delivery—have developed around the idea of extending the university, gathered under titles like continuing education, distance education, outreach, research and technology transfer, etc.

Today, "engagement" may be the best term to describe the many ways our land grant universities can best serve their communities. These include community-based research and research transfer, formal education offerings—from workplace training to undergraduate and graduate degree programs—at

times and places convenient to working adults, engaging employers in organizational and technical improvement, partnering with community high schools to improve the curriculum, and the broad set of community-based services that have arisen out of the original agricultural extension mission.

That said, many institutions tend to view the engagement function as a one-way "delivery system" rather than as a means of creating conversations between campus and community. Moreover, many academic units often see engagement programs as cash cows rather than as part of their central mission. Its many activities—continuing education and distance education courses, conferences, noncredit workshops, consulting services, etc.—produce new, discretionary revenue for academic units, often through the use of adjunct faculty whose experiences in this arena do little to inform research and teaching within the participating academic unit.

The problem is made more complex as we move into the global information society, where it is increasingly difficult to define "community." For today, let's assume that "community" means the citizens of the state in which the land grant university operates and the organizations—governments, employers, civil society, etc.—through which these communities function. Here, the need to create and sustain conversations is, perhaps, more evident.

How do we create sustained conversations between the university and the communities it serves? Here are some thoughts:

- **Leadership** The Engagement unit—Continuing Education, Outreach, University Extension, etc.—is often the unit most directly involved in linking the university with multiple communities. Engagement professionals need to see themselves as ambassadors, looking out into the community

to identify needs and then into the university to identify resources that meet those needs and managing the relationship to ensure that a true conversation is developing and that the program evolves as the conversation reveals new opportunities. This is the ultimate role of Engagement leaders.

- **Needs Assessment** Most Engagement units include a strong marketing staff to determine the financial potential of university programs and help reach clients. This should be complemented by a needs assessment function that goes into the community and ask the basic questions: What are your problems? What are your needs? What can we do to help? This is the beginning of the engagement conversation. A periodic needs assessment process—perhaps one that would drive a rolling three-year plan—will help ensure that Engagement programs not only have a market but that they are addressing vital community needs.
- **Governance** Engagement professionals must be able to match community need with academic readiness. This requires that the Engagement unit meet regularly with representatives of all academic units to discuss community needs and opportunities and to ensure that the university is bringing the most appropriate resources to the table. For many years at Penn State, each new program idea was reviewed by a Coordinating Council consisting of representatives from each of the University's colleges. This approval process ensured that interdisciplinary opportunities were addressed and that relevant faculty research was brought to the table. This internal "means assessment" conversation is the necessary counterpart to community needs assessment.
- **Feedback** For the conversation ideal to work, it is important

that faculty who participate in engagement programs provide feedback to their colleagues on what they have learned by engaging with the community and with working adult students. A formal feedback mechanism is essential, given the large number of adjunct faculty who often teach in these programs but do not participate in other aspects of the academic community. One thought: offer an annual competition for faculty to write brief essays about their experiences with students and community organizations. Publish the best articles online and give recognition to those who have worked to develop a true conversation with students/clients.

- **Partnerships** Once the university has determined need, its responsibility is to provide the best possible academic response. In the past, response was limited by geography. However, online technology allows an institution to reach out to other universities and partner with them to deliver programs that best meet local needs. The Great Plains IDEA project is a great example. At its best, such partnerships also create new relationships among faculty at participating institutions, opening new doors for collaborative research.
- **Learning Design** The "conversation" ideal also operates inside individual courses. In today's world, education is not simply information transfer. It is about guiding students through the process of inquiry, evaluation of information, and application of knowledge to solve problems. It requires conversations at many levels. Several models for a conversational learning environment are emerging, including the flipped classroom, in which content normally delivered in a lecture is available out of class so that classroom time can focus on discussion.

As we—our institutions, our communities, ourselves as professionals—move further into the global information

society, it is important that we build new institutional policy structures and business models to better serve the needs of our communities and, in the process, to build new kinds of community within our work. In this effort, engagement professionals may well be on the cutting edge of building productive new conversations between our universities and the many communities we serve.

Reference:

Berry, Wendell. *The Way of Ignorance and Other Essays.* Counterpoint, August 10, 2006.

CHAPTER 14

Building the Future of Public Higher Education

Over the past couple of weeks, I have been reminded several times of the danger facing American higher education institutions. One of the strengths of American higher education has been its diversity. However, today it appears that many institutions are struggling with falling attendance amid increasing competition, at a time when both the higher education community and the broader society are questioning the purpose of the college/university in the new global information society.

One suggestion that I heard was that states should privatize their public colleges and universities, selling them off to corporations that would then manage them. That, to me, is exactly the wrong thing to do. Higher education is a fundamental institution of our democracy. Our colleges and universities are the foundry in which we, as a nation, forge new ideas—often ideas that are not popular at the time or that may threaten profit-seeking companies. Corporatizing higher education would simply turn our campuses into job training sites where students are acclimated to corporate mores. Higher education is about building and maintaining our

society. Even with faltering State support, much of the teaching mission of higher education is supported by federal scholarships and loans; I see no reason why our social commitment to students, funded by our taxes as a societal investment, should be used to make a few corporations rich. The critical issue is to understand the social need for higher education in a changing cultural and economic environment as we shift from the Industrial Age to the Information Society.

A quick look at history might help explain the importance of a societal context and where we need to go. Most of our public state colleges and universities were created during the early days of the Industrial Revolution. The big land grant universities were funded originally by the sale of federal lands through the Morrill Act of 1862 in order significantly expand the number of professionals needed to support the nation as it settled the frontiers and created industrialized urban centers. The goal was (according to the Land Grant Act of 1862):

> . . . to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

The Act was in response to the significant changes to society stimulated by the Industrial Revolution: (1) the need for greater professional expertise in a wide variety of professions—from engineering to social sciences—and (2) urbanization and the growth of cities as a result of industrialization. We needed better agricultural production to support urbanization; one result was the creation of agricultural colleges and research centers in each state university and an Agricultural Extension Services that put university agricultural expertise into every country, helping farmers improve production on the front lines of agriculture. This social mandate also resulted in new

curricula, new types of courses (laboratory courses in science, for instance), and new academic subjects (statistics and the social sciences, for example). It also brought to higher education new students—the children of farmers, coal miners, immigrants—who would lead the country as the Industrial Age matured.

One of the drivers of urbanization was immigration. As the population became more diverse, States responded by creating normal schools—schools designed to prepare teachers to educate the children of immigrants and to create standards for school systems in a state. Many of today's state colleges and universities began as teacher colleges.

Over the years, these public colleges and universities became the "three-legged stool" of innovation for the Industrial period, combining *teaching*, *research*, and *public service* to serve the needs of their states and of the nation, generally. Each college and each university is a community of academics and other professionals who focus on developing new knowledge and passing that knowledge on through direct interaction with various user communities and, through the curriculum, with future professionals. The diversity of American higher education, then, becomes a societal asset, as there are many places where new ideas can take root and many contexts for understanding knowledge and turning it into action; this diversity is a strategic strength for American society.

By the 1950s—when the nation was just beginning to see the outline of the coming Information Revolution—the Truman Commission on Higher Education identified eleven principles or goals that summed up key characteristics of an educated person on the eve of the new era:

- An ethical code of behavior
- Informed and responsible citizen solving problem skills
- Understanding global interdependence

- Habits of scientific thought in personal and civic problems
- Understanding others and expressing one's self
- Enjoyment and understanding of literature and the arts
- The ability to create a satisfying family life
- The ability to choose a useful and satisfying vocation
- Developing critical and constructive thinking habits

These were ways in which higher education was expected to contribute to the quality of life in American society that went beyond simple preparation for a career.

Higher Education in the Information Era

We are now a generation into the Information Revolution. It is easy to see that some of the innovations made to help higher education adjust to the Industrial Age are no longer relevant and that others need to be seen in a new context. We saw that higher education innovations in the 1800s were stimulated by urbanization, immigration, and the need for new kinds of professionals to grow and sustain the industrial economy and the new society that it was forging. So, what are the drivers for innovation in this new era? Some thoughts:

- Just as the Industrial Revolution stimulated a need for a new professional class, it has become clear that the Information Revolution requires a more educated workforce at many levels. The federal government has set a goal that 60 percent of high school graduates will go on to postsecondary education. Currently, the level is 39 percent. This should help reverse the enrollment decline; however, most high school graduates who are prepared to go to college already do so. We need to significantly increase the percentage of high school graduates who are prepared for college-level work. This will require that colleges actively support improvement of the K-12 curriculum, potentially blurring the

traditional lines that separate K-12 and postsecondary education.

- Agricultural production remains an issue, but today—and for the future—the problems are increasingly international and driven by long-term global trends. Writing in *Scientific American*, Lester R. Brown noted that world grain production has fallen short for the past several years, while demand for food continues to rise. This is an example of what he calls a "trend-driven" change that is "unlikely to reverse without a reversal in the trends themselves." (*Scientific American: Lights Out—How it All Ends*, Kindle Edition, p. 722). The goal must be not simply to increase agricultural productivity but also to address a spectrum of public policy and environmental issues. The Cooperative Extension model created in the 1860s to improve agricultural production needs to be re-imagined to address these global environmental and biotechnology issues.
- We are now starting to see unintended consequences of late twentieth century innovations in health, energy, and other fields. Julie Wakefield, again in *Scientific American,* noted: "Innovation is changing things faster than ever before, and such increasing unpredictability leaves civilization more vulnerable to misadventure as well as to disaster by design." (Ibid., p. 132) In an increasingly interconnected world, disasters—especially biological disasters like epidemics—can spread both far and fast. It is essential that our universities produce graduates who are prepared to understand and respond to the increasingly global implications of local actions. The old disciplines need to be re-thought and, where appropriate, new interdisciplinary curricula need to be created. At the same time, we also need to generate new interdisciplinary research efforts.
- The post-Industrial economy is inherently global, but it is

also essential that we build local communities that can thrive in a global economy and society. In this environment the university is an ambassador, linking local communities with global trends.

- These issues affect all three legs of the higher education stool: teaching, research, and engagement. Some examples:
- **Teaching** – We need a more interdisciplinary approach to general education and a capstone general education event that helps soon-to-graduate professionals better understand the broad social issues that will face them when they enter their professions. Increasingly, the professions will require interdisciplinary approaches that will facilitate new kinds of innovation and connections across traditional professional communities.
- **Research**—We need interdisciplinary thinking to drive research ideas and an environment that encourages inter-institutional collaboration.
- **Engagement**—The "service" mission needs to be seen as fully integrated with the other two, as we build new relationships with communities through both teaching and research and technology transfer.

Reinvigorating Higher Education as a Social Good

It should be clear that higher education in the Information Age should not be seen as a purely "personal" good. It must be perceived and supported as a "societal" good in this new environment, just as it was at the beginning of the Industrial Revolution. This begins with a re-commitment to the vision of higher education as a three-legged stool, with a firm commitment to the integration of teaching, research, and service/engagement.

We also need to recognize that these functions are no longer place-specific. Technology allows us to distribute our

resources and also to combine resources to ensure that all students and beneficiaries of research and engagement have access to the best possible talents and services. Examples of technology-based collaborations already exist to point the way. For instance, the Great Plains Inter-institutional Distance Education Alliance (IDEA) allows state universities in the Midwest to offer degree programs that call on the expertise of faculty across all participating institutions. Similarly, the CIC CourseShare initiative is a collaboration among "Big Ten" institutions to use technology to aggregate students and extend the reach of faculty in specialized courses. The Worldwide University Network has used the Internet to create research collaborations in a variety of subjects. The American Distance Education Consortium brought together Cooperative Extension Services at land grant universities across the nation to share agriculture-related expertise. In short, online technology allows colleges and universities to extend their ability to deliver to their communities the best, most appropriate programs, faculty, and research.

In this new environment, not every campus needs to duplicate every discipline, every degree program, etc. Technology should allow states to transform some campuses into specialty campuses and then use online learning to distribute some courses to other campuses as needed. That said, campuses should also be sure that they are fully engaged with their local community, using technology to bring into the community resources from other institutions.

Ultimately, much depends on State governments re-committing to the idea that higher education is a public good, not just a private good and embracing changes that will allow our institutions to do a better job of building educated and agile communities in this new era.

CHAPTER 15

Toward a Learning Society: The University in the Information Age

(Note: This is adapted from a talk presented to the Torch Club of Central Pennsylvania on February 14, 2018)

In 1999, the National Association of State Universities and Land Grant Colleges and the Kellogg Foundation charged a Commission led by 24 public university presidents and provosts to look at the future of public higher education in the information age. The result was a series of six reports, under the general heading *Returning to our Roots*. The final report noted:

> "The mission of our institutions has not changed, but the context in which we pursue it is in every way different. Just as surely as the dawn of the 20th century marked the American transition from agriculture to manufacturing, the 21st will usher in the full flowering of the information and telecommunications age." (*Renewing the Covenant*, p. 16).

This paper will look at several ways that learning technologies may be pointing to major changes in how public universities

can meet that challenge. I will focus on three technology elements—online learning, Open Educational Resources, and social media—and how they are beginning to shape higher education's new engagement to fuel the learning society.

1. Online Learning: A New Spirit of Collaboration

Let's start by looking at the impact of online delivery of degree programs. Just last month, Penn State celebrated the 20th anniversary of its online campus, the World Campus. Starting with just 48 enrollments in 4 courses in January 1998, the World Campus now enrolls 14,000 students in 150 undergraduate and graduate degree and certificate programs. Back in 1998, Penn State was one of a small number of institutions that were experimenting with the Internet to deliver distance education. That's no longer the case, of course. A new report from the Babson Research Group, which has been documenting the growth of online learning for more than a decade, found that, in 2016, more than 6.3 million students—or 31.6% of all American higher education students—took at least one distance course. (Seaman, p. 3). 52.8% of all students who took at least one distance course also took an on-campus course, and of those who took only distance courses, 56.1% reside in the same state as the institution at which they were enrolled. In short, online technology is beginning to change how colleges and universities relate to students both on campus and off, in-state and beyond. This is an important factor as institutions face the prospect of declining enrollments as the Millennial generation moves past college age.

A New Era of Collaboration

One thing that the online environment does is eliminate geography as a limitation and as an advantage. When we first started, the fear was that online programs would make us all competitors, destroying a history of cooperation and sharing in distance education that dated back to the 1930s. As it is

turning out, however, we are beginning to see a new spirit of collaboration among universities to use online learning to share faculty expertise, course content, and students.

The Great Plains IDEA An example is the Great Plains IDEA—Interactive Distance Education Alliance. The Great Plains IDEA brings together public universities to collaboratively offer online graduate degrees in agriculture and the human sciences. As their website says, "Why rely on just one university to help you earn your degree when we can help you learn from the best faculty at multiple universities?" GP IDEA began with a group of human sciences deans at seven Midwestern universities who were interested in a collaborative master's degree. By the time the Alliance was formalized in 2001, it had ten charter member institutions. Today, it includes 19 universities across the Midwest, west, and south.

The vision is that institutions will create and maintain strategic academic alliances that "allow institutions working together to field graduate programs that are greater in reach and significance than any single institution could field alone, that manage institutional and shared resources in highly efficient ways, and that enrich the teaching experience for faculty and the learning experience for students." The model assumes that a student will matriculate at her home university but take courses online from multiple institutions. The final degree is offered by the student's home institution. Institutions agree on a common tuition. Currently, GPIDEA offers 19 graduate degree programs.

Course Share A similar collaboration was created by the Big Ten Academic Alliance. Called Course Share, it allows Big Ten institutions to make selected online courses available to resident students at other Big Ten institutions. The focus is on courses in lesser-taught languages and other specialized courses, where students have limited access to faculty and where campuses may have trouble filling seats locally.

Students enroll at their home institution and join courses online. "To date," according to the Big Ten website, "over 130 different less commonly taught languages (LCTLs) and area studies courses have been shared using CourseShare including Swahili, Thai, Vietnamese, and Islamic and Korean Studies courses."

EPCE We can also point to partnerships among higher education institutions and employers that extend professional and vocational education to the workplace. One example in this area is the Energy Providers Coalition for Education (EPCE), which brings together private, public, and government-owned utilities; energy contractors and suppliers; professional associations; local unions; and workforce investment boards and four universities to provide online training and education opportunities for workers in the energy field.

2. Open Educational Resources: Sharing Across Sectors

Another innovation that encourages collaboration is open educational resources—or OERs. The Hewlett Foundation, which funds grants to support the development of open educational resources, defines OERs as "high-quality teaching, learning, and research materials that are free for people everywhere to use and repurpose." OERs can be many things: full online courses, course modules or lessons, video or audio lectures, interviews with experts, demonstrations, simulations, experiments, solutions to math problems . . . you name it. What makes all of these things OERs is that they have an open copyright that makes them free for the public to use, to adapt, and to redistribute.

OERs can be shared among institutions to enhance teaching and to reduce the duplication of effort involved in creating local course materials. Open texts also reduce costs to both institutions and students. OERs can also be made available to community clients, such as employers, to enhance professional

development and practice and to help transfer research findings into practice.

The idea of OERs as an international movement is rooted in a 2007 meeting of educators in Capetown, South Africa, who crafted a declaration on OERs that called for educators to transform online content into *open educational resources* that could be freely shared and for governments and educational boards to create policies that recognize these resources. It has since been signed by nearly 2,500 institutions and public agencies around the world.

Here in the U.S., the Creative Commons was founded in 2001. It provides copyright licenses for OERs, helping to make materials available for free use globally, with special focus on materials that support scientific research dissemination and educational applications.

Community colleges have been especially active in the OER movement. The Community College Consortium for OERs was founded in 2007 to encourage the development and adoption of OERs with the goal of making college more affordable while expanding the resources available to faculty. It maintains a catalog of more than 750 open textbooks. Most recently, it has been encouraging full degree programs based on OERs.

Inter-Sector Collaboration

We are finding that OERs also encourage cross-sector collaboration. Increasingly, for instance, OERs developed by colleges and universities are being used to enhance teaching and learning in K-12 schools. This is likely to continue to grow as states establish online charter schools; as of 2015, there are more than 150 online charter schools in 18 states, plus the District of Columbia. This does not include K-12 brick and mortar schools that offer some courses online. iNACOL—the International Association for K-12 Online Learning—reports that at least 8 states are actively working on statewide policies for the use of OERs in their schools.

Curriculum Issues The combination of university-created online courses and open educational resources in K-12 curricula has great potential to fuel curricular innovation in both environments. In the process, it might also blur distinctions between the two sectors. For instance, university-level college courses can be used as "dual enrollment" courses that allow registered high school students to simultaneously earn high school graduate credit and college credit. The online environment makes dual enrollment more convenient for high school students who live far from a college campus but want to earn college credit while in high school. Dual enrollment helps fill vacant seats in both online and traditional university courses, while offering students a head start toward a college career.

Similarly, university-developed OERs can help ensure that high school students graduate with the knowledge and skills they need to successfully make the transition to higher education.

As these innovations expand, we can expect to see a need to take a fresh look at the transition between K-12 and higher education curricula. Back in the 1940s, the Truman Commission on Higher Education recommended, among other things, the idea of moving from a universal K-12 schooling system to a K-14 system, under which taxpayers would support education for all students through the second year of the undergraduate curriculum. The recommendation was not acted on, although it probably helped to reinforce public support for low-cost tuition at community colleges. Just recently, though, the State of New York approved a plan to offer full scholarships for first two years at SUNY and CUNY to students whose parents earn less than $100,000 per year. The upper limit will increase each year. San Francisco now has a "Free City" program that provides city residents tuition-free

access to San Francisco City College. These are important steps toward the idea of universal K-14 education.

Re-Thinking the Curriculum This, in turn, suggests the need to more effectively align the pedagogy and content of the high school curriculum and the general education college curriculum to (1) eliminate unnecessary overlap and duplication, (2) to ensure that critical skills—such as effectively introducing STEM skills and citizenship development early in the curriculum—are properly covered, and (3) to innovate with pedagogy that takes advantage of information technology to develop student skills in finding, evaluating, and applying information, and their ability to collaborate and to solve problems. A new study by Ithaka.org, was just published in January. It reports, "Faculty collaboration in creating new educational resources that rely on technology can serve as a catalyst for rethinking pedagogy, and has the potential to be a cost-effective means by which liberal arts colleges can provide more students high-quality learning experiences that are in line with the core tenets of a liberal arts education." (p.2)

Micro-Degrees Another twist on curricular innovation is the Micro-degree. EdX, a nonprofit created by MIT and Harvard, offers 1900 open courses—what are sometimes called MOOCs—from 39 institutions around the world. They've been taken by more than 14 million people around the world. More recently, MIT and EdX have collaborated on a "micro-master's" program designed to help learners earn accelerated master's degrees. One program in supply chain management, for example, includes 5 open courses that are the equivalent to one semester of graduate work. They are now in the early stages of doing the same with a micro-bachelor's program.

It seems reasonable to expect that curriculum change—supported by the kinds of innovations we've just discussed—will be part of a re-invention of undergraduate education in coming years.

Other Technology Innovations A couple of other elements also have potential for shaping curricular and pedagogic change. One is the rise of so-called "big data" services that allow institutions to collect data on how students participate in online elements of courses. This data can then be used to help guide students to more productive study habits and help faculty and course designers improve pedagogy and course delivery. Big data—and how institutions use data about individual students—may offer powerful new tools for course design and student advising and support; at the same time, it raises important questions about privacy and student autonomy, but the potential is clear.

Another factor is the rise of "badges" and other nontraditional certifications for both credit and noncredit programs. These certificates could provide a new pathway for universities to engage students throughout their careers and career changes. However, while many institutions now offer badges and certificates, we still need standards that will ensure quality and acceptance of these new forms by employers and by other institutions. In January, the International Council for Open and Distance Education (ICDE) announced that it is forming a working group on badges and other alternative digital credentials—an important first step toward creating standards in this arena.

3. University Engagement: Creating New Learning Communities through Social Media

When institutions first began to innovate with online learning, it seemed that its success came, in part at least, at the expense of more traditional models of continuing education—evening classes, research transfer workshops, noncredit professional development programs, etc. However, that is beginning to change. Today, the tools available to us include, in addition to online learning course management systems, OERs, an

increasingly sophisticated social media environment that allow us to bring people together both synchronously and asynchronously.

This, I believe, will be part of the next phase of our evolution to a learning society: creating sustained learning communities focused on specific professions, geographically distributed community functions, or research arenas. Public universities have a long history of bringing together communities around professional development and research and technology transfer. Information technology will transform these by using multiple IT applications, united by social media, to meet different needs within the community. For instance, faculty activity within a learning community might include:

- Online noncredit courses—and new certifications—that help alumni and/or employees in client organizations grow professionally.
- Webinars that can transfer research findings to professionals in the field and to provide professional development training.
- OERs—videos of lectures, games and simulations, and other presentations—that are available to client organizations to use in their own internal training programs.
- Faculty-moderated discussion groups as an ongoing link to the community, to encourage open-ended communication among community members and academics to raise questions and seek solutions from peers and from university faculty.

Who might benefit from a learning community? Well, in Pennsylvania there are 501 school districts. That means there are 501 school superintendents that could join a College of Education community. Or, 501 school librarians. Or, 67 county commissioners or directors of tourism, etc. Learning

communities could also be built around professions or industrial specializations. One can imagine faculty-led learning communities around a wide range of specialties, from agriculture to natural gas engineering to tourism to management of personal care homes. The learning community concept offers a way to reinvigorate noncredit community engagement while better linking faculty with the professional and social communities that they serve and providing ongoing opportunities to identify new research opportunities.

Finally, the learning community concept could be a very effective way for universities to continue to support recent graduates as they move into their professional lives.

Conclusion

The Kellogg Foundation project that I mentioned at the beginning of this talk included a piece called "Toward a Learning Society." That report noted a two-fold challenge:

First, we must ensure that the remarkable growth in demand for education throughout the lifetime of virtually every citizen can be satisfied; second, we must demonstrate that we can meet this need at the highest level of quality imaginable, along with the greatest efficiency possible (*A Learning Society, p. x).*

The Information Revolution has matured to a point where we are beginning to see incredible changes in our economy and social systems. Online learning, OERs, social media, and the use of these to collaborate and to create new curricula, new pedagogies, and new kinds of learning communities are examples of where we seem to be heading. The global information society brings with it the need for people to learn how to work across local cultures and to use technology in almost every aspect of our lives.

Over the past five decades, we have seen higher education respond to several new technologies as the Information Society has emerged. There was educational television in the 1960s, satellite and cable in the 1980s, interactive video in the 1990s,

and, finally, the mature Internet, which led us to the innovations I've focused on tonight. All have opened new doors to how we engage communities—how we teach and how we share the results of our research. Today, the range of innovation is astounding. It is an exciting opportunity for a new generation of innovators.

About the Author

Dr. Gary E. Miller is Executive Director Emeritus of the Penn State World Campus. Prior to his retirement, he served as Associate Vice President for Outreach and Executive Director of Continuing and Distance Education and was the founding Executive Director of Penn State World Campus, the University's online distance education program. He earlier served as Executive Director of the International University Consortium and Associate Vice President at the University of Maryland University College. He is the co-author *Leading the E-Learning Transformation of Higher Education* (Stylus Press, 2013) and numerous journal articles and book chapters on distance education and the undergraduate curriculum. In March 2004, he was inducted into the International Adult and Continuing Education Hall of Fame. He has been recognized with the 2004 Wedemeyer Award from the University of Wisconsin and *The American Journal of Distance Education*, the 2007 Irving Award from the American Distance Education Consortium, the 2008 Distinguished Service Award from the National University Telecommunications Network, and the 2009 Prize of Excellence from the International Council for Open and Distance Education for his contributions to the field. In 2010, he was named a Fellow of the Online Learning Consortium.