



**Policy Roundtable Series**  
**USAID/Higher Education Partnership in Development**

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**Higher Education Uses of Internet Technologies**  
**New Applications for International Development**

JUNE 15, 1999

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# **HIGHER EDUCATION AND GLOBAL DEVELOPMENT**

## **POLICY ROUNDTABLE # 7**

### **Higher Education Uses of Internet Technologies: New Applications for International Development**

June 15, 1999

Convened at the  
Association Liaison Office for University Cooperation In Development  
1307 New York Avenue, N.W.  
Washington, D.C. 20005

#### **Association Liaison Office for University Cooperation in Development**

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## **About the Roundtables**

## EXECUTIVE SUMMARY

Responding to interests and concerns expressed by the U.S. Agency for International Development (USAID) and the higher education community, the Association Liaison Office for University Cooperation in Development convened its Seventh Policy Roundtable, drawing together representatives of both communities for a collaborative dialogue to consider how to share and leverage resources in support of advancing the use of Internet technologies (IT) in the service of international development.

The Roundtable served to illustrate how the Agency can use colleges and universities as important extenders of Internet access, capable of a huge multiplier effect on Internet use for development. Trends in information technology created an opportune time for an earnest look at how USAID and higher education institutions can better build on shared interests and maximize the impact of critical U.S. resources.

USAID called for dialogue in order to compare the relative advantages of 1) leaving higher education institutions and other providers to their own devices in determining and advancing the ways IT is employed in service of development; or 2) strategically facilitating that involvement by affording purposeful interventions, offering seed grants to promote promising experiments, and brokering relations between U.S. higher education institutions and host country institutions and

other public and private organizations. Higher education representatives offered a lens through which to consider choosing the latter alternative. A reliable, flexible, and sustainable “resource” for international development, U.S. higher education has already pioneered mechanisms for distributive learning and knowledge networks around the world. As the “Infotech” revolution has progressed, higher education has played a critical role in adapting these mechanisms for the benefit of international learning communities.

Colleges and universities, as institutions, are premised on the three themes of teaching, research, and community service. These elements form the foundation of each of the varied programs considered during the Roundtable. Case studies, presented by a range of institutions and covering every developing region of the world, demonstrated that the higher education community offers a variety of Internet-based instructional models that USAID could usefully adapt in service of its goals and objectives.

Over the course of the Roundtable, USAID and higher education participants discussed several features essential to the creation of a workable IT strategy:

- USAID should continue to seek advice on shaping its role in IT strategies for

development. Further dialogue might center on the Agency assuming the role of a broker, or facilitator, of better interaction between U.S. higher education institutions and USAID-target country institutions, governmental agencies, and NGOs.

and an ability on the part of higher education institutions to respond creatively and purposefully in support of using Internet technologies in the service of international development.

- From such consultation, USAID might usefully identify core providers among higher education institutions with competencies that complement different elements of an Agency strategy. Focusing on clear content areas, with different sets of players for each, the Agency could easily identify higher education institutions with relevant, easily accessible expertise. Attendees agreed that USAID is well positioned to play a key role in facilitating this kind of knowledge exchange.
- USAID should continue to foster linkages between U.S. and overseas institutions by way of competitive partnership grants. Such grants can be highly leveraged, offer immediate returns, and serve as a useful “laboratory” to experiment in search of innovative contributions to human capacity development in some of the world’s neediest settings.

Further dialogue is required, but all participants agreed that the Roundtable succeeded in demonstrating both a willingness on the part of the Agency to seek advice on IT strategy

## SUMMARY OF THE PROCEEDINGS

### Introduction: Rationale and Purpose of Policy Roundtable Seven

U.S. universities, colleges, and community colleges are rapidly expanding their use of the Internet, both domestically and internationally, to enlarge their student base, provide greater learning and continuing education opportunities, promote collaborative research, and extend services to their communities. In addition to these and a broadening array of applications, many U.S. higher education institutions also use the Internet to maintain extensive ties with partners, former alumni, and other counterparts in USAID-assisted countries.

Among the common goals shared by U.S. higher education and USAID is a commitment to increasing human capacity through education and training. Within USAID a key objective in service of this goal is the encouragement of widespread application of information technology and Internet use. Outgoing USAID Administrator J. Brian Atwood stressed this objective in July 1997: "In the midst of a true revolution of technology and communications, we must find a way to connect the scientists and teachers in remote universities to the international body of knowledge, science and scholarship."

Recognizing that USAID seeks to provide access to better development information and training for

more people at a time when its own resources are scarcer than ever, the Association Liaison Office for University Cooperation in Development (ALO) convened its Seventh Policy Roundtable on **Higher Education Uses of Internet Technologies: New Applications for International Development** to foster collaborative dialogue between USAID and U.S. higher education to explore how best to leverage individual and shared resources so that people in recipient countries are not left behind as technology advances. The Roundtable served to illustrate how the Agency can use colleges and universities as important extenders of Internet access, capable of a huge multiplier effect on Internet use for development. Trends in information technology created an opportune time for an earnest look at how USAID and higher education institutions can better build on shared interests and maximize the impact of critical U.S. resources.

The Roundtable convened USAID representatives from several Bureaus and representatives from the higher education community to demonstrate and discuss, in specific terms, how higher education experiences with information technology and Internet applications can support international human capacity development. Outcomes included an overarching framework for considering Internet applications in international development cooperation, relevant cases of

Internet use, an assessment of the potential and cost-effectiveness of these types of application, and recommendations for tapping U.S. college and university experiences with the Internet for education, research, technical assistance, and professional networking with users in developing countries.

Specifically, the Agency sought expert opinion on how to help channel the opportunities bubbling up in American higher education institutions in the use of the Internet for developing countries. It sought advice as to how to facilitate greater access to college courses, continuing education credentials, and collaborative research opportunities through the Internet; and how to encourage, and make greater use of, collaboration via the Internet among higher education institutions in the U.S. and developing countries in course development and provision, collaborative research, and professional network exchange. Together, higher education and Agency representatives considered alternative strategies, interventions, and mechanisms by which USAID could pursue this course.

### **View from USAID's Bureau for Global Programs, Center for Human Capacity Development: A Critical Need and an Opportune Moment**

Representatives from USAID's Center for Human Capacity Development (G/HCD) remarked frankly that they approached the Roundtable not as an exercise in speculation, but as a source of information and advice for immediate decision-making and planning. Reflections from the Roundtable will help inform USAID's participation in the Presidential Initiative on Internet for Economic Development. At this juncture, there is no clear direction as to the best path for the Agency to follow in adopting or facilitating higher education uses of Internet technologies.

Participants were reminded that USAID collaborates with higher education institutions in three major ways: first, through participant training - advanced coursework or credentials for developing country professionals who work with development programs; second, through the support of networking among colleges and universities for research; and third, through the support of partnerships among colleges and universities to design and implement development programs. Capacity-building within developing country higher education institutions is central to all three collaborative approaches.

USAID has begun to recognize that colleges and universities around the world, particularly in the

United States, are exploding with innovative uses of the Internet to teach, to network for research and for project implementation, and to strengthen their institutional capability. Hence, several questions emerge: What is out there for USAID to apply to its own programs? How should USAID go about facilitating the engagement of developing country professionals and higher education institutions with the new information technologies?

Several possible courses were outlined. One answer is *laissez faire*—let the institutions involved do as they choose. Internet applications for USAID objectives are happening on their own as the institutions choose to use them. Because USAID has not yet attempted to get a comprehensive handle on this process, there are strong incentives to let things be.

Another possible approach is that donor agencies, including USAID, should provide a push to facilitate greater developing country adoption of Internet technologies, to facilitate human capacity development in these countries by networking, education and training through the Internet. Questions were posed as to alternative approaches USAID might adopt:

- Should USAID fund a college or university consortium or hire a firm to broker distance education courseware and programs from U.S. institutions to developing country students at affordable cost?
- If so, should such an activity respond only to

USAID's traditional participant training needs or should it pursue a wider developing country institutional and student base?

- Should only U.S. institutions be involved?
- Should USAID fund U.S. and developing country institutional collaboration in offering distance education courses in key sectoral subject areas of importance to USAID programs?
- Should USAID design a linkage award

program specifically for Internet-based human capacity development programs; or more broadly, for Internet-based interventions for development cooperation?

At the outset of the Roundtable, USAID's representatives claimed neither a full vision nor sufficient information to answer these questions, but expressed hopes of using the day to make progress towards some answers.

### **Leland Initiative**

USAID also provided an update on the Leland Initiative and efforts by the Agency to foster connectivity in Africa. It was noted that, today, only three African nations possess Internet connectivity: Libya, Somalia, and Eritrea. Throughout the continent, there is a growing awareness of the need to adopt IT to address development challenges. Leland aims at lessening a communications deficit that confronts Africa.

Leland's approach involves 1) promoting an Internet-friendly policy environment, 2) developing and expanding the user-base, and 3) strengthening the regulatory process. One key stumbling block confronting these efforts is the lack of cooperation or proper regulation among the telephone companies in the eight national gateways chosen by USAID as areas of special focus. Although there is a clear demand for IT, there is also a fundamental problem in providing people with access.

In order to implement successful new IT strategies, one essential component is the need to change institutions and institutional mind-sets. It is a complicated process, but there are hopes for success. Decentralization in its several forms has been a positive step forward in Africa, but more needs to be done.

If brought into the picture, African universities can make a huge difference in resolving many of these issues. They offer a comparative advantage, a jump start on the road to wider Internet access and institutionalization. They provide an avenue for bypassing the stranglehold of local phone companies. More and more, key institutions have begun to act as change agents and leaders on behalf of local communities. There is real progress away from the elitist image stamped on such institutions over past decades. Leland Initiative representatives agreed that, through African universities, there is hope for making real progress toward the adoption of IT strategies to challenging development issues in the coming decade.

## **View from Higher Education: Strategic Internet Technology Applications Addressing Development Needs**

As outlined above, higher education representatives demonstrated that U.S. universities, colleges, and community colleges are rapidly expanding their use of the Internet, both domestically and internationally, to enlarge their student base, provide greater learning and continuing education opportunities, promote collaborative research, and extend services to their communities. Taking advantage of the opportunity presented by USAID's call for the Roundtable meeting, all agreed that it was important to help the Agency move closer to "connecting the dots" to develop a workable, collaborative IT strategy.

To initiate a purposeful, rich dialogue, higher education representatives began by setting forth an overarching conceptual framework to guide consideration of specific applications of Internet approaches to development challenges. Then several case studies followed in which presenters offered insights into their own hands-on applications of IT solutions to address these challenges. These were followed by a discussion of common themes and courses of shared action.

### **I. Conceptual Framework** (presented by Dr. Christopher Dede, George Mason University)

Educational systems benefit greatly from learning about the attempted innovations of others—both

failures as well as successes. To transfer and scale best practices for international development requires fostering a learning community that is distributed across a wide geographic area. Such knowledge-sharing communities must move beyond descriptions of innovations in higher education to dialogue about their evolution and implementation. Deeper understanding arises from deliberation about specific evidence and its interpretation for local contexts and cultures.

### ***Emerging Interactive Media and Distributed Learning***

The growth of the Internet is fostering the development and proliferation of new interactive media, such as the WorldWide Web and shared virtual environments. As the Internet increasingly pervades society, educators can readily reach extensive, remote resources and audiences on-demand, just-in-time to meet needs as they arise. Since expression and communication are based on representations such as language and imagery, the process of learning is enhanced by broadening the types of instructional messages students and teachers can exchange. New forms of representation make possible a broader, more powerful repertoire of pedagogical strategies.

Emerging interactive media also empower novel types of learning experiences: for example, interpersonal interactions across networks can lead to the formation of virtual communities. Innovative pedagogy enabled by these novel media makes possible evolving instruction beyond

synchronous, group presentation-centered forms of education.

A conceptual framework for understanding this shift in instruction is **distributed learning**: educational activities orchestrated across classrooms, workplaces, homes, and community settings and based on a mixture of pedagogies. Recent advances in **groupware** and experiential simulation enable guided, collaborative, inquiry-based learning even though students are in different locations and often are not online at the same time.

With the aid of mentors, students can create, share, and master knowledge about authentic real-world problems. Through a mixture of instructional media, learners and educators can engage in synchronous or asynchronous interaction: face-to-face or in disembodied fashion or as an “avatar” expressing an alternate form of individual identity.

Distributed learning demonstrates to students that education is *integral to all aspects of life* – not just schooling – and that many information tools scattered throughout our workplace can be used for learning across distance. Such an instructional approach also can build partnerships for learning among stakeholders in education (e.g., teachers and families, colleges and employers).

In the long run, distributed learning can potentially conserve scarce financial resources by maximizing the educational usage of information devices in

homes and workplaces. In addition, distributed learning enables shifts in colleges’ investments. Less money is needed for physical infrastructure and more resources can go into ways of creating a virtual community for creating, sharing, and mastering knowledge. Interactive media also enable an extraordinary range of cognitive, affective, and social enhancements of human capabilities— while at the same time also potentially limiting expression and communication.

Hence, much study is needed to make these emerging media effective for learning, as well as to design distributed learning environments appropriate to specific groups of learners, for particular types of content and given sets of educational goals. While a great deal is known about instructional design in classroom settings, many emerging media are so new that little is understood about the emotional and collaborative enhancements they provide – and lack.

Early studies suggest that distributed learning using multiple media is more educationally effective than traditional courses using only one medium – including conventional face-to-face instruction. In other words a course that could always meet face-to-face might well be better if taught partly across distance using a mixture of synchronous and asynchronous media. This is an illustration of an overarching development taking place in all forms of scholarship: knowledge networking and emergent intelligence.

### *The Larger Context of Knowledge Networking*

Two years ago, the National Science Foundation (NSF) instituted a new multidisciplinary funding program to explore the potential of emerging information technologies in fostering "Knowledge and Distributed Intelligence" (KDI). This initiative (<http://www.ehr.nsf.gov/kdi/default.htm>) was prompted by fundamental shifts that new interactive media are creating in the process of science. All forms of science are moving away from an investigative process based on reading others' research results in journal publications as a means of informing and guiding one's own scholarship. Instead, scientists are engaged in virtual communities for creating, sharing and mastering knowledge: exchanging real-time data, deliberating alternative interpretations of that information, using "groupware" tools to discuss the meaning of findings, and collectively evolving new conceptual frameworks.

NSF terms this process **knowledge networking** and is funding a series of KDI investigations to study these virtual communities not only in the context of science, but also as a more general process that could enhance many forms of reflective human activity. In addition, through knowledge networking, a type of "emergent intelligence" appears in which the virtual community develops a communal memory and wisdom that surpasses the individual contributions of each participant.

Knowledge networking involves creating a community of minds. Through sharing disparate data and diverse perspectives, a group develops an evolving understanding of a complex topic. Over time, the group's conception of the issues continually expands and deepens, at times broadening the range of fields and experiences seen as relevant. During these times, the membership of a networking community grows to include participants who bring new perspectives and backgrounds. Thus, a network is in longitudinal flux as an ever larger cast of members redefines how to conceptualize the topic: this involves a constant collective acculturation into new ways of thinking and knowing. Communal learning is at the core of the networking process.

This collective learning mirrors the complex initial acculturation process that people who wish to join a knowledge networking community must undergo to become effective participants. This acculturation involves:

1. Mastering a common language and a generally accepted set of theories and mental models (to provide a framework for communication)
2. Inculcating communally defined processes of collecting and analyzing data (to enable sharing reliable information)
3. Developing proficiency in design, reasoning, and argumentation (to facilitate the evolution of ideas)

4. Accepting a common set of values, such as respect for others' perspectives (to encourage wide participation)

Currently, the absence of these types of acculturation undercuts opportunities for sustained educational reform. For example, the war between proponents of phonics and advocates of whole language illustrates the dysfunctional dynamics that can occur without mutual acculturation processes to enable reflective dialogue. Through tools for representation, collaboration, and community building, new interactive media can create a framework within which constructive interaction can occur. Advances in information technology aid knowledge networking through providing rich sources of data, rapid information exchange, sophisticated analytic tools, and the collective intellectual capacity to tackle the complex problems that underlie innovation in higher education.

### ***Implications for Enhancing International Development***

Knowledge networking and distributed learning suggest three principles in using information technology to aid in adapting exemplary practices in higher education from their initial sites to other settings:

1. *Emerging information technologies enable a shift from the transfer and assimilation of information to the creation, sharing, and mastery of knowledge. Active collaboration among educators in developing insights about an innovation is more powerful in fostering effective implementation than simply receiving data about what someone else has done. This shift from assimilation to sharing about best practices potentially increases both the speed and the effectiveness of generalizing and applying educational innovations. Dissemination must itself mirror the types of shifts desired in educational practice, moving from passive assimilation of information to active construction of knowledge, so that the process is consistent with its content.*
2. *Dissemination efforts must include all the information necessary for successful implementation of an exemplary practice, imparting a set of related innovations that mutually reinforce overall systemic change. For example, dissemination of a promising technology-based learning environment would ideally include information about the learning environment itself, professional development strategies, necessary shifts in organizational policies and practices, and the requisite technological infrastructure and associated support services. It would also include evaluative data about the program's effectiveness and costs, alternative strategies for generating resources to meet those costs, ways to involve the community in the innovation, and approaches for ensuring a positive impact on equity. New interactive media offer powerful ways of communicating this level of informational detail.*

3. *A major challenge in generalizing and scaling up an educational innovation is helping practitioners “unlearn” the beliefs, values, assumptions, and culture underlying their organization’s standard operating practices.* Altering deeply ingrained and strongly reinforced professional rituals takes more than an informational interchange of the kind typical in conferences and most professional development. Emerging interactive media can enable virtual communities that provide affective and social support, which may lead to deeper behavioral changes in educational practices. In knowledge sharing, using both synchronous and asynchronous media for interaction is important in helping all involved participate fully in this unlearning process.

These ideas support the notion that, in contrast to conventional wisdom, dissemination should foster adaptation of an educational innovation, not just adoption. New interactive media offer great promise for supporting widespread communities that reflect on and adapt best practices as they emerge. However, simply using emerging information technologies to deliver large quantities of innovation-related data quickly can, at best, marginally improve higher education reform efforts and, at worst, overwhelm reformers. Thus, reconceptualizing the historic role of information technology in dissemination is central to its future effectiveness.

## **Case Studies: Approaching Development Challenges through IT Innovations**

After setting forth a framework, or landscape, against which to consider how higher education affords multiple avenues to facilitate distributed learning and to build stronger knowledge networking communities, specific cases were presented to offer a more detailed portrait of institutions who are putting these approaches to work.

### ***Howard University – Emergency Medicine in South Africa*** *(Dr. Melissa Clarke, M.D.)*

Since 1994, Howard University has worked with the University of the Transkei (UNITRA) to equip its partnering South African institution with training for its faculty and students. These collaborations are primarily in the area of health care – through student and faculty exchanges and joint research projects. Under a grant sponsored by ALO, Howard Medical School and Umtata General Hospital (the major referral and teaching hospital of UNITRA for rural areas of the Eastern Cape Province, receiving all victims of trauma within a 200 mile radius and treating over 50,000 casualty patients a year) initiated a project to use the Internet to connect medical personnel for the purpose of teaching, case consultation and information sharing in emergency medicine (EM). Up until the collaboration, there was no training program for personnel working in casualty in the Eastern Cape. Howard, a tertiary care urban

hospital treating 45,000 emergencies yearly, trains doctors, nurses, medics and physicians' assistants in the field of emergency medicine. The match was a natural one.

Having identified several of Umtata's critical needs (high rate of trauma, poorly equipped ambulances and personnel, long distances between Umtata and its referring clinics, and a poorly functioning emergency area), the two institutions planned to start an EM training program for students and medical officers of Umtata, with special emphasis on emergency medicine. What was essential was finding a way to make Howard's expertise in EM available to UNITRA through an effective, cost-efficient, and time and travel saving mechanism. The Emergency Medical Instruction Training Tool (EMITT) emerged as an Internet solution for effective collaboration. Through EMITT, the collaborators have expanded their mutual capabilities in telehealth through a cost effective, efficacious distance education program. EMITT's distinguishing features are 14 multimedia educational modules; on-line connections to medical databases; real time case consultations; and video archives of a variety of teaching conferences in EM.

After initial site survey and computer services consultation, Howard worked to overcome several problems: low bandwidth Internet access, no connection between Umtata and the UNITRA computer network, and a tornado (!) that disrupted the EMITT project for several months. Implementation issues were addressed by the

installation of Integrated Services Digital Network (ISDN) lines to the university and hospital to create a wide area network and by subsequent tests of live connectivity.

Further implementation issues (mainly concerning content) are being addressed in an ongoing fashion. Howard and UNITRA are working to ensure compatibility of medical practices, bridging differences between British- and American-based pedagogies, African and American etiology patterns, and disparate resources in place to treat illness. As a sign of commitment to joint collaboration, the program posits joint authorship by Howard and UNITRA physicians on all training modules.

Looking ahead, Howard and UNITRA intend to implement the EMITT application in October 1999. Subsequently, the partners intend to expand the UNITRA telehealth network, moving from the hub at Umtata to decentralized subregional health centers. To accomplish this goal, Internet access will be required to connect Umtata with its "node" institutions. Through this expansion to other health care sites, Internet access will ultimately enable health care providers to seek emergency medical teaching and consulting across the whole of the Eastern Cape.

***California State Polytechnic University,  
Pomona – Instructional Technology in  
Zimbabwe (Dr. Lev Gonick)***

For the past three years, California State Polytechnic University, Pomona, has been

engaged in collaboration in Zimbabwe in library sciences, computer science, computer information systems, architecture, business development, and perhaps most directly focussed on tourism and hospitality management. Cal Poly Pomona's larger Zimbabwe Initiative is now entering its sixth year.

Cal Poly Pomona has been working with national education partners, including the Bulawayo Polytechnic, the National University of Science and Technology, Ministries of Higher Education and Tourism, Mining, and Natural Resources. Bulawayo Polytech's School of Hotel and Tourism has been the lead partner in Cal Poly Pomona's proposed Digital Education Network for tourism and hospitality management along with a Center for Multimedia Education.

The institutional capacity in California to undertake this project originates from two sources. First, Cal Poly Pomona's School of Hotel and Restaurant Management is nationally ranked in the top five among schools. Faculty exchanges have taken place both ways with faculty spending a year in Zimbabwe and likewise exchanges in the opposite direction. For the past two years, the Instructional Technology and Academic Computing group at Cal Poly Pomona has been sub-contracted to provide a multimedia CD ROM curriculum and online experience for professional women scientists in West Africa. The sub-contract, through Winrock International, also anticipates a similar multimedia and online production in East Africa.

Cal Poly Pomona's demonstration of portions of its CD ROM curriculum illustrated some of the previous multimedia work undertaken and an outline of the scope of work to be undertaken in Zimbabwe over the next 24 months. Through its West Africa Electronic Learning Network, Cal Poly Pomona has just trained 14 women from eight African countries to prepare subsequent multimedia tools.

Cal Poly Pomona's presentation also addressed several key issues:

- The chief U.S. comparative advantages for Internet use for development cooperation through higher education are those core competencies in content expertise, train-the-trainer program design and execution, and multi-media presentation. U.S. universities are not necessarily the experts, or the best experts, to attack connectivity issues in the developing world.
- USAID's most useful role in availing developing countries of U.S. resources and expertise might be through offering help in addressing regulatory problems, and technical assistance to help overcome bureaucratic malaise that hampers the growth and distribution of Internet access.
- As providers of courses jointly developed and offered to students and professionals and as facilitators of research networks, U.S. universities may serve as cost-effective

brokers of development training and Internet access to help strengthen universities in cooperating countries.

- Multiple partners and collaborations should be nurtured in service of bringing a "virtual university" concept to development.

Similar observations were echoed by other presenters, leading to a rich discussion in the dialogue following the case studies.

***San Diego State University —  
International Training Centers  
(Dr. David Moore, Dr. Fred McFarlane)***

San Diego State University (SDSU) delivers distance seminars and graduate education to individuals and organizations throughout the United States, in developed countries, and in developing countries. During its case study, SDSU demonstrated applications of mediated technologies for the delivery of academic and continuing education to two distinct groups—businesspersons in Mexico, Central America and South America and employed adults in the Pacific enrolled in masters and doctoral courses.

Throughout its presentation SDSU focused on several operative factors informing its approach to mediating technologies for communication and education: 1) content should be learner driven, 2) the best technology is what is accessible, 3) infrastructure-building should be encouraged through training programs, and 4) program

implementers should be willing to experiment, fail, and succeed—learning as a continual feedback process.

Three examples were offered to delineate the rationale for these operative factors: (a) global network using satellite communication for seminars and workshops, (b) multiple technologies for the delivery of a graduate degree, and (c) use of the Internet for delivery of doctoral courses to international students.

*Global Training Network:* The International Training Center operates the world's largest multinational, university-based satellite training series. In 1984, SDSU established the first cross-border linkage with Mexico and produced numerous live videoconferences, uplinking directly from San Diego with Mexico's Morelos I satellite. Since that time, the ITC has expanded its network to some 400 sites across 15 countries and three continents. The most successful format includes a two-hour video conference with live video and audio that reaches audiences both at the home site and at the training site abroad. Courses are delivered in English or in the specified language of the host country. Topics include management, manufacturing, marketing, agriculture, infrastructure development, environmental, and public health.

*Graduate Degree in Rehabilitation:* The Interwork Institute delivers a 60-semester unit graduate degree to employed counselors using various mediated technologies. These

technologies include videoconferencing, audio and videotapes, conference calls, and written materials. These are all linked through a Web-based system that serves as the primary source of communication. The learning is designed to be student-centered and linked to their environment. Students from American Samoa, Guam, California and Nevada have participated in the courses. In Fall 1999 there will be students from Singapore and other island communities. Course expectations and the learner outcomes mirror the expectations of the traditional students on campus. This delivery approach is being expanded to include faculty from three other universities in July 1999.

*Doctoral Courses in Leadership:* In collaboration with another university, there is a doctoral cohort earning their degrees in Educational Leadership. Twenty-four of the units are taught through distance. These students are located in islands of the Pacific, Taiwan, Singapore and various locations in western Canada. Topics include policy analysis and leadership. Assistance on the dissertation will be accomplished through distance. Students work in groups (across the cohort of students) to present topics via the Internet and other mediated technologies.

The intent in each of these efforts is to: (a) insure full involvement of local citizens, (b) design and deliver the learning experiences to meet the needs of the learner, (c) develop local capacity for their own continuing learning, and (d) use technology that is available and supports the learning—not technology that drives the learning and the content.

***Carnegie Mellon University – Creating Global Linkages for Development***  
*(Dr. Paul Goodman)*

Carnegie Mellon's presentation examined a "community of universities," focusing on strategic and tactical uses of technology to enhance learning (TEL). Two essential points were stressed: 1) many choices are available in designing TEL environments and 2) the challenge is to link new TEL environments to learning assumptions and educational outcomes.

As a case in point CMU described its Latin American Initiative, a community of 30 universities in 12 countries, the objective of which was the creation of a forum and networks where Latin American universities can strategically consider how technology may enhance basic educational processes and tactically support developments in TEL. Examples of education exchange include software engineering between Pittsburgh and five cities in Mexico; Business Strategy Meetings between Chile and Mexico; Technology Management Sessions between Canada and Mexico; Finance Courses and Distributed Technology Courses between Pittsburgh and cities in Mexico and Chile. Technologies used for these activities include combinations of: E-mail, chat groups, collaborative software, computer-based systems, video conferencing, satellite, CDs, videos.

From these various initiatives, several lessons emerged:

- Current technology creates many strategies

to enhance learning processes.

- The key is to identify the critical learning processes that will change learning outcomes, not the technology.
- Multiple combinations of technology are more useful than one form.
- Assessments of process and outcomes are important, though often neglected.
- Successful interventions are tied to complementary changes in Human Organizational, and Technological (HOT) structures.

Likewise, CMU has identified multiple areas of opportunity: digital libraries, (re)training programs for faculty, technological and human infrastructure building, assessment, core course redesign, and creation of further tools for distance or computer based learning.

CMU's work in Latin America has dramatized that universities are both the constituencies for change themselves, and the agents of change for other development sectors, including primary and secondary schools.

Another TEL intervention includes a group of Indian Institutes which have formed a Virtual Center for Technology Enhanced Learning, spanning the whole of the subcontinent. Similar initiatives, lessons, and areas of opportunity emerged from this work. Taken together, the ultimate conclusions drawn by CMU point toward a new focus: universities should create new levels of collaboration in order to enhance innovations in new forms of learning for these institutions and other educational institutions.

**Michigan State University – Africa  
Internet Connectivity Project**  
*(Dr. Mark Kombluh and Dr. David Wiley)*

Michigan State University's (MSU) Africa Internet Connectivity Project (AICP) brings together the resources of MSU's larger H-Net: Humanities and Social Sciences OnLine, the African Studies Center, and MSU library system, in cooperation with the West African Research Center, the Institute for African Democracy, and other collaborating centers. Through funding from USIA and MSU, the AICP's goal is to build bridges through the Internet, "capacitating" African universities and enriching and enlightening American academe in the process.

The assumption that underlies AICP is that in Africa it is vital to strengthen the university as a system for teaching, research, and service.

Universities in Africa need to become effective and powerful players in fostering development.

Goal One ("building bridges") of AICP is about connectivity—specifically the aims are to augment Leland initiative and local projects, put connectivity into the hands of professors and students, and provide discipline-specific training for participants. Training focuses on key players, such as policy makers, administrators, librarians, IT specialists, and academic leaders. Through summer workshops involving these participants, H-Net demonstrates the potential of the Internet as a research and academic networking tool that requires hands-on use to be effective. Beyond the summer

workshops, ongoing support and online training, supplemented by H-Net and library support, means that individual participants in Africa have daily contact with resources to further training.

Goal Two ("capacitating") concerns academic networking. African scholars and students are encouraged to participate in networks which they edit and host. The pilot phase of the Development Studies Network is supported by the United Nations Commission on Science and Technology for Development. Envisioned for the near future is a larger H-Net family of development focused networks.

Goal Three (enriching and enlightening American academe) is about reciprocal content exchange—providing African partners with access to current international scholarship while providing Americans with up-to-date African scholarship and other information. One of the program's most exciting features, the goal encompasses moving beyond the inequalities of the print world into the digital library of the future. The program has generated interest in the public sector (Department of Education and National Science Foundation) and among private foundations (Mellon and Ford).

Goal Four is collaborative research and teaching within institutional partnerships that benefit all parties.

To achieve its ambitious aims, AICP follows several key principles: it seeks to put universities (African and U.S) first in the equation, build reciprocity and partnerships, use

the Internet as a strategic tool, and develop an integrated multi-staged project. The partnerships that result benefit both sides, creating a virtual university environment that capacitates African students and faculty, fosters collaboration, and matches interests and expertise around the world. Ultimately, AICP seeks to ensure that African universities, like their U.S. counterparts, are at the center of Internet applications for human capacity development in their respective countries.

### **Observations by Robert Randolph, USAID Assistant Administrator, Bureau for Asia and the Near East**

At the conclusion of the case studies, the Roundtable was joined by Bob Randolph, Assistant Administrator for USAID's Bureau for Asia and the Near East. Speaking from a vantage point as a former State Trade Representative and the Governor's Advisor on Trade Policy for the State of Washington, with years of close collaborative experience with the University of Washington and Washington State University, he opened with a provocative question: "Is the Agency taking sufficient advantage of the resources provided by higher education?" His conclusion was a categorical "No." He queried further as to how the Agency can use America's higher education resources wisely and get the wealth of good counsel and strategic judgment. Randolph set the stage for synthesis of the previous case studies into a series of recommendations for possible areas of future collaboration.

## **Synthesis: Connecting the Dots, Brokering Success, and Strategically Managing Core Institutional Competencies**

Both the rapidly changing dynamics and technology base of the learning community, as outlined in the conceptual overview, and the diversity and of existing applications, as illustrated by the case studies, argue for USAID to adapt a facilitating role—“connecting the dots” rather than a “hands-off” posture or a highly directive position in the emergence of IT applications for international development.

In articulating this role, participants engaged in a rich dialogue, building on the various institutional and media strategies shared during the morning. As a result, the Roundtable succeeded in outlining a series of common themes.

### ***Connecting the Dots***

From the very outset, participants put forward the observation that—rather than (on the one hand) simply allowing *laissez faire* to be the rule of the day or (on the other hand) requiring the Agency to “over-determine” what IT needs exist, what products are required, and where interventions should take place—USAID might more usefully adopt a facilitating role in the IT equation. USAID is perhaps best positioned to help “connect the dots” in service of IT strategies to foster development. In other words, many of the necessary components of a strategic approach to deploying IT for development are in place already and the Agency need only borrow and channel

expertise strategically and collaboratively in service of its goals.

Colleges and universities are doing much innovative work already, using IT media to address challenges in education and training in needy parts of the world. They are acknowledged pioneers (and present leaders) in producing solutions that embrace distributed learning and knowledge networking strategies. Higher education institutions are using multiple technologies, not just one particular approach, to meet these educational goals. Where these institutions can be of critical service to USAID is in the area of fostering a broad vision about technology in the service of international development. In the development arena, technical assistance has given way to partnership—in low tech and in high tech environments. Thus, USAID does not need to reinvent the wheel—it should instead serve a facilitating role, making use of and further strengthening those already extant partnerships between learning communities.

Many of these partnerships involve collaborations among higher education institutions, business, local communities, and government. By building on existing structures and institutions, USAID can make cost-effective, high impact on behalf of international development. As these models of excellence grow stronger, subsequent linkages—between U.S. and developing country institutions, as well as between central institutions and satellite campuses within target countries—will emerge and grow, creating a seamless web of knowledge networking.

### ***Brokering Success***

Higher education institutions in the U.S. have a proven comparative advantage as agents of development. Using an institutionally grounded approach that fosters lasting partnerships between institutions rather than simply exporting quickly devalued quanta of expertise, universities offer a route to sustainable IT development.

American higher education constitutes a diversity of institutions which are using a diversity of models for IT. Experimentation with diverse IT models and applications is important to ensure long-run developmental hits.

With its focus on building and enriching human capacity, USAID is positioned—in terms of its mandate and strategic requirements—to take advantage of higher education expertise and employ it to achieve shared objectives. Where successful higher education IT interventions are identified, USAID can provide seed funding to promote their adaption on behalf of overseas institutions and communities with critical needs. These institutions, in turn, feed the growth and stabilization of IT competency within broader communities and regions.

USAID can serve other important brokering roles, making use of learning communities within the U.S. that already share strong ties with institutions overseas and fostering incentives to share knowledge and expertise to collaboratively address development challenges. By focusing on areas such as connectivity and (de)regulation,

USAID is better positioned to use of its own comparative advantage to make a difference. Once barriers to IT usage are surmounted, higher education will be able to make further inroads, imbedding Internet use—quickly and broadly—in cooperating institutions and communities abroad.

Moreover, USAID might usefully assist in assessing the impact(s) of IT solutions as they are applied in developing world contexts. What will IT applications cost? How will people learn? How much better will they learn? How will IT solutions fare compared to old teaching modalities? These are all critical questions that USAID might usefully stimulate and assess in collaboration with higher education partners over the long term.

### ***Strategically Managing Core Institutional Competencies***

The trend in USAID is toward outcomes-based performance. Higher education partnerships offer a way to achieve measurable gains in support of capacity building around the globe. Short-term aims can be met—affordably, flexibly, and quickly—using tools and mechanisms for instruction and curriculum development (among other strengths) that have been pioneered through higher education partnerships. The benefits long outlast the short-term investments. Institutional partnerships often sustain their collaboration well after USAID or other catalytic funds end.

USAID should not lose sight of the significance of medium- to long-term investments in capacity

building. Although higher education partnerships can both deliver short-term results and last to produce results long beyond seed grants, a broadly successful IT strategy is less likely to be achieved without a long-term Agency commitment. Long-term needs should not be entirely sacrificed to short-term gains. Rather, an integrated strategy should be pursued.

As one possible element, higher education partnerships between the U.S. and developing countries may themselves serve as vehicles, or at least templates, to encourage the decentralization of connectivity. For IT applications to make an impact on the lives of low income families and communities, these applications should eventually become as familiar and prevalent as other telecommunications equipment (such as telephones and televisions).

### **Conclusions: The Last Mile Connections**

By the conclusion of the Roundtable, participants had set forth a series of possible next steps to carry the dialogue toward purposeful action. Although no consensus was reached as to an "action agenda" for the group, areas of broad engagement—referred to as "running the last mile"—were offered for further consideration.

- USAID should continue to seek advice from higher education on shaping its role in IT strategies for development. Further dialogue

might center on a future role in brokering, or facilitating, better interaction between U.S. higher education and USAID-target country institutions, governmental agencies, and non-governmental organizations (NGOs).

- From such consultation, USAID might usefully identify core providers with individual strengths centered on different elements of an Agency strategy. Focusing on clear content areas, with different sets of players for each, the Agency could easily identify higher education institutions with relevant, easily accessed expertise. Attendees agreed that USAID is well positioned to play a key role in facilitating this kind of knowledge exchange.
- USAID should continue to foster linkages between U.S. and overseas institutions. Such partnerships can be highly leveraged, offer immediate returns, and provide useful "laboratories" through which to experiment in search of innovative ways to contribute to human capacity development in some of the world's neediest settings.

Further dialogue is needed, but all participants agreed that the Roundtable demonstrated the Agency's willingness to seek strategic advice and offer to engage in purposeful collaboration. Likewise, the meeting reinforced for USAID that higher education is willing to respond creatively and purposefully in support of shared international development goals.

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## **APPENDICES**

1. Meeting Agenda and Issues
2. List of Attendees
3. Recommended Readings
4. Selected Distance Education Sites

ASSOCIATION LIAISON OFFICE  
FOR UNIVERSITY COOPERATION IN DEVELOPMENT

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American Council  
on Education  
American Association  
of Community Colleges  
American Association  
of State Colleges  
and Universities  
National Association of  
Independent Colleges  
and Universities  
National Association of  
State Universities  
and Land-Grant  
Colleges

HIGHER EDUCATION AND GLOBAL DEVELOPMENT:  
Policy Roundtable #7

Higher Education Uses of Internet Technologies—  
New Applications for International Development

June 15, 1999  
8:00 a.m. – 4:00 p.m.

Sponsored with the U.S. Agency for International Development

1307 New York Avenue, N.W.  
Washington DC 20005

**Focus:** American universities, colleges, and community colleges are rapidly expanding their use of the Internet, both domestically and internationally, to enlarge their student base, provide greater learning and continuing education opportunities, promote collaborative research, and extend services to their communities. Many U.S. higher education institutions use the Internet to maintain extensive ties with partners, former alumni, and other counterparts in USAID-assisted countries. At the same time, one of USAID's goals is increased human capacity through education and training. It has a special objective within this goal, to encourage the widespread application of information technology and Internet use. USAID Administrator J. Brian Atwood stressed this objective in July 1997: "In the midst of a true revolution of technology and communications, we must find a way to connect the scientists and teachers in remote universities to the international body of knowledge, science and scholarship." USAID seeks to provide access to better development information and training for more people at a time when its own resources are scarcer than ever. It wants to explore how best to leverage its own resources with those of its development partners so that people in recipient countries are not left behind. It regards colleges and universities as important extenders of Internet access, and capable of having a huge multiplier effect on Internet use for development. These trends make it time for an earnest look at how USAID and higher education institutions can better build on shared interests and maximize the impact of critical U.S. resources.

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## ASSOCIATION LIAISON OFFICE FOR UNIVERSITY COOPERATION IN DEVELOPMENT

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**Purpose:** This meeting is to convene USAID representatives from several Bureaus, and representatives from the higher education community to demonstrate and discuss, in specific terms, how higher education experiences with information technology and Internet applications can support international human capacity development. Outcomes will include relevant cases of Internet applications, an assessment of the potential and cost-effectiveness of these types of application, and recommendations for tapping U.S. college and university experiences with the Internet for education, research, and professional networking with users in developing countries. Specifically, the Agency seeks expert opinion on how it can help channel the opportunities that are bubbling up in American higher education in the use of the Internet, for developing countries. How can it help facilitate greater access to college courses, credentials, and collaborative research opportunities through the Internet? How might it encourage, and make greater use of, collaboration via the Internet among higher education institutions in the U.S. and developing countries in course development and provision, collaborative research, and professional network exchange? What, then, may be the best strategies for USAID to pursue in this regard, and what should be the characteristics of any interventions it may pursue? Finally, what mechanisms should it consider using for a possible program?

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**ASSOCIATION LIAISON OFFICE  
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American Council  
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and Universities  
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State Universities  
and Land-Grant  
Colleges

**HIGHER EDUCATION AND GLOBAL DEVELOPMENT:  
Policy Roundtable #7**

**Higher Education Uses of Internet Technologies—  
New Applications for International Development**

**June 15, 1999  
8:00 a.m. – 4:00 p.m.**

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**1307 New York Avenue, N.W.  
Washington DC 20005**

**Agenda**

- 8:00 a.m.**      **Coffee, fruit, pastry. Meet participants.**  
Equipment checks.
- 8:30 a.m.**      **Introductions and Welcome**  
Roundtable Moderator  
Dr. John Vaughn, AAU
- USAID welcome and expectations**  
Dr. Tony Meyer, USAID
- Higher education associations' welcome and expectations**  
Dr. Joan M. Claffey, ALO
- 8:50 a.m.**      **Framework and Issues for Internet Applications for Interna-  
tional Development Cooperation**  
Dr. Christopher Dede  
George Mason University
- 9:15 a.m.**      **USAID's Leland Initiative and Scenarios for Connectivity in  
Africa**  
Mr. Lane Smith, USAID
- 9:40 a.m.**      **Cases of Information Technology Applications for Development  
(20 minutes each)**
- Howard University – Emergency Medicine in South Africa**  
Dr. Melissa Clarke

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**Cal Poly Pomona – Instructional Technology in Zimbabwe**  
Dr. Lev Gonick

**San Diego State University – International Training Centers**  
Dr. David Moore and Dr. Fred McFarlane

**Carnegie Mellon University – Global Linkages for Development**  
Dr. Paul Goodman

**Michigan State University - H-Net & Africa**  
Dr. Mark Kornbluh and Dr. David Wiley

**12:00 p.m. Working lunch**

Robert Randolph, Assistant Administrator, ANE Bureau, USAID

**12:45 p.m. Issues Discussion (with leading observations from USAID and guest presenters)**

- What are the chief U.S. comparative advantages for Internet use for development cooperation?
- What is USAID's most useful role in availing developing countries of U.S. resources and expertise?
- What should be the main elements of USAID's interventions to help make Internet use for development more affordable and accessible?
  - What are cost-effective ways to help strengthen universities in cooperating countries as brokers of development training and Internet access? As providers of courses jointly developed and offered to students and professionals? As facilitators of research networks?
- Would it be useful to think in terms of bringing a "virtual university" concept to development? To nurture multiple partners and collaborations?
- In what ways could USAID nurture and help recipient-country individuals tap into international networks of scientists, teachers, health professionals, legal and governance experts, and other development practitioners?
- Through what instrumentalities should USAID tap the resources available?

**2:45 p.m. Synthesis Panel and Roundtable Discussion: Critical Issues, Possible Courses of Action, and Effecting Synergies**

**(Vaughn and Roundtable participants)**

**4:00 p.m. Adjourn**

## Appendix Two List of Attendees

Dr. Michael Baer  
Senior Vice President  
Programs and Analysis  
American Council on Education  
One Dupont Circle, NW  
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Mr. Gary Bittner  
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Washington, DC 20523

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Telmed Solutions  
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Silver Spring, MD 20910

Ms. Audree Chase  
Coordinator, International Services  
American Association of Community Colleges  
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Dr. Melissa Clarke, MD  
Executive Project Director  
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Howard University  
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Dr. Chris Dede  
Professor  
Graduate School of Education  
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Ms. Suzy Glucksman  
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National Association of State Universities  
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Assistant Vice President for Governmental Affairs  
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Dean, Instructional Technology  
and Academic Computing  
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Pomona, CA 91768-4049

Dr. Paul Goodman  
Director, Institute for Strategic Development  
Carnegie Mellon University  
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Dr. George Jones  
University of Nairobi  
USAID/Kenya Unit 64102  
Nairobi  
KENYA APO AE 09831

Dr. Mark Kornbluh  
Director, MATRIX  
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Mr. Richard MacFarlane  
Telmed Solutions  
104 Noyes Avenue  
Silver Spring, MD 20910

Dr. Fred McFarlane  
Chair, Department of Administration,  
Rehabilitation and Postsecondary Education  
College of Education  
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San Diego, CA 92182

Dr. Anthony Meyer  
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Washington, DC 20523

Dr. David Moore  
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San Diego, CA 92182-1943

Dr. Mortimer H. Neufville  
Director, Federal Relations  
Food, Environment & International Affairs  
National Association of State Universities  
and Land-Grant Colleges  
1307 New York Ave., NW  
Suite 400  
Washington, DC 20005-4701

Dr. Norman Peterson  
Director  
International Programs  
Montana State University  
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Bozeman, MT 59717-2260

Mr. Robert C. Randolph  
USAID, AA/ANE  
1300 Pennsylvania Avenue, NW  
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Dr. Sandra Russo  
AAAS Scientist, Higher Education  
USAID, G/HCD/HETS  
1300 Pennsylvania Avenue, NW  
Room 3.09-101  
Washington, DC 20523

Mr. Lane Smith  
USAID, AFR/SD  
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Washington, DC 20523

Ms. Margo Thombs  
Howard University  
Office of the Vice-President for Health Affairs  
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Washington DC 20060

Dr. John Vaughn  
Executive Vice President  
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Washington, DC 20005

Dr. David Wiley  
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100 International Center  
Michigan State University  
East Lansing, MI 48824

Association Liaison Office  
for University Cooperation in Development

Dr. Joan M. Claffey  
Director

Dr. James R. Burns  
Administrative Associate

Mr. Chris Francis  
Executive Assistant

Mr. Charlie Koo  
Program Associate

Ms. Jennifer L. Munro  
Communications Coordinator

Dr. Poonam Smith-Sreen  
Consultant

## Internet Technologies and Higher Education Readings

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## **Appendix Four**

### **Selected Distance Education Sites**

California Virtual University: <http://www.california.edu>

Carnegie Mellon's Distributed Learning Initiatives: <http://www.jitl.cs.cmu.edu>

Committee on Institutional Cooperation Common Market of Courses and Institutes: [http://www.cic.uiuc.edu/cmci/cmci\\_homepage.htm](http://www.cic.uiuc.edu/cmci/cmci_homepage.htm)

Community College Distance Learning Network: <http://ccdln.rio.maricopa.edu/>

Distance Learning Honors Courses/Massachusetts Public Higher Education System: [http://www.umass.edu/pubaffs/dislearn/fac\\_part.html](http://www.umass.edu/pubaffs/dislearn/fac_part.html)

Florida's Campus: <http://www.flcampus.org/>

George Mason University Virtual Learning: <http://www.virtual.gmu.edu>

Indiana College Network: <http://www.icn.org/>

LifeLongLearning: <http://www.lifelonglearning.com>

New Promise Inc.: <http://www.caso.com/>

OnlineCSU (Connecticut State University System): <http://www.csu.ctstateu.edu/onlinecsu/>

Oxford University: <http://www.conted.ox.ac.uk>

Pennsylvania Virtual University: <http://business.ship.edu/vu/>

San Diego State University Interwork Institute: <http://www.interwork.sdsu.edu>

Southern Regional Electronic Campus: <http://www.srec.sreb.org/>

Stanford Online: <http://stanford-online.stanford.edu>

State University of New York/SUNY Learning Network: <http://sln.suny.edu/admin/sln/original.nsf>

University of Phoenix: <http://www.uophx.edu/online>

University of Texas TeleCampus: <http://www.uol.com/telecampus/>

Western Governors University: <http://www.wgu.edu>

## ABOUT THE ROUNDTABLES

**P**olicy Roundtables on Higher Education and Global Development are being convened by the Association Liaison Office for University Cooperation in Development (ALO) and the U.S. Agency for International Development (USAID). The Roundtables focus on emerging cross-sectoral issues and the changing circumstances of development cooperation as these may involve higher education. The purposes of the Policy Roundtables are to:

- Bring higher education expertise to bear on the identification of key and emerging development problems, strategic approaches for their amelioration, and effective models of partnership for development,
- Predict and describe the future of development cooperation to advance human, economic, and democratic development, and
- Promote the constructive engagement of thinkers from the higher education community and USAID on topics of common concern.

The Roundtables help define the content and process of future development cooperation and the implicit agenda shared by higher education and USAID. The first Roundtable, *The Look of Development Cooperation Ten Years Out: What New Roles for the State, Higher Education, Business and Industry, and the Community?*, concluded that today's development challenges are vastly different from those

confronting USAID at its inception, and even those of a decade ago. The number of development partners both private and public, the complexity of issues, and the skills and needs of our development counterparts have changed.

The second Roundtable, *Higher Education, the Corporate Sector, States and Communities: Forming New Partnerships for Economic Development*, focused on different types of partnerships. There was keen interest in the extent to which higher education – from community colleges to research universities – is engaged with the private sector and community groups in local, regional and international development efforts.

The third Roundtable, *The Greying of Development Expertise: What's Needed and How Will the Next Generation Get Trained?*, addressed the personnel implications of these new modes of operation to determine the type of individuals best suited to face the future challenges of global development. The United States has a fundamental self-interest to maintain a cadre of men and women in government and in the American public at large who are committed to international engagement through education and development cooperation.

The fourth Roundtable, *Increasing the Relevance of Higher Education to Development: What U.S. and Mexican Public/Private Partnerships Can Do*, provided an opportunity for

representatives from six pairs of U.S. and Mexican higher education institutions to share the progress to date of their institutional relationships. These alliances serve as models for ways in which U.S. universities, colleges and community colleges may effectively ally with higher education institutions abroad to contribute to development through partnerships with their private sectors. The meeting detailed the results and impact of the partnerships, and their critical elements for success.

The fifth Roundtable, entitled *Coordination and Collaboration in Public Education and Outreach on International Development*, discussed, in specific terms, how the higher education community and USAID can collaborate to reinforce their respective efforts to inform the U.S. public about the role and importance of international development work. The Roundtable produced recommendations for an action agenda for USAID and higher education on public education and outreach.

The sixth Roundtable, *Assessing Results of Higher Education Development Cooperation*, discusses monitoring and evaluating practices for higher education partnerships for development. The discussion and presentation of three case studies exploring evaluation issues led to the refinement of ALO's draft monitoring and evaluation plan.

**ASSOCIATION LIAISON OFFICE  
FOR UNIVERSITY COOPERATION  
IN DEVELOPMENT**

The Association Liaison Office for University Cooperation in Development (ALO), established in 1992, coordinates the efforts of the nation's six major higher education associations to build their partnership with USAID and to help their member institutions plan and implement development programs with colleges and universities abroad. Uniquely situated to broaden and deepen the involvement of the American higher education community in partnerships for global development, ALO serves to mobilize the community's resources toward this end.

For more information or for additional copies of this report you may contact:

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Internet: [alo@aascu.org](mailto:alo@aascu.org)  
<http://www.aascu.org/alo>

**U.S. AGENCY FOR  
INTERNATIONAL DEVELOPMENT**

Since 1961, the U.S. Agency for International Development (USAID) has been charged with implementing programs which further American self-interest and demonstrate American humanitarian concern. Spending less than one half of one percent of the federal budget, USAID works in four interrelated areas crucial to achieving U.S. foreign policy objectives: increasing economic growth and developing agriculture; improving health and population conditions; promoting economic growth; protecting the environment; supporting democracy; and developing human capacity. In addition, USAID's assistance to victims of famine and other natural and man-made disasters saves thousands of lives every year.

To learn more about USAID and its programs, visit their Web site at:

*http://www.info.usaid.gov*