



NATIONAL
LEARNING
INFRASTRUCTURE
INITIATIVE

ANNUAL MEETING NOTES

New Orleans 2000

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MORE THAN 250 EDUCATORS, CORPORATE REPRESENTATIVES, AND INDUSTRY EXPERTS—REPRESENTING a 25 percent increase over last year—came together at the annual meeting of EDUCAUSE’s National Learning Infrastructure Initiative (NLII) program in New Orleans from January 19–21 to view successful models of reconceptualized learning environments and to discuss issues related to institutional change. The program has undergone significant changes this past year, reflecting the need to shift its emphasis from evangelism to action, as Steering Committee Chair William H. Graves, chairman and founder of Eduprise.com, pointed out in the opening session.

Under the leadership of EDUCAUSE Vice President Carole Barone, the NLII continues its ambitious program to serve a membership coalition of institutions and organizations seeking to make teaching and learning more effective through information and communications technologies. The NLII’s mission is to create new collegiate learning environments that harness the power of information technology to improve the quality of teaching and learning, to contain or reduce rising costs, and to provide greater access to higher education. EDUCAUSE’s role is to serve as a catalyst that brings together the affected parties to create joint solutions to the problems inhibiting the creation of a national learning infrastructure.

As part of that mission, the NLII meeting in New Orleans focused on several themes, one of which was to bring attention to development of a model that is clear and coherent for managing transformational change in higher education. As Barone pointed out in her opening comments, that model must take into account the emergence of new business arrangements, such as those evidenced by GoCampus and Eduprise.com; it must recognize the value of new affiliations, such as MERLOT; and it must promote collaboration and cooperation. Barone also noted that the mission of the NLII has been expanded to include promoting widespread implementation of new collegiate learning environments by bringing the visionary thinking of the NLII into the mainstream of EDUCAUSE membership.

The two-day meeting offered keynotes by education experts Mary Beth Sussman, CEO of Kentucky Commonwealth Virtual University; Tony Bates, director of distance education and technology at the University of British Columbia; and David G. Brown, vice president, dean, and professor of economics at Wake Forest University, all of whom are working on issues related to distributed and interactive learning. More than 20 concurrent sessions covered similar topics while focusing on case studies and best practices.

During Thursday morning’s opening session, Carole Barone introduced two new NLII fellows: Anne Archambault, manager of educational multimedia

THE MISSION OF THE NLII HAS BEEN EXPANDED TO INCLUDE PROMOTING WIDESPREAD IMPLEMENTATION OF NEW COLLEGIATE LEARNING ENVIRONMENTS.

(continued on next page)



production at Technical University of British Columbia (TechBC), and Paul Hagner, professor and chair of the political science department at the University of Memphis. As NLII fellows, their activities will focus on three specific areas. They will serve as (1) facilitators and producers of the work products resulting from the newly formed NLII Regional Focus Sessions, (2) liaisons to and facilitators of the work of the NLII Readiness Criteria Working Group, and (3) liaisons to and facilitators of the NLII Teaching and Learning Bridges Program. The fellows will also assist NLII project coordinator Vicki Suter in the development of several of the planned NLII focus sessions.

On Friday morning, attendees were given a detailed report by three project representatives on the development of MERLOT, a national collaborative for engaging faculty in the development and peer review of course objects or modules for Web-based teaching and learning. Later in the morning, attendees could choose among three sessions, including one on creating a conceptual framework for decision making about distributed learning, one on the Pew Grant Program in Course Redesign, and one on the Southern Regional Education Board's distance-learning-policy laboratory. The sessions were followed by a discussion with attendees.

Barone announced on Thursday that the NLII meeting typically held in June in Denver has been replaced by a series of regional focus sessions. The next one is scheduled for June 14, 2000 in Ann Arbor, Michigan. The next NLII annual meeting is scheduled for January 28–30, 2001 in New Orleans, Louisiana. For more information, see <http://www.educationcause.edu/nlII/meetings/>. ■



The Orbital Shift in Higher Education

Mary Beth Sussman says the institution should revolve around the customer

IN THE OLD MODEL, EDUCATION WAS AN AGGREGATED SYSTEM—an all-in-one place where students came to learn and to earn a degree. Within that system, however, a distinct disconnect existed between those who delivered education and those who administered it. With few alternatives available, education as an

aggregated, one-stop-shop experience became an accepted part of life in higher education. Then the mass adoption of information technologies began forcing educational leaders to take another look.

In her keynote address to the NLII semi-annual meeting attendees in New Orleans, Mary Beth Sussman, CEO of Kentucky Commonwealth Virtual University, described what she calls “an orbital shift that has thrown our educational solar system careening around with multiple new centrifugal forces.”

According to Sussman, information technologies not only create new forms of education; they also create new kinds of human interactions. “People talk from the middle of themselves much sooner,” she said in reference to the adoption of e-mail as a form of classroom discussion. Referring to this phenomenon as the Cyrano effect, Sussman believes that e-mail has fundamentally changed the relationship between students and instructors and between students and their peers.

In the bigger picture, Sussman agrees that in order for the education system to be more effective, it needs to be more flexible and mobile for students. She displayed a list of 47 actions—well-known to anyone

who has attended college—that a student needs to take before even seeing a professor. “There’s no reason for students to have that type of experience anymore,” she said.

“WE HAVE TO BREAK DOWN THE BORDER CROSSINGS AND TRADE BARRIERS THAT CREATE OBSTACLES FOR STUDENTS AND UNDERMINE ACCESS.”

—MARY BETH SUSSMAN

When the institution revolves around the customer, several benefits emerge: The customer is able to name the time and place; the border crossings that separate departments and activities are simplified; studies and work can be more easily integrated; and lifelong learning becomes affordable. “We have to break down the border crossings and trade barriers that create obstacles for students and undermine access,” Sussman said. “In the future, all of the efforts to attract students based on geography will be irrelevant. Location won’t matter.”

When the NLII first began, slightly more than 50 percent of all undergraduate stu-

dents were categorized as nontraditional, meaning they were not aged 18–22; they were not living on campus; and they were not attending school on a full-time basis. Today, according to Sussman, that number has risen to 80 percent, making it even more critical to look at how institutions designate resources and how they serve the overall student body. “The truth is, our resources are serving only 20 percent of the market,” said Sussman.

More and more, institutions are looking

into distance learning as a way to attract new students and to better serve existing students—even campus-based students. But distance-learning technologies, according to Sussman, are not only expanding the options for students; they are also changing relationships between faculty, between institutions, and between the institution and the student. In the future, Sussman believes, faculty will become free agents, and institutions will become the new utility companies, offer-

ing students somewhere to plug in to get to the curriculum they need. “People expect services to come to them,” she said. “Our closely held traditions are going away.”

Sussman points out that within higher education, we have held time as a constant and mastery as a variable, an assumption that is naturally changing as new learning models emerge. And those new models are bringing with them other changes as well. “Is anyone ready for Priceline.com for higher education?” asked Sussman. **NLI**

If I Was Going There, I Wouldn't Start From Here

Tony Bates on the university of the future

IF THE RISING INTEREST IN AND ADOPTION OF TECHNOLOGY-based teaching and learning have taught us anything, it's how antiquated the educational system really is. Plenary speaker Tony Bates, director of distance education and technology in the department of continuing studies at the University of British

Columbia, shed new light on pre- and post-industrial education in his address to the NLI annual meeting in New Orleans in January, pointing out that especially in higher education, it is easier to start anew than to change an existing system.

Although colleges and universities have followed business in embracing new technologies, it often takes time for those technologies to be fully exploited. For years, computers served as little more than high-tech substitutes for typewriters. Today, WebCT, a provider of Web-based learning tools, is quickly becoming a standard at colleges and universities. But according to Bates, it's being used as an audiovisual aid. “Nothing original is being done with it,” he said. “It took 40 years after the Gutenberg press was invented before anyone thought to number pages.”

While change in higher education may feel fast and furious, many of the traditional structures are changing more slowly, if at all. Semesters, lectures, residency requirements, four-year baccalaureate degrees, and credit banking are a few examples of historical structures that remain firmly in place.

Moreover, Bates believes that at a time when technology is making it possible for institutions to become more diverse, they are actually becoming more homogeneous. “We're experiencing mission creep,” said Bates. “Every institution wants to be like every other institution, and that means we're moving in the wrong direction. We should be more diverse and more specialized. Institutions should want to turn students into customers for life. But how do you put a system like that in place?”

Bates also questions the value of banking credits, a system he believes is no longer relevant in the age of lifelong learning. “Engineers need continuous education, even if with milestones,” he said. “Let's assess students on what they know and not on what they do.” Bates also believes that semesters are irrelevant. “The system isn't set up to serve students,” he said. “Why can't we have various start dates so students have more flexibility and control over their learning?”

Like Mary Beth Sussman and other future-minded educators, Bates believes that in order for education to be effective, it needs to be disaggregated. Many are finding that students benefit when the educational process—and the associated players—are separated. Those various parts include student advisers, curriculum design, course development, course delivery, instructional mentoring, student interaction, and accreditation.



In the current industrial model of university organization, there exists what Bates calls mass education, which manifests itself in the traditional large lecture class. Labor is divided among departments, faculties, and administration. Economies of scale takes precedence over educational effectiveness. And large bureaucracies keep outdated rules, prerequisites, and course approval procedures in place.

In the post-industrial academic environment, education is smaller and more self-contained. In this environment, Bates envisions an interdisciplinary approach to education that is allowed to be temporary. "It comes together for specific programs, then disbands and reforms for new

CAMPUSES WILL NEED TO DECIDE WHAT ARE THE UNIQUE VALUES OF FACE-TO-FACE CONTACTS AND WHAT ARE THE CAMPUS FACILITIES THAT CANNOT BE DONE WELL VIA TECHNOLOGY.

programs," he said. The educational institution in this environment involves multiskilled, autonomous teams of faculty members, tutors, instructional designers, multimedia producers, and administrators. Competency reigns over course credits. And decentralized technology allows for

local administration of services, or one-stop shopping for students in the areas of admission, registration, and fee payments, which are all handled electronically.

In the distributed-learning world, Bates sees the role of the campus changing as well. Institutions will redefine their core values and perhaps even challenge the assumption that everything is better when face-to-face. The campus itself will be redefined. Campuses will need to determine the unique values of face-to-face contacts and the campus facilities that cannot be done well via technology. "We will need to reconsider land use," he said. "Given technology, can we use our land more productively?" **NLI**

Patterns and Practices for Transformation

David Brown's new way of thinking makes his the classroom of the future

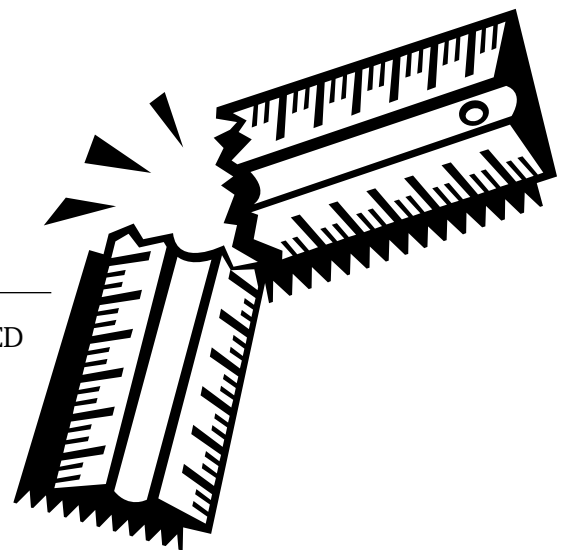
TO THE UNINITIATED, IF THE CLASS OF THE FUTURE EXISTED today it would probably look a lot like David Brown's First Year Seminar on the Economists' Way of Thinking class at Wake Forest University. Fifteen students meet face-to-face twice a week, with every student's laptop

connected to a high-speed campus network during—and often between—classes. Before class, students share answers to practice questions, and they e-mail questions about readings they don't understand, enabling Brown to adjust the day's lecture and in-class activities accordingly. During class, students work in teams to develop quick-and-dirty presentations. After class, students edit each other's essays and, if necessary, rerun videos of the lecture. After the final exam, students can see their work displayed on the course Web page.

However, according to Brown, who spoke at the NLI semi-annual meeting in New Orleans in January, there is nothing unusual about his course. In two books he recently edited, reports of students in 150 courses in 45 universities in 30 different disciplines confirm that computer-enhanced learning is effective, efficient, and enjoyable. "The only surprise in my course," said Brown, "is that this 60-year-old professor, who had barely touched a computer until his strategy planning committee put a laptop in the hands of every Wake Forest student, is teaching

with technology and loving doing it."

Brown explored the transformation of the teaching process in the context of three major themes. Theme number one, he said, is that technology works and students are learning more. "Fifty years of research has clearly established that students learn more when they collaborate," he said. "My students are collaborating." Brown also believes that students learn more when they receive prompt, trusted feedback, which he says they are getting. "I know my students are learning more because I can observe and prove that they



are collaborating more, and the research shows that more collaboration means more learning.”

Research also shows that at all educational levels, students learn in different ways and at different paces. Brown strongly believes that computer technology is allowing his students to learn on their own and in whatever manner they find comfortable and effective. He points out that studies also show that learning increases when there is more contact between student and faculty members. “My students are in my office, in my computer, and in my ear more than they have ever been before,” he said.

While the benefits are clear, what about the costs? “It surprised me that my students spent almost no time learning how to use the computer in my class,” said Brown. “The exploration of e-commerce has plummeted the marginal cost of using computers in education.” And though it is too early for data that prove that investments in technology pay with increased learning, Brown says there is hard evidence that computers increase active learning, student-faculty contact, the immediacy of feedback, and collaboration.

“NOW THAT E-COMMERCE HAS ENSURED THE UNIVERSALITY OF COMPUTER ACCESS AND ELEMENTARY COMPUTER FLUENCY, IT’S TIME TO ENLIST 75 PERCENT OF TEACHERS AND PROFESSORS AT ALL LEVELS OF EDUCATION IN THE USE OF COMPUTERS.”

—DAVID BROWN

Theme number two posits that the big thing consists of interactivity and communication. With computer technology, the

lecture is preserved and can be offloaded to students who need the repetition, thereby saving class time for discussion of complex issues. The contact Brown has with students has increased manifold, and it is no longer confined to two class meetings and the occasional office visit. Brown believes the early benefits of computer technology are the result of its being a powerful communications system. The benefits are not yet in the area of better materials or presentation. “We haven’t yet sorted out the fancier from the more effective,” he said.

Theme number three is KISS (keep it simple stupid). “It’s time to stop preaching to early adopters and get to the core,” said Brown. “Now that e-commerce has ensured the universality of computer access and elementary computer fluency, it’s time to enlist 75 percent of teachers and professors at all levels of education in the use of computers.”

Brown proposes we do this in three steps. First, emphasize that the jury is in, because the computer is supporting activities that do indeed increase learning. Second, stress the uses of computers to increase the quality and quantity of communication between students and faculty and among students. And third, encourage teachers to use the computer tools that are easily learned and well understood, such as e-mail, Internet citations, and the posting of course materials on the Web. “Our transformation of teaching practice, our revolution in learning effectiveness, will ultimately be carried forward by the masses of students and faculty who care about each other,” said Brown. “The engagement of the masses will occur if, and only if, we keep it simple.” **NLI**

TEACHING AND LEARNING BRIDGES TASK FORCE FORMED

EDUCAUSE is pleased to announce the formation of a Teaching and Learning Bridges Task Force to bridge the leading-edge thinking of the NLI into the mainstream of EDUCAUSE and to assist NLI institutions in bridging the concepts promoted by the NLI into the mainstream of their campuses. Participants at the New Orleans meeting were invited to join members of the Bridges Task Force in an informal discussion of teaching and learning issues. Forty-five people attended the session, at which they discussed faculty support and engagement, the growing need for instructional design, and new support structures. The group also articulated a pressing need to form a community of practice around teaching and learning support. NLI members will be kept informed as EDUCAUSE explores Web-based tools for building community.

For more information, see <http://www.educause.edu>.

NLI FOCUS SESSION SCHEDULED FOR JUNE

The second NLI Focus Session, Transformative Assessment, will take place at the University of Michigan at Ann Arbor on Wednesday, June 14, 2000. The topic of the session, which is being held in conjunction with the International Conference on the Learning Sciences, is assessment of teaching and learning with technology.

This will be a hands-on workshop in which participants will create assessment tools. The number of participants will be limited to 40, with NLI sustaining member institutions invited to send up to three (3) participants at no registration charge. For more information, see <http://www.educause.edu/nli/>.



When Does Change Become Transformation?

With talk of change on every institution's agenda, most want to know what it means to arrive

WHILE ALL COLLEGES AND UNIVERSITIES TODAY ARE EXPERIENCING some kind of change, many are wondering when change becomes transformation. What are the hallmarks of transformation? What sustains and guides it? Is transformation necessarily a good thing?

According to Frank Juge, vice provost of Academic Programs, and Joel L. Hartman, vice provost of Information Technologies and Resources at the University of Central Florida, who spoke at the NLII meeting in New Orleans in January, "Transformation occurs when individuals, institutions, or processes undergo change that is so pervasive they are redefined, and where such significant benefit results that they will not voluntarily return to the old ways." Few would argue that technology has not been a change agent in higher education, influencing the content of the curriculum, how the curriculum is developed, the focus and methods of research, and how students, professors, and administrators communicate. But it has also had an impact on how business is conducted in higher education, how students are served, and how they rate the institutions and courses.

In many ways, UCF has become a model of how change leads to transformation. In

1996 the institution launched its first distributed-learning initiative to provide students with greater access to academic degree programs and to better serve its large and growing population of nontraditional students. While the institution has struggled to keep up with space needs—classes are held in movie theaters during the day and at high schools at night—technology has enabled it to increase access to classes and flexibility for students. In fact, a clear measure of the institutions' transformation is the number of students participating in courses that are available either entirely on the Web or in the form of some combination of the Web and in-class. In the fall of 1996, 125 students were registered in fully online courses. In 1999 that number rose to 1,993.

As Juge and Hartman explained in their presentation, since the initiative began, UCF has been clear about its goals to enhance student learning and success,

improve classroom utilization, develop student and faculty information literacy, enhance student convenience and satisfaction, and increase access to learning. Today approximately 30,000 students are enrolled at UCF; that number is expected to reach 52,000 by the year 2010. Many students take online courses for the convenience they offer and not necessarily because of distance issues. The technology, therefore, is applied mainly in the areas of distributed learning, multimedia classrooms and instruction, faculty and online course development, teaching, and assessment.

As Juge described, the institution's online learning initiative consists of three designated types of online courses that use computer conferencing, online quizzes and grade books, and student tracking. E classes use the Web but do not replace any class meetings with technologies. M courses use the Web to replace some seat time by combining both online and classroom activities. W courses do not have any required classes and rely completely on virtual activities.

Student response to the new learning environments and options has been encouraging. As part of its ongoing assessment activities, overseen by Charles Dziuban, director of the Research Initiative for Teaching Effectiveness at UCF, they have learned that students believe the institution is responding to their needs, that they are more active in their learning, that they are more empowered, that learning is more convenient, and that their learning is self-paced.

The impact of the technology on the students as well as the institution was also discussed. "Online courses are now an expectation," Dziuban pointed out. "Now we have to make the system work." The research done at UCF indicates that many of the online students have a face-to-face presence on campus, so the institution is



making an effort to design programs that respond to that finding. Dziuban's research also found that while the distribution of student ethnicities is approximately the same for all online course modalities, fully online courses consistently register more females than do other modalities. "On the average," said Dziuban, "those registered in fully online courses are older than those in the media-enhanced courses, and those in the media-enhanced courses are older than those enrolled in face-to-face sections."

FACULTY MEMBERS ARE EXERTING PRESSURE FOR MORE MULTIMEDIA CLASSROOMS, REQUIRING THE EXPANSION OF A ROBUST AND RELIABLE TECHNOLOGY INFRASTRUCTURE TO MEET THEIR DEMANDS.


In an effort to support distributed learning on campus, the institution formed two departments. One is the Course Development and Web Services (CD&WS), a unit launched in 1996 to train faculty to design and develop online courses but that has evolved into something more comprehensive. As Barbara Truman-Davis, who also spoke at this session, explained, the CD&WS helps faculty integrate technology and media to transform the learning process; it produces multimedia courseware, software, and databases; it provides learner support for succeeding in technology-mediated classes; it provides support for Web site development, including the University's primary site; and it helps research and develop advanced technological applications. The second department is the Center for Distributed Learning, which supports distributed learning initiatives.

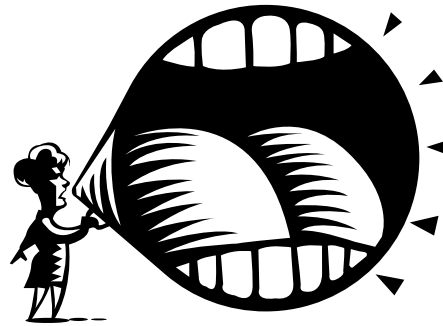
While technology has truly transformed UCF, it has also led to scaling challenges.

As Joel Hartman pointed out, requests for technology-enhanced learning environments now come from departments and colleges within the institution and not just from individuals. There are also increased demands on the Course Development and Faculty Center for expanded services. Faculty members are exerting pressure for more multimedia classrooms, requiring the expansion of a robust and reliable technology infrastructure to meet their demands. Hartman suggests that success is dependent on a number of factors, such as the ability to design for scalability, planning for continuous assessment and feedback, placing a focus on strategic priorities, expanding the research and development agenda, adequate funding, a top-down and a bottom-up approach, ongoing faculty development programs, and the ability to disseminate—or evangelize—the results.

Is your institution transformed? To find out, Hartman lightly suggested asking the

following questions.

- Do you charge those who wish to come and see what you are doing?
- Does your faculty refuse to teach in classrooms that aren't multimedia equipped?
- Are your students hired away as consultants?
- Do your faculty have better PCs than you do?
- Do your students riot because their courses don't have a Web presence?
- Does your Internet invoice have two commas?
- Do you graduate students summa cum WebCT?
- Has your school's mascot been renamed the Cyberdude?
- Has your school's president stopped asking what this will cost? 

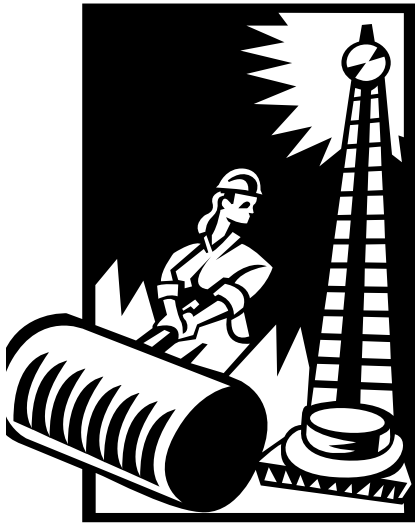


DON'T MISS THIS IMPORTANT ANNOUNCEMENT!

**Next NLII Meeting: January 28–30, 2001
Hotel Inter-Continental
New Orleans, Louisiana**

We have reserved a block of rooms at the Hotel Inter-Continental at the following rates: single, \$172, and double, \$199. A one-night's deposit is required by the hotel to guarantee your reservation. The deadline for reservations at the rates given above is December 26, 2000. Reservations received after that date will be accepted on a space-available basis.

To make a reservation, call 800-445-6563.



Launching the Tennessee Virtual University

Can a collaborative, bottom-up approach to creating the virtual university succeed?

PLANNING A VIRTUAL UNIVERSITY IS TYPICALLY A TOP-DOWN effort conceived and implemented by legislative cooperatives, large corporations, and high-level university administrators. The Tennessee Virtual University (TVU) is taking a different approach—one that relies on online pilot collaborative

workgroups composed of faculty, staff, and students to identify infrastructure, administrative, and academic issues and to develop the requisite policies and procedures to launch and govern the enterprise.

Conceived in early 1999 by a partnership between the University of Tennessee and the Tennessee Board of Regents system, the TVU is defined as a predominantly online university providing a one-stop-shop gateway to the public academic programs offered by the state's 53 universities, institutes, colleges, and technology centers. According to Susan E. Metros, director and professor of the Innovative Technologies Collaborative, and Gayle D. Cooper, associate vice president of the Institute for Public Service at the University of Tennessee, both of whom spoke at a session describing the TVU, the venture was endorsed by the governor and supported by the Tennessee Higher Education Commission and the Renaissance Center, a privately endowed, high-tech educational facility housing the TVU's administrative offices.

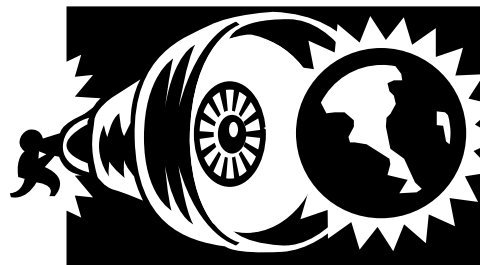
Both Metros and Cooper believe that the TVU offers a wide range of benefits for both the state of Tennessee and its residents, including increased access to higher-education programs and an educational option that is available anytime and anywhere. The TVU also adds value to Tennessee's public institutions by increasing their visibility through the TVU's marketing initiatives, by providing student services and faculty development opportunities, and by sharing access to the latest technologies. It offers an opportunity to

centralize the research and development that stream from those institutions and to increase access to technology and other experts.

While the institutions themselves would be responsible for providing credentials for students, TVU would offer credit and noncredit courses that provide a pathway to credentials. The courses themselves would be asynchronous in format and delivery, using the Web, videotapes, and print media.

The TVU is being organized to take advantage of the assets brought to the table by the major players. The Tennessee Higher Education Commission brings oversight and organization, a conduit for funding, and statewide policies. The University of Tennessee and the Tennessee Board of Regents bring content, audiences, and staff leadership. The Renaissance Center offers a neutral site with facilities for the TVU staff and on-site program coordination, faculty development, production services, servers, marketing, and internship opportunities. There have also been conversations with the Kentucky Commonwealth Virtual University about sharing digital library assets.

Currently, the online pilot workgroups are working to determine funding requirements, best practices, student services, faculty development and intellectual property and copyright issues, site




Watch [HTTP://WWW.EDUCAUSE.EDU](http://www.educause.edu) for forthcoming announcements about the NLII Fellows Program, regional focus sessions, symposia & workshops

development and marketing, delivery and technology models, program and curricular planning, articulation and transfer of credit, and accreditation of programs. In February the Best Practices and Student Services workgroups convene. In March a course management system is expected to be standardized. An anticipated state budget approval of \$500,000 for the TVU Pilot Project is slated for May. And the launch of phase one of the TVU is planned for January 2001.

THE TVU OFFERS A WIDE RANGE OF BENEFITS FOR BOTH THE STATE OF TENNESSEE AND ITS RESIDENTS, INCLUDING INCREASED ACCESS TO HIGHER-EDUCATION PROGRAMS AND AN EDUCATIONAL OPTION THAT IS AVAILABLE ANYTIME AND ANYPLACE.

What were some of the lessons learned in the planning the TVU? According to Metros and Cooper, the funding issue created an ongoing Catch-22 situation. "There was no money until we had a plan, but we needed money to create a plan," said Metros. That lack of funding also compromised the search for a director. In addition, coordinating the various workgroups and stakeholders made it difficult to gain consensus. "There were definitely turf issues," said Cooper.

Other problems arose because the faculty seemed more receptive to the possibilities offered by the TVU than did some of the administrators. And throughout the process, it was clear that antiquated policies were constraining progress.

For a copy of the Tennessee Virtual University's NLII presentation, see <http://itc.utk.edu/~metros/nlII.index.htm>. 

A Conceptual Framework for Decision Making about Distributed Learning

EVERYWHERE YOU GO IN HIGHER EDUCATION, THE ANSWER is distance learning. It doesn't seem to matter what the question is." That statement by Diana Oblinger, vice president and chief information officer at the University of North Carolina General Administration, accurately describes the

big push many institutions are making to adopt some version of distance learning—often, she believes, for the wrong reasons.

In a global economy that is racing forward at breakneck speed, "people are beginning to think of education as a market, and that thinking is what is driving change," says Oblinger. That market, she pointed out, is estimated at roughly \$665 billion a year, a figure that has attracted the attention of some of Wall Street's biggest investment firms. And while in terms of hot industries, academia may not be growing as quickly as the corporate dot-coms, corporate training alone is driving a considerable amount of interest in education as a viable and lucrative market.

In light of those trends, Oblinger is concerned that if higher education sticks to its ways, its share of the pie will shrink. She suggests looking at the value chain, breaking down the things traditional higher education does well, and figuring out how the institutional model can be changed to create a more solid base for the future. It is at that point that distance- and distributed-learning strategies typically enter the conversation. "Institutional leaders have a number of questions. What we need is a decision tree," she says.

In an effort to help decision makers understand the concepts associated with distance and distributed learning and to help them determine how appropriately to position their institutions with regard to those issues, Oblinger and EDUCAUSE president Brian L. Hawkins developed a Web-based conceptual framework, or a decision tree, that they presented at the NLII meeting in New Orleans in January. Still in its early stages, the tree is represented by a series of questions, answers, and statistics put together by Oblinger and Hawkins to help decision makers parse the problem.

At the base of the tree is the number of students who are expected to enter the fray. Hawkins believes the 100 million new learners who are expected to flood higher education over the next decade or two—a number that is often tossed around in higher education circles—is a myth. "There is a lot of learning that is done informally," says Hawkins. "It's not all full-time enrollments." Hawkins also questions how many students are willing and able to pay for online learning. "Ultimately," he says, "the actual numbers of students coming into the market will be much smaller than projected."

NEW EDUCAUSE AWARD FOR SYSTEMIC PROGRESS IN TEACHING & LEARNING

A new EDUCAUSE Teaching and Learning Award will be made to institutions of higher education that demonstrate campuswide progress toward the transformation of teaching and learning through information technology. The award, which will be presented for the first time this year at the EDUCAUSE annual conference in Nashville, will recognize institutions that demonstrate replicable, scalable, and sustainable practices that have transformed teaching and learning and that enhance the established base of accepted practice and principles for support of learner-centered teaching and learning.

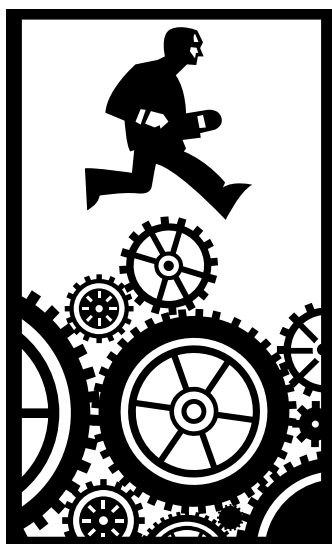
For more information see <http://www.educause.edu/awards/tl/tl.html>

THE [LEARNING] TREE SHOWS HOW THE MARKET DIVIDES INTO TRADITIONAL STUDENTS, REMEDIATION, ENRICHMENT, THEN CAREER PREP, AND CORPORATE TRAINING, AND THEN HOW TO PROJECT THE POTENTIAL OUTCOMES OF THOSE GOALS ON SPECIFIC AUDIENCES OR AREAS.

Yet even if the more conservative projections hold true, higher education needs to look at how the rising demand is being met. In many cases, that means new players. And while Hawkins believes that those new ventures may not replace traditional institutions, they will erode them. The impact of the University of Phoenix, for example—a for-profit educational institution focused on business education—may not be felt by Harvard Business School or Wharton, but it will certainly be felt by institutions that offer night-school business courses. For many institutions, night-school business courses help subsidize other

courses, “and that is where the erosion begins,” says Hawkins.

That erosion is precisely what worries educational leaders, causing a knee-jerk reaction to create or adopt distance- and distributed-learning programs. What are the motivations for getting involved with distributed learning? According to Hawkins, they are the ability to improve teaching and learning, to increase the capacity of an institution to serve its constituency, to make a profit on a new educational venture, and to increase access to enhance the public good. “Each one




of those objectives targets a different market segment, so how you proceed depends on your ultimate goal,” he said.

If the goal is to improve teaching and learning, the tree shows how the market divides into traditional students, remediation, enrichment, then career prep, and corporate training, and then how to project the potential outcomes of those goals on specific audiences or areas. In this case, if the institution is targeting traditional students, remediation, and enrichment, the market demand for improved teaching and learning is high. In the area of career prep, there is a medium demand, and in corporate training the demand is low.

The decision tree demonstrates that while this strategy increases instructional cost, it also adds value to the learning experience. And while it most likely does not generate any new revenue, such a strategy may increase the attractiveness of the college or university to prospective students and thus potentially increase admissions standards. In addition, this strategy, if it truly improves learning, may lead the campus to higher student retention.

While still a work in progress, NLII audience members offered a number of suggestions for enhancing the functionality of the decision tree, like adding certain psychological factors, such as Myers-Briggs—in the tool—or by taking into account different learning styles. Another suggestion was to include a summary at the end of the tool that tabulates the areas of the institution that may be affected by the decisions, such as the police force, the marketing department, and student services—the notion here being that people need to link up with campus organizations in order to ensure a successful implementation of a distributed-learning program.

For more information or to view material presented in the session, see <http://www.educause.edu/staff/hawkins/dlt.html>. 

TALKING WITH ED WALKER, CHIEF EXECUTIVE OFFICER, IMS GLOBAL LEARNING CONSORTIUM

In October 1999, Edward C. T. Walker was named chief executive officer of the IMS Global Learning Consortium. With more than 20 years in research and development and education, Walker brings to the organization a rare combination of basic and applied research experience, including psycholinguistics, cognitive science, knowledge management, intelligent systems, computer-assisted collaboration, networked organizations, and logistics planning. He came to the IMS from the Software Engineering Institute, where he served as visiting scientist. Prior to that, he was vice president of Government Business Development at BBN Technologies. He earned a bachelor's degree from the University of Wisconsin as well as a master's degree and Ph.D. from Indiana University. He can be reached at ewalker@imsproject.org.

The NLII recently talked with Dr. Walker to learn more about where the IMS is today and where it's headed in the future.

NLII This has been an important time for the IMS. In December, three years after it was formed by the NLII, the organization became an independent nonprofit entity. What are the goals and objectives of the new organization and have they changed in any measurable way from when the IMS operated under the aegis of EDUCAUSE?

Walker The impetus for making the IMS a stand-alone organization was partly a new phase of activity and partly to broaden our constituency beyond the project's roots in higher education. By a new phase of activity I mean simply that we have, or are about to have, several specifications released to the public. Now we need to support the use and adoption of those specifications at the same time as we continue to develop new ones.

NLII Can you briefly describe the status of the IMS's work developing technical specifications to improve the teaching and learning process? How are those specifications being applied in the education arena? What are the next steps?

Walker The IMS has released a Learning Resources Metadata Specification that contributes to making learning resources easier to find in online environments like the Internet and an Enterprise Specification that enables course administration systems to exchange data with learning management systems. We are about to release the first part of a Content and Management Systems Specification and a Question and Test Interoperability Specification. And we're beginning work on a Learner Profiles Specification. Those specifications—and the second part of the Content and Packaging Systems that will be coming out this coming summer—provide the infrastructure for a functional distributed learning capability. Already products using the IMS specifications are appearing in the marketplace, and running systems are in operation. We expect to be participating in a number of trials and experimental applications that will both feed a cycle of refinement and extension of the first round of specifications and generate new specification development efforts.

NLII As evidenced by many of the presentations at the NLII meeting in New Orleans, the development and use of technology-based courseware and learning systems are becoming more and more common in colleges and universities. Some presenters made it clear that they were working toward IMS compliancy. Others seemed unaware of the IMS and its work. What is the connection between the IMS and the new technology-enhanced learning environments?

What should projects like the ones presented at NLII—as well as college and university leaders—be doing to take advantage of the work of the IMS?

Walker We're all participating in the take-off of distributed learning at the same time as the underlying technical infrastructure is undergoing rapid and continuous evolution. The IMS specifications are just emerging. Our objective is to contribute to this period of experimentation and rapid change a stable infrastructure for interoperability that allows learning resources to be shared and reused and that enables progress to be cumulative. We'll be taking the same open, collaborative approach to dissemination and adoption that we are taking to develop the specifications. Our members and active participants will be involved in those processes. And we'll be making regular reports on our progress at meetings such as those of the NLII and EDUCAUSE, as well as in various publications. I'd encourage all those who are implementing learning resources and distributed learning tools to stay on top of the efforts of the IMS via its Web site at www.imsproject.org and to communicate their results and experiences to one another by participating in the IMS Developers Network.

NLII Microsoft has announced support for the IMS content packaging specification, and many companies already have created or converted content in the IMS format. What does this mean for IMS?

Walker The goal for any standards-oriented effort is broad adoption and use. The scale and worldwide availability that Microsoft's products and partners provide is a large boost for the IMS content specification. The global distributed learning community is now able to conduct a real mass-market test of the quality and utility of the IMS standard and use it as a basis for innovation. It's also important to note that the IMS content spec is an open standard. Content produced using other products will be just as available and usable. IMS development teams have participants from several competing large and small companies, as well as from both producers and consumers of distributed learning technology. The team that developed the Content specification included [in alphabetical order] Blackboard Systems, eduprise.com, IBM, Microsoft, Penn State University, SCT, Sun Microsystems, the UK IMS Centre, and the U.S. Department of Defense. And other IMS members support the standard and are developing and delivering products and services which make use of it. IMS really is a global consortium both in its membership and in the impact of its work.

NLII As the IMS's first CEO, you are in the unique position of setting its course for the next few years. Can you describe your vision for the IMS? What do you hope to see accomplished during your tenure?

Walker Well I'm certainly neither the originator of the IMS effort nor the only source of its vision going forward. In fact, I think the unique strength of the IMS consortium is that its vision incorporates the collective will of members and supporters with very different individual motivations for participating in the IMS. The power of the shared vision that engendered IMS is continuing to evolve, and it is enormous because our membership represents both provider and user constituencies. We are going to make it possible for learners, tutors, and providers of learning everywhere to change the way every learner learns. We will do that by enabling a high-quality, effective, and affordable infrastructure that is commercially viable to be developed and used.

A Taste of MERLOT

A National Collaborative for Engaging Faculty in Web-Based Teaching and Learning

WHERE DOES ONE GO TO FIND HIGH-QUALITY, CREDIBLE resource and learning materials and a community of peers who enhance teaching and learning through technology? For more than 500 educators and other types of professionals, the answer is MERLOT—Multimedia Educational

Resource for Learning and On-Line Teaching—a pathway to high-quality interactive learning materials, assignments, reviews, and communities of people and a national network of online discipline communities that will be selecting and peer reviewing learning materials in their specific disciplines.


MERLOT started three years ago within the Cal State System, which developed the prototype, and has grown to include the State Higher Education Executive Officers, which helped launch MERLOT and now serves as a liaison to state boards and systems. The National Learning Infrastructure Initiative (NLII) supports the project through its national meetings and events. During MERLOT's pilot phase, state systems of higher education will be the primary vehicle to solicit and coordinate faculty participation. For the first half of 2000, four state systems plan to participate: California State University, the Uni-

versity of North Carolina, the University System of Georgia, and the Oklahoma State Regents for Higher Education.

Speaking at the NLII meeting in January, Chuck Schneebeck of Cal State's Office of the Chancellor described the status, goals, and objectives of MERLOT as well as the major issues that influence its viability. He believes that MERLOT offers a vehicle for faculty members to easily and inexpensively incorporate materials into their courses. MERLOT functions as a repository but adds value by adding assignments, ratings, peer reviews, and discipline communities. "Faculty want to deal with colleagues in their disciplines," said Schneebeck. "That's what MERLOT offers." To enhance interoperability MERLOT distributes a toolkit to its authors and is incorporating the IMS standards. Currently, the MERLOT repository includes more than 2,000 modules from a number of institutions.

The value to faculty, according to Schneebeck, is the ability to leverage MERLOT to interact with other disciplines. The problem, he points out, is that universities invest in software development by faculty without provisions for quality control, dissemination, or sustainability. "There is an insufficient quantity of high-quality interactive learning materials," he said. "We just don't have the critical mass yet." What MERLOT offers are opportunities for small, high-quality learning objects to be published regardless of economic viability. In such an environment, faculty can form communities with others from their disciplines regardless of location.

From a university system perspective, MERLOT offers the ability to identify adoptable and adaptable learning objects. According to Jessica Somers of the University System of Georgia, "There is a modest investment that flows back in the form of access to a growing pool of learning modules." Somers points out that the project is looking for institutions, systems, campuses, and coalitions to help move the process forward. Participants benefit from a centrally managed Web site, participation in development activities, use of the MERLOT brand name, consulting assistance, and participation in an advisory structure.

For more information see <http://merlot.cdl.edu> or contact Rhonda Epper at repper@sheeo.org. 

Find complete NLII meeting information online at

<http://www.educause.edu/nlII/meetings/orleans2000>



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1112 16th Street, NW, Suite 600
Washington, DC 20036
phone 202-872-4200
fax 202-872-4318
nlII@educause.edu

Editor: Wendy Rickard
Design & Production: The Rickard Group, Inc.
info@rickardgroup.com