TLTC Conference
The Use of Technology in Education

May 23, 2001

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Gretchen:

Thank you for joining Robyn and me today. We'd like to talk about the evolution of the use of technology in education and its future in North Carolina. There are many here who are far more technologically proficient than I am, but my experiences with technology and education probably mirror those of others who are now teaching within the UNC system and are grappling with how to participate in a meaningful way. In the 1960s I took a course at Purdue University on television—among the first attempts to use technology to teach. Later in the 1960s I took a correspondence course in French, a more traditional course that required weekly assignments to be sent to a faceless reader I would never meet. In the 1980s I taught composition on one-way video and two-way audio, a real-time university course taught to high school students in the Los Angeles Basin. Occasionally the students would come to the studio to sit in on a "real class." I also took workshops during that time to learn to teach composition by using Macintosh computers and did my own research by comparing two classes, one with computers and the other more traditional classes. I was convinced by my own evaluation of the quality of the student work that those using the computers learned more and wrote better. In the early 1990s I prepared a video to be used for a video-based distance education course. It never occurred to me to ask for royalties—no one suggested it. Two years ago I was

instrumental in negotiating a contract for a faculty member with Asymetrix for an internet-based economics course that included provisions for copyright and royalties. During my over thirty years in higher education, our definitions of technology have changed radically.

Robyn:

And as soon as we think we have a handle on a given technology and understand how to use it effectively, it's obsolete! I remember working hard to get our faculty and staff to use gopher and mosaic as the beginnings of what we were calling a "campus wide information system" (CWIS). All it really consisted of was text descriptions of our organizations and our services but it was "online" and accessible to potentially more people than ever before. By the time we had a critical mass of content and organizations participating, it was old hat and real web pages had emerged and passed the CWIS by. Another example of the quickly changing trends in technology use and adoption is the "buy vs. build" challenge. In the early nineties we were developing our own course management systems (CMS) using C++, HTML and authoring tools. All of the functionality that the early adopting faculty worked so hard to build into these applications are now standard fare in all of the "off the shelf" CMS products. Most institutions have abandoned building their own CMS environments. Now we are developing portals so that we can have the highest degree of customization and specialized use. In order to have a reasonable useful life for these investments, we must move quickly before these tools and functions are also obsolete.

Gretchen:

Our students are different too. Most are younger than the microcomputer itself and have grown up with pagers, cell phones, the Internet, and palm pilots. They are forever connected to someone somewhere else and they think it's normal!

A critic of education once stated, "Books will be obsolete in the schools. Scholars will soon be instructed through the eye. It is possible to teach every branch of human knowledge with the motion picture. Our school system will be completely changed in ten years." That speaker was Thomas Edison, and the year was 1913. His comment reminds us that education has always been changing, and the best of us change with it. These examples show the evolution of technology, of higher education, and of our growing need to understand the intersection of these phenomena.

I am defining distance education here to mean e-learning, and not as the inclusive term that incorporates driving to distant sites to teach. In fact, e-learning may take place on our campuses as well as across the ocean. If we have one imperative guiding our discussions and expectations for e-learning, it must be that we view this enterprise as a new way to do things and not as an add-on to what we are already doing. I believe this must guide us as we look at distance education from multiple perspectives—from faculty who are committed to the integrity of the subject matter, to student services personnel who are worried about losing the "high touch" approach that they have adopted, from librarians who are concerned about maintaining resources and delivering them in a timely manner to administrators who are concerned about planning and resources. In all this, it is the student we must consider first, the student who increasingly wishes to access education any time and any place and education that meets her/his needs to ensure

success. Focusing on the student will require that we be much more nimble and certainly more creative.

Robyn:

From the student's perspective, the use of technology in education may vary significantly from that of a faculty member or CIO. For example, the student may actually want to become Microsoft, Novell, Oracle or SAS certified while attaining a business, management or computer science degree. Some students expect ease of use and some reasonable standardization among the tools used for teaching and learning. Having to adjust to a different tool for each online class just because a different professor teaches the class is just not cool! Depending on the discipline however, a broad and diverse exposure to different software, hardware and networking technology may be absolutely imperative.

Gretchen:

If we begin to analyze these multiple perspectives, we find ourselves at odds with the history of higher education. We are used to being funded, and the legislature is used to funding us, based on student "seat time," students who are taking courses on a semester basis with a set number of class meetings, who are either resident or non-resident (but not both at the same time), who may be within a specified geographical service area, and by whom we measure our success based on retention, graduation rates, and years to degree. How is this changing?

Robyn:

Asynchronous learning does not require a specific time and place for learning. Semesters and quarters don't matter, nor does the number of class meetings.

Geographical service areas disappear. North Carolina already has multiple courses and programs being offered within our State from outside while we still argue about whether or not we are duplicating a course from a sister institution or a community college. The result is that we must focus more on outcome-based learning, on specific skills and knowledge rather than time on task.

Gretchen:

What is perhaps most disconcerting to faculty is that it appears that within this new environment content does not add value; the delivery mechanism does. How a program is packaged and delivered becomes critical to the success of the content—content that must continue to be provided by the faculty trained in the disciplines being taught. But the content is transformed by different means of production—collaborative design teams, graphic designers, and learning style experts collaborate with interdisciplinary teams to deliver instruction. Although many faculty have embraced the concept of interdisciplinary research teams, we are slow to accept the same structure for our teaching.

The over-arching concern is funding. Initially legislators and, in fact, many campus administrators, believed that distance education would save money. I believe that by now we are all more sanguine and realize that the money saved will not be reductions to university budgets but will be the money saved by our students who will have less commuting, who will be able to maintain their jobs while completing a degree, and who will relieve some of the pressure on our facilities. In the discussion of budgets we will also need to look at our historical means of assessing fees. Students taking distance education courses may or may not use our recreational facilities, attend our

basketball games, or need the health service, but they should be expected to pay technology fees to ensure the continuous upgrading of their means of education. Given the strengths of the UNC system and sixteen institutions, we must also rethink the inter-institutional degree delivery system. Who grants a degree to a student whom has taken courses from multiple sites, where does the student apply for financial aid, and how do we account for differential tuition within the system? From the institutional perspective, who pays for the costs of collaboration and how do we divide the costs and benefits among team members?

Robyn:

As Gretchen said earlier, e-learning can occur in the classroom and across the world so the same content, packaging and delivery system can and should be used for classroom and distant instruction. As we build more scalable and reusable teaching and learning resources on top of an infrastructure that takes advantage of converging communications technologies, the costs of expensive technical solutions and support resources can be spread across a broader base and a greater return on our investments in instructional technologies can be realized.

As information technology transforms both the structure and delivery of higher education, higher education funding structures must be addressed as well as our views of education. State funding must help us transform education to ensure that public higher education will continue to serve our State and its economy.

Gretchen:

We must be guided by a number of principles:

- Strategic planning must lead us to prioritizing course and program development. The new planning process for programs within the system requires careful planning ahead of time and places the role of gatekeeper on the campus rather than in the Office of the President.
- We must invest in faculty development to diagnose and design courses and programs. The Teaching and Learning Centers are critical to carrying out this imperative.
- It is critical that we assemble a team to produce courses and programs that meet the needs of students. This means rethinking how we teach.
- All aspects of delivery and maintenance must be addressed—technology, sales, distribution, copyright. This requires us to get out of our silos and talk with one another.
- Everything we do must be assessed and evaluated at all steps in the process. This is all new—it won't always work. We need to be willing to say we made a mistake, correct it, and go on.

Robyn:

UNC has been fortunate in receiving funds to support teaching and learning with technology. For the past two fiscal years, we have been able to provide resources to pilot new technologies and new uses of existing technologies. We have experimented with simulations and modeling, wireless and handheld computing and the development of new learning engines. We investigated assessment tools, studied course management systems and assistive technologies. We have been able to provide a variety of professional development opportunities including workshops and symposiums and we acquired

training materials. From these pilots, experiments and research, we have advanced our knowledge of what's doable and what uses of instructional technologies still need work. Hopefully, what we have learned can inform others and advance our effectiveness in the classroom and beyond. This year's TLT conference is a direct outcome of the TLT Retreat that was held at this time last year at Appalachian State University in Boone. These events have been created to foster community building among all of us who are involved in the increasing application of technologies, and especially Web-based technologies, in the teaching and learning environment. The characteristics of these technologies and online resources challenge us all to rethink our approaches to teaching and learning, to organizational relationships, to support services (for students AND faculty), to program planning, to the ways that we work together. We are all learning that success in this new paradigm will depend on dialog and collaboration, at every level of the institution.

Gretchen:

The "marriage" of technology with teaching and learning is at times a difficult one. All of us are at different places in our rejection, tolerance, acceptance, or enthusiasm for this new paradigm for education. Distance education using technology challenges many of the values that faculty believe are central to the tradition of higher education: the role of the faculty member is different when a course is on video or on the Internet, shared governance may be challenged, library resources are available electronically, and place means less than it ever has. Judith Eaton, president of the Council for Higher Education, in a recent monograph[i] outlined those core academic values we have always embraced: institutional autonomy, collegiality and shared

governance, the intellectual and academic authority of faculty, the granting of degrees, the required core of general education, site-based learning, and a community of scholars. These are values most of us hold dear and they are the cornerstones of the accreditation process, which validates our endeavor. There are challenges to these values from outside the academy: a changing market with new players, accountability pressures from the State and the public, students, many of them adults, with different needs for training and education. I want to take a moment to look at how we need to think about new modes of education within the framework of our existing institutions and values.

What are the realities of the future we face? Institutional autonomy will increasingly give way to consortia arrangements. If we are skillful, these consortia arrangements will be among our own institutions, working together for common goals. If we are not careful, we will have sixteen institutions, each with many partnerships with other institutions, with private corporations, or with non-profit providers, losing one of the other values we have—that of collegiality and shared governance. In this new world of cyberspace, we must maintain community.

What about the intellectual authority of the faculty? With the advent of commercial courseware and standardized courses and the increasing use of part-time faculty to teach, many argue that the traditional role of faculty is diminished. It need not be that way. Faculty have a responsibility to step up to the plate, to be the content providers, to teach courses on-line and on-load rather than to relegate distance education to part-time faculty and teaching assistants. Perhaps most challenged by distance education is the concept of "getting a degree." Certification programs, training programs, and courses of study that minimize general education do not reflect the academic

integrity we support as faculty. We need to acknowledge that some students want such training and will get it somewhere. When we can incorporate job skills into our courses, we should do so. When such material is outside of the realm of university coursework, we should let others meet that need. What we must recognize, however, is that our students are changing. They have goals, many of them grounded in aspirations for the good life, and many of them are older, have families, have debts, and have needs for more education for professional advancement. Far too many of them will have debts when they complete their educations, so they are not as idealistic as perhaps some of us were.

How do we respond to these challenges? Eaton provides four principles to guide us:

- Maintain core academic values.
- Use these values to govern our response to change.
- Consider e-learning as a change worth accommodating.
- Accept that the key strategy to meet these challenges is to define and enhance the intersection of core academic values and distance learning.

Robyn:

Let me suggest that, as we move forward with e-learning that we consider some additional guiding principles:

- We must recognize the diversity of our students—diversity of place, of circumstance, of skill level, of academic needs, and of financial need.
- We must enhance communication among our institutions and with the Office of the President.

- We need to begin developing Internet consortiums among faculty in the UNC system.
- Let's consider the added value of the use of the Internet, streaming video, new ways of communication among students and faculty through chat rooms, and on-line editing and continuous learning. What can we do on-line that we cannot do in a classroom?
- In considering our new audiences for education, we must acknowledge the economics for students who are place bound because of jobs, family, or disability and for whom new ways of accessing an education may be their only way to economic viability.
- Always, we must insist upon academic integrity on all that we deliver, whether in the classroom, over the Internet, or on video.

On the technology side we must accept the fact that these anytime, anyplace teaching and learning experiences occur in a production environment. This environment must be stable, reliable, secure and robust. The services must be available 24 by 7 and should provide the same levels of service and functionality that one experiences in the commercial world. There was a time when network availability was not critical. That time is no more. One use to be able to keep our transaction systems down for routine maintenance or batch processing. That time is no more. The production of quality content use to reside solely on the backs of technology savvy faculty who had the interest and desire to develop their own content. Now the IT and instructional design staff must work together to assist the faculty in the development process. We are also seeing a new professional emerge on our campuses - that we may classify as an academic technology

professional. These people are not technology staff whose job is to ensure that the technology is available and working for us. Nor are they faculty engaged in applying the technology in their courses and programs. Instead they are individuals with skills associated with the effective use of technology for teaching and learning, which can help us as individuals and programs to learn how to use technology more effectively.

Our current collaborations in IT procurement, shared services and TLTC have been successful but they must continue to free up campus resources, expand our capacity to do new things and produce best practices to advance our goals.

Gretchen:

In Donald Kennedy's new book *Academic Duty*,[ii] he points out that the "very heart of the institution's academic duty to society is the work of its faculty." He argues for our understanding of the times, times when "particular skills will lose their utility fast. . .[but] the ability to think, reason, and analyze well will be much more durable." He understands that traditional institutions may feel besieged, but he reminds us that in any redesign of our processes we must hold fast to the central mission of the "transfer of knowledge and excitement from one generation to the next." It is what we are all here to do, and we are finding that it can be exciting to participate in these new endeavors even as we struggle with new ways of doing so.

Robyn:

Just as last year, this year's conference should be seen as a pilot, to be defined in large part by you and your needs. This year, we are fulfilling the promise to expand the participants and to open up the time for dialog. The event has doubled in size to include faculty, Faculty Assembly members, librarians, academic and distance education

administrators, directors of teaching and learning centers and academic technology staff, the Board of the UNC Shared Services Alliance and other IT professionals, the Board of the UNC TLT Collaborative, and representatives from the NCCCS and DPI.

In conclusion, I would like to acknowledge some of the individuals that worked tirelessly to make this conference possible. Thank you Bob Tyndall, Patti Turrisi and Laura Rogers from UNCW for your work to facilitate this conference. (NOTE - Acknowledge the new conference center). I'd like to thank Mike O'Kane for more than two years of leadership and dedication within the Office of the President. His work in all capacities within the TLT Collaborative has been stellar.

And thank you to the Board of the UNC TLT Collaborative for creating the conference and for their active support. And especially a big thank you to Hilarie Nickerson who has coordinated the conference on behalf of the TLT Collaborative. She has worked hard all spring and done an outstanding job to bring all of this about.

So please join the conference with a spirit of openness and a willingness to listen and to build new relationships. Talk to people from other communities than your own. Listen to their issues and concerns. Use the tracks to identify key issues and priorities, and help us all to learn how to move forward together in this exciting new environment.

Thank you.

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[i] Eaton, Judith S. *Core Academic Values, Quality, and Regional Accreditation: The Challenge of Distance Learning.* Washington, DC: CHEA, 2000.

[ii] Kennedy, Donald. *Academic Duty.*