



## Enhancing the Capacity for Outreach

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Among the forces that are shaping institutions of higher education, a renewed call for greater engagement of our nation's universities with society and new developments in information technology are highly complementary sources of opportunity for the future. Our institutions are being asked to harness their expertise to be more useful to a society under increasing stress. We are called upon to address personal and professional lifelong learning needs; to partner with communities, schools, families, and others; and to promote economic development, all to sustain and enhance the quality of life. Such efforts draw appropriately on the university's knowledge resources but require greater institutional accessibility and flexibility than ever before. The new digital communications technologies that are changing the conduct of virtually every aspect of higher learning are highly supportive of these qualities and a powerful tool for the expanded outreach that will be central to our universities' continuing success.

As president of Penn State University, a land-grant institution with a long and distinguished record of academic leadership and outreach, I am enormously proud of the many tangible contributions we are making at the state, national, and international levels. Yet I see a serious need for a more integrated model of our missions of teaching, research, and service to realize more fully the potential of higher learning for the future.

At the same time, as chair of the Commission for Information Technologies of the National Association of State Universities and Land-Grant Colleges, I am fortunate to have a birds-eye view of the vast enhancements technology is making across the spectrum of higher-education activities, enabling our institutions to do things we could not have imagined even the recent past. I also see the irony: As our institutions struggle to keep up with rapid technological advancement, we are in some ways exceeding the capacity of available systems. These two concerns must be advanced together to ensure that our institutions are both ready and able to respond to society. Despite its awesome power, technology itself does not create

educational effectiveness. The success of the university will first and foremost be determined by institutional mission, values, and structure. But for institutions that are oriented toward constituent needs and organized to respond quickly, flexibly, and with the full range of academic resources, the continuing development of information technologies is essential to marshal their strengths for the future.

### The Integration of Teaching, Research, and Service

Based on my experiences at Penn State and the other universities I have served, I believe the greatest impact of such institutions will result from the integration of the teaching, research, and public service missions. All too often, these three missions have tended to be pursued along discrete tracks. Yet it is through their synergies that we will create and support the broad-based and active learning community that is best prepared to cope with society's challenges.

The integration of our missions has many implications, among them the promotion of critical thinking and problem solving for all associated with the university community; emphasizing learning at the cutting edge; and the close alignment of the creation, dissemination, and application of knowledge. These qualities are vitally important to the successful management of the complexity and change that characterize the world and should be inherent in the notion of leadership in higher learning that our institutions espouse.

The infusion of a strong public service commitment throughout the range of teaching and learning activities broadens our impact perceptibly. It is this commitment that welcomes most warmly to our learning communities non-traditional students in diverse settings, and that actively seeks out the public — organizations, agencies, communities, and citizens — as valued collaborators in the advancement of knowledge. Most fundamentally, the commitment to service orients the academic priorities and energies of the university toward constituent problems and needs.

In the integrated model of the university's missions, outreach plays a key role. More than just a delivery system, outreach in this sense is a partnership through which the university opens itself up to society. This partnership is established through a host of external relationships and can be articulated in a wide variety of teaching, research, and service activities on and off campus.

Cooperative extension, continuing and distance education, and technology transfer are the classic models, integrating outreach to varying degrees within the academic structure of the university. There is room to do much more. Outreach may be reflected in the research agenda of virtually every field and incorporated into undergraduate and graduate programs through practicums, internships, and service learning. Widespread faculty involvement with external audiences through cooperative research, continuing education, and professional service and consulting is essential in order to permeate the institution with heightened sensitivity and responsiveness to the public.

## The Penn State World Campus

Illustrative of both the synergies resulting from the integration of teaching, research, and service and the new opportunities made possible by information technology advancements is the Penn State World Campus, a virtual university initiative that will extend many of Penn State's signature programs to a national and international audience.

The new, highly interactive digital technologies and the ability of computing networks to serve as rich information resources are having a tremendous impact on the processes of teaching and learning. Technological developments not only have revolutionized the conduct of research in every field; they have made it possible and even imperative that our students engage far more actively in learning, working with data bases, using primary sources, and simulating highly realistic situations. These same developments are shifting the focus of instruction away from the classroom as they make possible asynchronous teacher-student and student-student

interaction and synchronous distance-learning activities as well.

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The possibilities of these developments to meet the needs of growing numbers of adult students seeking undergraduate, graduate, and continuing education are obvious and are being pursued in a variety of formats by institutions around the world. At Penn State, we are taking a highly integrative approach to capitalize on technology in serving a national and international audience.

This integration is the result of a number of distinctive elements that characterize our World Campus, among them:

- a programmatic approach that emphasizes degrees, professional certificates, and specialized continuing education programs;

- a full range of academic services that will make World Campus students full members of Penn State's academic community;

- a focus on Penn State's signature programs, the best the university offers through any delivery mode;

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- an emphasis on active learning, helping students to seek out information, solve problems, make decisions, and define values around real-world issues that apply to the individual's work and/or community environments;
  - the active involvement of senior faculty in the development and delivery of World Campus courses as part of their regular teaching loads;
  - the expectation that the development of technology-based asynchronous and synchronous learning experiences for the World Campus will be applicable to resident instruction; and
  - partnering with client organizations to make available new opportunities for research.

The first Penn State World Campus programs will be launched in 1998. Five years from now, we expect there will be twenty to thirty programs, encompassing more than three hundred different courses. The scope of this effort is critical for two reasons. It must be sufficient to influence the university's culture and practices, in order to integrate teaching, research, and outreach more fully throughout Penn State. It also must have the critical mass to sustain the World Campus initiative and generate new income that can be reinvested in the development of additional programs.

### **Building a Network**

This large-scale initiative joins new distance-education ventures elsewhere that rely on the Internet for a substantial part of their delivery. The growing uses of the network in both distance and resident education and the routine use of the Internet in research to transmit billions of characters of data, in concert with the rapidly expanding commercial applications on the Internet, are greatly challenging the capacity of this system. As powerful as the Internet may be, the network is still in its adolescence. There is a serious need for continued investment in both basic and applied research in computer networking to enable this technology to meet the expanding information and communication needs of our universities as twenty-first century American society makes extraordinary demands upon its educational system.

To accommodate such applications, a group of more than one hundred American universities is collaborating on the development of Internet2. This network will be one hundred times faster than the current one, and will help to sort out the academic and commercial uses of the information highway to serve our interests better. Internet2 will enable a new generation of applications to exploit fully the capabilities of broadband networks such as media integration, interactivity, and real-time collaboration. A major goal of the project is to transfer new network services and applications rapidly to all levels of educational use and to the broader Internet community,

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both nationally and internationally. Simultaneously, the U. S. government is pursuing a complementary Next Generation Internet initiative through a partnership of government, higher education, and industry.

Some fear Internet2 simply may be an effort on the part of the most prestigious higher-education institutions to create their own private network to serve their own needs to the exclusion of others. Yet the intent is to deploy rapidly the success of this initiative to the benefit of others in the educational community and beyond including elementary and secondary schools, libraries, and higher education institutions that cannot afford to take these first steps.

This is the approach that characterized the first Internet and it can work again.

These advancements will be of substantial benefit to every aspect of higher education. Their impact on the capacity for outreach will be profound. In the context of the integration of the teaching, research, and public service missions, the new telecommunications technologies give the university a critical ability to promote education for the future. ■

### **About the Author**

Graham B. Spanier (Ph.D., Northwestern University) is president of The Pennsylvania State University and holds academic appointments as professor of human development and family studies, professor of sociology, and professor of family and community medicine. He previously served as chancellor of the University of Nebraska-Lincoln and provost of Oregon State University. Spanier is chair of the Commission on Information Technologies of the National Association of State Universities and Land-Grant Colleges, chair of the Kellogg Commission on the Future of State and Land-Grant Universities and a member of the Robert Wood Johnson Foundation Commission on the Future of Academic Health Centers. His board memberships include the National 4-H Council and the National Collegiate Athletic Association, and the University Corporation for Advanced Development.