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Roy Romer
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December 30, 1997

Thomas A. Kalil
Senior Director to the National Economic Council
The White House
Old Executive Office Building
Washington, D.C. 20050

Dear Tom:

Thank you for convening the meeting with administration officials and representatives of Western Governors University (WGU). It was a very helpful discussion, and I am excited by the possibilities of partnership between WGU and the federal government.

I was particularly pleased and impressed by the breadth of representation from the federal executive branch that you brought to the table, including key officials from the Departments of Defense, Labor, Education, Commerce, the Office of Management and Budget, the President's office and the Vice President's office. I think it was important for us to establish a dialogue between WGU and each of these players.

I am also pleased by your suggestion that a "working group" be formed with representatives from the federal government to continue the dialogue with WGU. I want to make sure that we continue our forward momentum in exploring opportunities for partnership, and it will be much easier if you will maintain your leadership in keeping this working group together. In addition, I believe it would be useful for WGU staff to follow-up by scheduling separate meetings with department contacts as soon as possible.

Toward this end, I propose that representatives from WGU schedule time to meet with representatives from the Department of Defense (perhaps sometime in January) to fully explore whether the department can be a customer of WGU and additional linkages between training needs the federal government has and competencies WGU will have to offer.

Separate discussions between WGU and representatives from the Departments of Commerce, Education, Labor and the Office of Personnel Management should also be scheduled fairly soon.

Virtual University
WGU
—EW

PROPOSAL FOR ADMINISTRATION INITIATIVE

A. The Problem

More than ever before, the nation needs a broadly-educated citizenry, in order to

- o *compete effectively* in a competitive global economy, and
- o raise levels of *meaningful citizen participation* as the nation engages in discussions of increasingly complex social issues.

This means that significant numbers of U.S. citizens need far higher levels of competence and "functional literacy" than is currently the case.

Technology is playing an increasingly important role as a means to develop higher levels of competence by,

- o providing a *vehicle to deliver education* directly to learners, and
- o allowing *access to enormous amounts of information* via such media as the Internet and the World Wide Web.

Because of both, technological competence has itself become a key ingredient in what we mean by "functional literacy." But there are substantial inequities in access to technology-based learning resources and its concomitant benefits. For the most part, only (upper) middle-class individuals have ready access to the Internet and the many informational resources available through the World Wide Web, or to the kinds of technology-enhanced learning opportunities available through providers like Sylvan Learning Centers.

B. Basic Propositions

Given these conditions, a new federal initiative ought to:

- o focus on the needs of citizens who *currently do not possess needed levels of competence and/or do not have access to* increasingly- critical technology-based learning resources.
- o focus on modes of education that can be accessed at the *discretion of individual citizens in an ongoing manner*, rather than "formal" instructional programs.

The public library of the early 20th century is a useful analog for a technology-based Learning Center for the 21st Century. The public library of that era provided:

- o a point of access to *learning resources for the "common citizen"*—individuals who could not acquire these resources as private goods on their own.

- o *knowledge resources* themselves (books) and the *services of a trained staff* (librarians) who could help individuals use those resources.

C. Proposed Initiative

What is therefore needed is a new kind of community-based knowledge and learning resource that would:

- o ensure *access to technology-based learning resources* to otherwise disenfranchised users. This might be done by:
 - creating new Learning Centers
 - increasing access to resources that already exist in the public or private sectors
- o be staffed by trained (and perhaps certified) professionals able to *assist individuals in using* the new technology-based learning materials
- o ensure particular access to learning materials and knowledge resources that *address critical minimum competencies* (e.g. the equivalent of a high-standards Associate of Arts degree)
- o providing access to the means to *certify and assess competencies* (e.g. WGU, corporate university certification, etc.), using technology wherever possible.

D. Funding and Implementation

Such an initiative would first require a high-profile White House campaign to sketch the vision—a community-based "Learning Center for the 21st Century." If at all possible, the initiative should not be conceived as a formal "program" of the Departments of Education or Labor. It could instead be funded/supported in two inter-related ways:

- o creating a "*market push*" for Center development by:
 - using tax credits or other incentives for employers that encourage their employees to gain and obtain certification for needed competencies
 - creating educational "drawing accounts" for particular target audiences to gain and certify needed competencies.
- o providing an "*incentive pull*" for Center development by:
 - giving challenge grants to communities to establish Centers directly (like the TIAP program of the Department of Commerce).
 - giving block grants to states to work with their own communities.

Life long learning
- Certification
- Incentive
- Grant

Virtual University SW
to the 2nd floor
Life long training not credits
Need resources
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Sec 127
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benefits
Computerized countries
Skilled grants
Cost of attendance
- computer purchase
Financial Aid for Low Dist
Full grants
Accreditation
Expand financial aid
39
representative

October 14, 1997

MEMORANDUM FOR DISTRIBUTION LIST

FROM: Anne Lewis, National Economic Council
Tom Kalil, National Economic Council

SUBJECT: Learning on Demand, InfoTech Worker Training

There will be a meeting on Tuesday, October 21, 1997 from 3:00 to 5:00 p.m. in Room 231, OEOB to discuss the Learning on Demand initiative, and options to address the worker skills requirements of the information technology industry. Please call our assistant, Gay Joshlyn at 456-2801 if you need to be cleared into the building or if you are not able to attend the meeting.

On Learning on Demand, agencies should have white papers on the topics we discussed in the last meeting. Agencies should feel free to make contributions to all of these topics even if they are not the "lead agency" on the white paper. All agencies should bring suggestions on groups and people to talk to for outreach.

1. **Remove legal barriers to distance learning** that may exist in current financial aid laws [Education]
2. **Promote the development of high-quality instructional software** through grants to consortia of industry, universities, labor unions, and software developers - particularly in areas such as basic and remedial skills [All]
3. **Make the government a cutting-edge user of technology-based training** [DoD]
4. **Invest in longer-term R&D** to improve the "state-of-the-art" for learning software and to conduct evaluation [OSTP]
5. **Expand "America's Training Network"** so that firms and workers can easily discover training that meets their needs [Labor]
6. **Target the "working poor" for technology-based career development and training opportunities** [Labor]
7. **Encourage dissemination of federally-sponsored computer-based training** [Labor/DoD]
8. **Promote linkages between certification and skill standards and technology-based training** [Labor]

“Learning on Demand” Challenge Grants (Kalil Draft 11/11/97)

Summary:

The Clinton Administration has an ambitious national strategy for integrating technology in to the K-12 classroom, with computers, educational software, technology training for teachers, and connectivity to the classroom. We have no similar strategy for promoting the use of technology (the Internet, intranets, CD-ROM, satellite, interactive TV, etc.) for life-long learning. As a component of a broader Administration “learning on demand” initiative, this paper proposes a \$75 million challenge grant program that would create new partnerships to deliver “anytime, anywhere” access to affordable, high-quality learning opportunities. The program would be administered by the Department of Education.

Benefits

The potential advantages associated with the use of technology for life-long learning (both higher education and training) include reduced costs, expanded access, and increased quality.

- 1. Cost:** Technology could reduce the costs associated with both higher education and training. One study suggests that “governments would get a lot more for their money by investing in a first class distance program than in more second class physical campuses.” The Department of Defense has found cost benefits associated with use of technology based training over the past decade. Studies by the Institute for Defense Analysis indicate that computer-based instruction led to reductions of about 30% in the time it takes students to reach a variety of instructional objectives.
- 2. Access:** Already, 5 million working adults are enrolled part-time in American colleges and universities. The number of college and university students over 25 has increased from 28 percent in 1970 to 41 percent in 1994. An even larger adult population would like to take college courses, but can not attend a traditional college due to inconvenient class hours, campus inaccessibility, family responsibilities, business travel, or physical disabilities. Computer-based learning could provide adults with “anytime, anywhere” access to education and training opportunities. Nearly 60% of employed workers under age 50 already use a computer at work and nearly half have computers at home and usage continues to grow. Computer-based training would give these adults opportunities to learn and improve their skills by delivering training where they need it, when they need it.

Computer-based training could also increase opportunities for people in transition. The new Lorrington Job Corps Center is an example of how computer-based training is being deployed for professional development with at-risk youth. Computers are being used to train students for future jobs, among them software development, programming, and graphic design

3. **Quality:** There is also the possibility that technology could improve the quality of instruction, particularly compared to large lecture-based courses. The Sloan Foundation, for example, has been funding a series of pilot programs to explore the use of "Asynchronous Learning Networks." Students are able to send and receive e-mail and files with the instructors and other students. In response to questions about an ALN-based course at Drexel University:

- 85 percent of the students felt that they had more access to the instructor than in conventional classes;
- 80 percent felt that conventional courses were more boring than the ALN-based course; and
- 70 percent felt that they learned more in the ALN-based course.

Used correctly, new technologies provide a unique opportunity to escape some of the limitations of traditional classroom learning. Computer-based training can tailor the learning experience to the specific needs of each individual. For example, a program can be designed to recognize the need for remedial instruction before moving on to new concepts. Self-paced, tailored, interactive instruction delivers training in an engaging, cost effective way with measurable outcomes.

New Institutions, New Partnerships

Taking advantage of new technologies to provide "learning on demand" will require new institutions, new business models, and new forms of collaboration. We are beginning to see some of these new institutions and partnerships emerge:

- Since 1995, the Western Governors have been working to design a "Western Governors University." Some of the goals that they have identified include:
 - providing a means for learners to obtain formal recognition of the skills and knowledge they acquire through advanced technology-based learning at home, on the job, or through other means outside the formal educational system; and
 - shifting the focus of education to the actual competence of students and away from "seat time" or other measures of instructional activity.
- The State of Michigan, Michigan State University, the University of Michigan and other Michigan colleges and universities have recently formed The Michigan Virtual Automotive College. It will begin offering courses in the fall of 1997 that are targeted to the Big 3, automotive suppliers, UAW, and people interested in getting jobs in the automotive industry.

- The Colorado Electronic Community College was founded in 1995 to broker the courses offered by its 13 college state-wide system. Course work is delivered by a variety of technologies including print, videotape, audiotape, cable broadcast, Internet and CD-Rom. Communication such as presentations, discussions, study groups, with classmates and faculty occurs through a voice-mail system and e-mail. CECC has a multi-million dollar digital video and multimedia production and training facility located in Denver, Colorado called the Education Technology Training Center.
- The EDUCOM National Learning Infrastructure Initiative -- a coalition representing more than one hundred higher education institutions, publishers, hardware and software companies -- is working together to develop an Instructional Management System. These standards will allow software "modules" to be shared across institutions and wide range of technical environments.
- JSTOR -- a non-profit organization that received seed funding from the Mellon Foundation -- is in the process of digitizing all of the back issues of 150 core scholarly journals. Although it is not cost-effective for a single library to digitize journal articles to free up shelf space, there are savings if the costs are shared by multiple libraries. JSTOR now has over 200 universities and research centers as members.

Challenge Grants:

Experimentation, creation of novel partnerships, and diffusion of successful models could be greatly accelerated by a new competitive grant program. This grant program should solicit proposals that address key barriers to achieving the "learning on demand" vision - but also be open to other ideas. The grant program should solicit proposals that would:

1. **Create an infrastructure of support services for adult learners:** Some adult learners may be totally self-sufficient, and able to search the Internet catalogs of multiple virtual education providers. Others (those making the transition from welfare to work, displaced workers, under prepared learners, those with no prior college experience) may need a range of services -- including assessment, counseling, help in navigating through the range of options, selecting appropriate courses and programs, and monitoring their progress. [Note: Some of these services could be provided through the DOL-funded "one stop shops.]
2. **Achieve a "critical mass" in the higher education/life-long learning market for software and networked courses.** Currently, the lack of "economies of scale" often prevent commercial publishers and other institutions from investing the amount of money that would be required to develop high-quality educational software and other distance learning offerings. These economies of scale are incredibly important for software and other information technology products - which often have high fixed costs and low (sometimes approaching zero) marginal costs. Critical mass might be achieved by

encouraging a consortia to share courses, instructional material, or software to avoid duplication, and combining existing offerings to offer complete certificate or degree programs. Partnerships between commercial publishers and universities would also be encouraged, given that instructional software is often used only by the individual professor that developed it.

3. **Reach consensus on the competencies that are needed for specific education and training programs:** Curriculum/software developers and the assessment industry need to know what competencies are required for specific and education and training programs. This is particularly important in a virtual environment where “seat time” is no longer relevant. This requirements could be developed by representatives from professional associations, professional licensing or credentialing organizations, employers, and educational institutions.

Size of program/grants:

- The overall level of funding would be \$75 million in FY99, increasing to \$125 million in 2001 to allow for new starts.
- Grants would range in size from \$250,000 (planning grants) to \$3 million (major initiatives with significant regional or national impact) - with a duration of 1-3 years.
- Some funds (~ \$5 million) should be set aside for evaluation, conferences, workshops, and other leadership activities.

Grant criteria

Overall criteria might include:

- Impact on quality, cost and access of educational opportunities;
- Leverage (level of matching funds);
- Long-term sustainability;
- Degree of innovation;
- National impact.

Specific criteria for partnerships on instructional software might include:

1. **Focus on high priority courses**

One large community college that offered 2,000 courses found that 25 courses accounted for 44 percent of student enrollment. This distribution is typical in both community (44 - 52 percent) and four year colleges (35 percent). Focusing on these courses (the “1% solution”) could have a big impact on learning - and might also overlap with some elements of high-school curriculum and workplace learning requirements.

Other high priority courses might include basic/remedial skills, and fields where shortages of skilled workers is limiting the growth of a particular sector.

2. **Uses technology in appropriate ways to improve student performance**

Some of the potential benefits of technology include:

- Self-paced instruction available anytime, anywhere.
- Real-time, competency-based assessment.
- Allow student to “learn by doing” using techniques such as modeling and simulation. A good example of this an effort to develop an on-line biology lab called EvolveIT. This teaches the basic concepts of natural selection by allowing students to manipulate variables like variability, inheritability, and fitness - and observe the evolution of a hypothetical population of birds on a series of islands.
- Offer individualized instruction (e.g. intelligent tutoring systems that are “smart” enough to diagnose student strengths and weaknesses, recognize student errors and tailor instruction accordingly).
- Provide real-time and asynchronous communication between students and teachers to create “communities of learners.”
- Use multimedia to make instruction more engaging or explain concepts that are easier to communicate using multimedia (e.g. time and motion in physics, foreign language instruction); or the use of hypertext to allow students to explore a subject at various levels of depth depending on their interest and background.

Realizing these benefits requires that the software for technology-based training move beyond digitizing the material in a traditional textbook.

3. **Foster partnerships between universities and commercial publishers/software companies**

Many promising experiments with instructional software never move beyond one classroom because university professors lack the expertise and financial resources required for marketing, distribution, customer service and support, etc. University-publisher partnerships would combine the strengths of each party -- such as the content and pedagogical expertise of the universities and the business expertise of the publishers.

4. **Develop software that is modular, portable and based on open standards**

Instructors and students should have the ability to mix and match software modules from multiple sources. [This is analogous to the professor that creates a customized “reader” from multiple journal articles.] This would allow “learning objects” from multiple content providers to be combined and recombined to meet specific instructional requirements.

Of course, for this to be true, the software needs to be portable (works across different operating systems and computing platforms) and based on open standards. Without these characteristics -- it would be difficult or impossible to integrate content from multiple providers.

Vicki
University
EWS

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DRAFT - November 14, 1997

Reauthorization Proposal for Distance Learning

The Department of Education's reauthorization proposal for distance learning is consistent with the goal of expanding access to postsecondary education for all students, especially those in growing populations, while ensuring accountability of Federal funds. The proposal would encourage institutions to continue to respond to technological advancements and offer courses and programs to students who may have limited access to educational opportunities because of time and place constraints.

BACKGROUND

The 1990s mark the first decade of the *Information Age*, an age driven by technology, learning, and knowledge. Within this context, college student populations are growing beyond the capacities of shrinking campus budgets, college costs are escalating faster than the rate of inflation, and employers are investing in training for their employees to remain competitive. There is a growing concern about the accessibility of higher education. As a result, it is important to consider carefully strategies to facilitate successful innovation in higher education to help meet the growing demand for quality higher education and fulfill the goal of ensuring equal access to higher education. One such innovative strategy for delivering higher education is distance education.

While distance learning takes a wide variety of forms, it is characterized by the separation of the instructor and student by space and/or time. Distance learning has been practiced in the United States for many years. Originally, these education programs provided specialized courses to geographically dispersed students through print-based correspondence courses. Since then, advancements in technology have facilitated the incorporation of print, telephone, fax, television, radio, video and audio conferencing, the Internet, e-mail, voice mail, and computer-based integrated telecommunications systems to deliver higher education. Many traditional higher education institutions are incorporating distance learning to deliver a range of individual course offerings and entire educational programs.

Indeed, according to a recently released study by the National Center for Education Statistics ("Distance Education in Higher Education Institutions," October 1997), 33 percent of all higher education institutions offered distance education in Fall 1995 and another 25 percent planned to offer such courses by the Fall of 1998. More than 700,000 students formally enrolled in nearly 26,000 distance education courses in 1994-95. Approximately one-quarter of the institutions offering such programs in Fall 1995 offered degrees that students could complete by taking distance education courses exclusively, and seven percent offered certificates that could be completed that way.

CURRENT CONSTRAINTS

Distance learning opportunities are increasing everyday, and it is apparent that the distance and high-tech learning option is the future of the educational marketplace, using technology to reach students everywhere. The Federal government has encouraged and supported efforts to use technology as an educational tool, particularly at the elementary and secondary level, encouraged lifelong learning activities, and supported through the Fund for the Improvement of Postsecondary Education (FIPSE) grants the development and expansion of distance learning programs. The Title IV Federal student financial aid programs, however, are currently based on the more traditional delivery of higher education that does not easily incorporate these changing influences.

The current Higher Education Act (HEA) often precludes institutions from being eligible for Title IV programs in these types of learning options. Specifically, institutions (and, therefore, their students) are ineligible to participate in Title IV when more than 50 percent of the institution's courses are correspondence and/or telecommunications courses or 50 percent or more of the students are enrolled in such courses. (Section 481 (a)(3) of the HEA, 34 CFR 600.7(a)(1)(I) and(ii).) The Department's reauthorization proposal (see below) repeals this requirement for degree-granting institutions that are accredited by a recognized accrediting agency that enforces standards relating specifically to distance learning.

DISTANCE LEARNING AND THE HEA

The upcoming reauthorization of the HEA provides an excellent vehicle to respond to not only the changing technological environment but also the changing demographics in postsecondary education. Today, nearly half of all college students are 25 or older, the majority balancing jobs, family, community commitments, and education. Research has shown that this population benefits the most from distance learning because it offers courses that accommodate working people who want to learn skills to make them more competitive in the workplace or broaden their view of the world but who cannot take time from their jobs or other commitments to participate in the traditional higher education settings. Distance learning makes higher education more accessible by freeing the student from time and place constraints. This provides an economical and efficient means of earning a degree.

There are many benefits to distance education. They include improved and greater access for students, sharing of resources, enhanced curriculum, and improved educational quality. Distance learning creates access to more flexible space and time instruction while also making it possible for institutions to share their limited resources and thus expand and enhance their curriculum. For example, an institution can provide introductory courses from other institutions so that it can focus on its own academic strengths and allow faculty to concentrate on more specialized courses of instruction. Through resource sharing and improved access, small colleges and school

districts can offer more courses from multiple providers, and larger institutions can augment their course offerings. This provides economic advantages by bringing the instruction to the student rather than the reverse, and by enlarging the revenue base for a course. By enhancing the curriculum, distance learning has the potential to further the mission and goals of an institution while allowing it to take advantage of any specialties of the remote location, such as in-the-field data gathering and off-campus resources. In addition, distance education facilitates a more outcome-based assessment of the education provided, which can be used to measure the effectiveness and the quality of the education in a more standard evaluation.

POTENTIAL RISKS

Despite these benefits, there are also some limitations and risks to distance education. Providing quality distance education requires a large financial investment, extensive strategic planning, and a strong commitment to the targeted beneficiaries. In addition, while distance education creates access, the quality of the programs can be assured only by learned educators, and improved with the help of technology. In the 1970's and 1980's, there were several scandals involving schools offering correspondence programs. Most, if not all of these schools were proprietary institutions offering trade programs. As a result of the Higher Education Amendments of 1992, most of the distance learning programs now offered at institutions are offered at traditional institutions that are regionally accredited. Nonetheless, the Department is concerned about ensuring the integrity of these alternative educational offerings and will require accrediting agencies to develop and enforce standards relating to distance learning that institutions must meet to remain eligible to participate in the Title IV programs. In addition, the Department intends to work diligently to coordinate the resources of the Program Integrity Triad (the Department, the States, and the accrediting agencies) in an effort to monitor distance learning activities.

HEA PROPOSAL

The Department is proposing a five-pronged approach to distance learning that reflects the changing demographics in higher education and the new ways institutions are delivering higher education, yet ensures that taxpayer dollars are well spent. It would also permit institutions to have greater flexibility in implementing distance learning programs while retaining appropriate safeguards. The Department proposes to:

- Expand Title IV eligibility for students in distance learning by removing the 50 percent limitation and restriction (in Section 481 (a)(3)) at degree-granting institutions. Institutions that do not offer at least one degree program would remain subject to the current requirements regarding eligibility.
- Require accrediting agencies to have specific distance learning standards that, at a minimum, address issues related to (1) selecting students to participate in distance

learning, (2) assuring that students participating in distance learning receive appropriate support services, and (3) assessing student outcomes.

- Eliminate the differences in cost of attendance treatments between distance learners and on-campus learners. Currently, the only costs that can be included in the student's budget are tuition and fees and, if required, books and supplies, travel, and room and board costs incurred specifically in fulfilling a required period of residential training. This proposal would include living allowances, as well as any potential costs for computer equipment or other necessary equipment, into the determination of Title IV aid. As a result, distance learners would have their aid determined in the same way that community college students who live at home, for example, have their aid determined. The Department believes this is appropriate in light of the societal benefits that result from an educated population regardless of whether the student attends a residential-based institution or completes a program from a distance.
- Ensure accountability of distance learning courses and programs through accreditation and authorize an independent study (perhaps by the National Academy of Sciences or a similar organization) to examine the effectiveness with which accrediting agencies are developing and enforcing outcome measures for distance learning programs. This study could possibly be initiated prior to reauthorization if funds permit, yet the provision ensures that accrediting agencies will be evaluated as to their compliance with the proposal mandating the implementation of specific standards.
- Provide the Secretary with the authority to regulate where appropriate for distance learning after more knowledge and experience is gained in this area. For example, the current provisions for academic year and program length may not apply in the distance learning arena; this authority allows the Secretary to regulate where standards may be more appropriate.

EXPERIMENTAL SITES PROPOSAL

In an effort to develop a broader knowledge base of issues related to Title IV posed by emerging distance education models, the Department is considering inviting institutions to submit proposals for experimental sites involving distance learning in the very near future. The Secretary would select a limited number of institutions to participate in the experiment, the results of which would assist the Department in defining the rules and procedures that would enable and facilitate student aid eligibility for distance learners, while at the same time facilitating program quality and protecting public funds. The experiment would also include an enhanced program partnership among all the triad members to create a better understanding of distance learning and ensure educational quality through the collaborative efforts of the triad members. This proposal complements the HEA proposal and allows the Department to expand

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its knowledge base of distance education prior to implementation of the HEA amendments.



*Virtual
University*

**CONCERN FOR COMPETENCE:
THE WGU AS A VEHICLE FOR ADDRESSING
NATIONAL EDUCATION OBJECTIVES**

August 27, 1997

**National Center for Higher Education Management Systems
P. O. Box 9752 • Boulder, Colorado 80301-9752 • (303) 497-0301**

Introduction

Business and political leaders across the nation are united in their concern that students are graduating from our nation's schools and colleges poorly prepared for the world they are entering. On the one hand, they feel that recent graduates do not have the level of knowledge and skills necessary to ensure national preeminence in the new global economy. Neither are they seen as prepared for effective citizenship in our democratic society or for leading fulfilling and productive lives in an increasingly complicated world. It is impossible not to hear the **concern for competence** in these conversations—where competence means not just having an educational "credential" but also the skills and the values necessary to:

- apply knowledge gained in the classroom in both the workplace and the community
- continue to learn on an ongoing basis
- lead a healthy and personally rewarding life

The U.S. is by no means alone in its concern that broad populations possess such competencies. But the precise nature of the problem is considerably different in the U.S. from that found in most other countries. Elsewhere, students are achieving high levels of competence; the problem is one of "massification"—taking the steps necessary to ensure that a much larger proportion of the population can attain the levels of competence now being demonstrated by those few who are able to attend college. In the U.S., substantial massification has already been achieved. The principal tasks are to ensure that this large number of students attain higher levels of competence than they currently do, as well as to raise the competency levels of those who choose not to pursue college degrees.

A variety of policy initiatives—at both federal and state levels—have been employed in an attempt to raise student achievement levels. While there have been some successes (test scores have been creeping upward and U.S. students are performing more acceptably on international math and science exams), real success has been elusive. The reasons are many, and include:

- the daunting size and complexity of the problem itself
- the fact that policies are developed piecemeal and are as likely to work in opposition to each other as in concert
- the fact that too many policies, once established, lack the kind of long-term follow-through and leadership commitment on the part of public officials that is needed to make them really successful
- the fact that government policies are blunt instruments—arising out of a prolonged process of negotiation, compromise, and consensus-seeking; as a result, they emerge from the forge with most of the innovation and real potential for promoting change beaten out of them

- the fact that government policies tend to promote "one-size-fits-all" solutions to problems and contexts that are incredibly different
- the fact that policies too often represent "imposed" solutions based on government's regulatory powers, rather than resting on a real understanding of the kinds of incentives that actually affect people's behavior.

Perhaps as important, however, is a prevailing condition in which those who express concern for competence seldom assume responsibility for hiring on that basis, which in turn affects the ability of educators to implement needed changes. As but one example, employers complain about the absence of particular competencies in their workforces, but do not assess for those competencies in the hiring process or refuse to hire individuals who can't demonstrate those competencies. It is difficult to convince students (and their parents) to undertake the personal effort and sacrifices necessary to achieve at higher levels when such mixed signals are sent about the value associated with doing so.

Much time and effort has been invested by educators and policymakers across the country to identify and implement raised standards of achievement for K-12 students. These efforts have produced some very good work. But the reformers have all run up against a familiar problem in which the environment around the school, which demands higher student performance in the abstract, fails to act on those demands—not because they do not need the talent, but because they do not trust, understand or relate well to a different evaluative system.

Raising student achievement depends upon three critical steps: 1) identifying clear and understandable performance standards, 2) effectively assessing student progress toward achieving those standards, and 3) marketplace demand for students who achieve the standards. As a nation, we have become dramatically more sophisticated about what are effective standards and assessments but the creation of actual marketplace demand remains a problem. It is here where organizations like the Western Governors University and the federal government can independently and in concert begin to create actual demand for students who meet raised performance standards.

Strategies Being Employed

Recognizing this problem, both state and federal governments have taken steps over the past decade designed to enhance the basic competencies of their citizens. The majority of these have been targeted at students engaged in formal education at the K-12 level. Very briefly, these initiatives include:

1. **National Education Goals and Assessments of Educational Progress.** At the national level, goals have been set that address both educational outcomes (e.g., to achieve world-class competence in science and math) and the conditions necessary for effective teaching

and learning (e.g., all children enter—a safe and drug-free—school ready to learn). In addition, some steps have been taken to monitor progress toward achieving these goals. While these national goals establish a set of objectives to be achieved, they provide no guidance to classroom teachers and other education professionals about what is needed to achieve these desired ends. Further, they hold no meaning for the students themselves; there are no direct consequences for students who perform poorly on these assessments. In medical terms, activities of this kind have led to better **diagnostic** tools, but they provide few **prescriptions** for steps that will result in improved student performance.

2. **Development of K-12 Standards.** Concerted efforts have also been made to develop standards for K-12 education—to specify what students should know and be able to do in different subject areas and at different grade levels. But attempts to develop "national" standards of this kind have run into a host of implementation problems, among them:

- the fact that education has historically been a state, not a national, responsibility. As a result, strongly held beliefs in many quarters hold that standards should also be developed at the state level. At the same time, the federal government lacks any real leverage—either fiscal or regulatory—to induce the needed state cooperation. Bowing to these pressures, national leaders are reduced to encouraging states to devise (what will inevitably prove to be very uneven) sets of standards.
- the difficulty of forging sufficient consensus to establish even "illustrative" standards at the national level. In several academic areas, standards developers have had considerable difficulty in establishing agreement among the many perspectives they have brought to the table. Too often, the result has been standards that are either 1) ambiguous, 2) rejected by significant players, or 3) reduced to the lowest common denominator which guarantees they are not in fact the "world class" standards that the promoters were seeking.
- the fact that standards development has been pursued within the context of the traditional academic subjects—math, science, history, etc. As a consequence, less attention has been given to cross-cutting skills and the application of discipline-based knowledge and skills in real-world settings. The absence of these applications skills has led to the greatest concerns about competence expressed by business leaders.
- the backlash, by students and parents, against competency-based transcripts and diplomas in those rare cases where such innovations have been attempted. Of the various roadblocks, this may be the most important. But it may also be the most tractable, because resistance stems largely from pragmatic, rather than ideological, considerations. As long as college admissions and job placements are based on such traditional measures as ACT/SAT scores, high school grades or rank in class, parents are loathe to have their children receive certifications that are not stated in

the accepted "coin of the realm." A major task, therefore, is to create a **market** for competency-based certifications, not just the capacity to deliver them.

All of these problems illustrate the futility of simply employing standards to force reform, absent a clear understanding of the incentive structures that reinforce current behavior. Far more promising are cases where established standards have had real payoffs for individuals—for example the kinds of competency-based college admissions approaches currently being experimented with in states like Oregon and Wisconsin, or competency-based vocational programs in electronics being jointly developed by community colleges and major corporations in states like Arizona and Idaho. In both cases, standards create a compelling "market" for competence that pulls up performance levels instead of trying to change things from the top.

3. **Promulgation of Good Educational Practices.** While much attention has been focused on developing performance standards and the means to assess learning outcomes, parallel developmental efforts have been directed toward improvements in the delivery system—changing educational inputs, practices, and processes in ways intended to yield the learning outcomes deemed desirable. Included have been innovations in:

- curricula and subject-matter content
- teacher qualifications, certification, and professional development
- approaches to institutional management (e.g., site-based management)

These innovations have made a difference, especially in schools blessed with strong leadership and community support. In most schools, however, real changes have not been made (or, if made, the results have been disappointing). Unfortunately, these trends perpetuate a "silver bullet" mind-set about school reform; the latest ideas are implemented as stand-alone fads rather than as integral components of a well-conceived strategy that reflects the unique needs of a particular school and the students in it. These strategies also chiefly operate on the basis of "inputs" not "outputs" of the educational process. "Provider-driven" reforms of this kind will likely find limited success in the absence of "consumer" demand for increased student competence. Since this demand will not come directly from students, this demand will have to come from those who engage students at the subsequent stages of their careers—employers and/or postsecondary educators.

4. **Workforce Training Programs.** The federal government has launched a variety of specialized programs designed to prepare individuals in difficult circumstances of one type or another for either work or further education. Among these programs are JTPA, School-to-Work, vocational education, displaced workers, ABE, tech-prep, etc.; the list could easily be extended. Through its revisions to welfare programs, the federal government virtually has guaranteed an expanded client base for such programs. While well-intended—and frequently effective when judged against a narrow set of criteria—these programs tend to suffer from:

- **limited scope.** They tend to deal with very narrowly defined target groups (displaced homemakers, displaced workers, etc.). Programs have proliferated in response to the somewhat different needs of different audiences.
- **lack of coordination/integration.** Each program tends to operate within its own administrative structure. If these programs are coordinated at all, it tends to be through the efforts of state-level agencies intent on creating one-stop service centers for individuals needing job training or placement.
- **narrow focus.** The focus of most job training programs is on narrow vocational skills, not the broader range of skills that would allow an individual to keep learning and remain current in a continually changing workplace.
- **a focus on placement rather than learner competence.** In the main, the agencies that operate these programs are judged on the basis of individuals placed in the work setting. There is less attention to assessment (and certification) of learner skills, particularly those broader skills such as communication, quantitative reasoning, problem-solving, and interpersonal skills. Inherent in this condition is a squandered opportunity to more closely individualize competencies and bring them into congruence with the demands of the workplace.

Such policy approaches tend to run counter to what is actually happening in the marketplace for employment. Here, more and more, assessed competency in the form of independent skills certification is becoming the accepted "coin of the realm" for job-seekers—creating a market-based lever for change that government policies have been slow to exploit. Competency-based certifications of this kind now exist in hundreds of occupations, ranging from financial planning to health care, with more coming on line each year. Decisively different from traditional government "licensure" as in Medicine and Law that are mandatory for practice, such credentials are granted by independent third-parties and are sought voluntarily by employees because of the market advantage that they bring.

5. **The Federal Government as Educational Provider.** Overlooked in much of the discussion about workplace training is the role of the federal government itself as a direct provider of such training. In particular, the Department of Defense has developed considerable expertise in designing training programs specifically designed to ensure that individuals become highly competent in specified areas, both narrowly vocational and with regard to broader, transferable skills. This considerable government involvement in competency-based training has never been consciously used as a "policy" for educational reform, though it has exerted a significant influence behind the scenes. One of the overlooked consequences of the end of the Cold War, however, has been its impact on this important educational role of the military. Reductions in the size of the armed

services—and the concomitant increases in their selectivity—means that the military is training fewer people and is less obliged to serve as the remedial education provider for those who slipped through the net in their years of formal education. Further, the increasing specialization of military training makes it more difficult than once was the case to transfer acquired vocational skills into civilian pursuits. Nevertheless, the military has developed considerable expertise in training individuals to specified (and high) levels of competence in various areas, many of which are the same as those considered important in secondary and postsecondary education. This situation suggests not only that military training be considered more explicitly as an integral part of the nation's postsecondary asset, but also that other forms of government personnel training be used as laboratories for experimenting with competency-based approaches.

6. **Creation of Federal Merit-Based Scholarships.** Historically, federal scholarship programs have been need-based—designed to remove financial barriers to postsecondary education for students who meet minimal academic standards (they are high school graduates). With the advent of a merit/performance-based scholarship program (Hope Scholarships), the federal government puts itself in the position to be a major force in creating a market for competence in high school graduates. The approach to implementation is key. If scholarship awards are based on demonstrations of competence with regard to basic academic skills, then:

- a clear message about levels of expectations will be communicated
- there will be a reason to move away from test scores and grades as the measure of success; a major basis for resistance to change will be dismantled
- the federal government will be in a position to apply incentives at the individual student unit of analysis (and place accountability at the level of the individual), conditions not attainable through the other strategies available at the federal level.

On the other hand, use of grades as the measure of educational attainment makes the path toward attaining high levels of competence even more difficult. At the purely pragmatic level, grading is notoriously inconsistent from school to school; performance that merits an "A" at one school results in a "C" at another. Further, high grades don't necessarily mean that a student has acquired either knowledge and/or skills. More important, the use of high school GPA in this context creates incentives for counter-productive behaviors. For example, it creates incentives for students to take easy courses in which they can get good grades rather than the more difficult courses that will provide them with key competencies. Finally, grade-based approaches waste a rare opportunity to focus attention on competence and reward those who attain it.

What Is Needed?

It can be argued that improved levels of competence in the fundamental academic skill areas will most likely be attained if:

- the high levels of competence (benchmark standards) expected of those entering either college or the world of work are clearly articulated.
- these standards are developed with involvement and approval of colleges and employers—the standards must reflect their needs rather than the perspectives of (K-12) providers.
- the standards must be utilized in the marketplace; they must be used by colleges in the admissions process and by employers in the hiring process. If the "bully pulpit" is to be used to exhort changed behavior, these exhortations are advisedly directed at those who are the direct beneficiaries of students coming to them with higher levels of competence.
- the standards must be applied at entrance rather than exit. At the point of exit, it is too late to engage in "rework." The available evidence suggests that it is more productive to "pull" change from the demand side than to "push" it from the supply side.
- the consequences must focus on the individual rather than on the educational provider.
- credible and cost-effective means of certifying the presence of competencies (of the kinds and at the levels identified) must be available.

This set of criteria suggests a strategy that operates on the environment in which schools must function rather than on the schools themselves.

The WGU as a Lever for Change

The governors of the western states have enthusiastically supported the creation of the Western Governors University because they see it as a vehicle for addressing high priority education and workforce development agendas in their states. Several features of the WGU can also make it a useful vehicle for addressing some of the central concerns about the level of competence of secondary school graduates:

- WGU will award degrees and certificates based on students' demonstration of competence at levels equal to or above an established (high standard). In order to implement the vision of the WGU, it is necessary to 1) specify the competencies

required of a WGU graduate, 2) establish standards of performance regarding the various competencies, and 3) select (or develop) assessment tools that can be used to determine whether students can demonstrate proficiency at the level required. There is no doubt that the WGU will have this capacity in place when it opens its virtual doors to students.

- the focus is on ensuring abilities (against high standards) of **individuals** rather than on structure of curricula or the functioning of educational providers. Thus the WGU creates a "high stakes" environment for the individual; the incentives (and accountability) are directed in such a way as to maximize leverage on individual student learning.
- the standards that will be employed by WGU are being established by the "recipients" of program graduates—employers and faculty of more advanced programs—rather than by the providers of the instruction (they are being established by the buyers, not the sellers, in the marketplace). This is resulting in standards that are not only higher but focus on competencies that are somewhat different/more appropriate to subsequent application than the standards typically devised by academic providers.
- the initial work of WGU has been concentrated on developing statements of required competencies and methods of assessment appropriate to certification at the Associate degree level. While the **level** of performance of a high school graduate would be expected to be less, the domains of expected competence are fundamentally the same. In short, there is no reason to believe that significant elements of the competence-based approach being developed by WGU cannot be scaled downward so that it could be applied at the level of certifying high school graduation/preparation for entrance into college.
- the governance structure, as well as the philosophic and operational orientation, of WGU helps to ensure strong ties between WGU and "recipients" of its products—employers and advanced educational institutions. As a result, the WGU represents a very large platform from which to urge these audiences to demand demonstration of basic competence as a condition of (nonprobationary) employment or college admission; it is a vehicle for affecting the larger environment within which secondary education must function.

Not to be overlooked in this litany of characteristics is the fact that WGU is established as a private, nonprofit educational institution. As a consequence, it has the freedom to establish standards of performance it (and the recipient of its products) deems appropriate; it has no obligation to involve a broad range of providers in a consensus-seeking process that is almost certain to yield watered-down, lowest-common-denominator standards. Because of its status as an independent "third party," WGU has an opportunity to articulate and use the world-class standards that everyone espouses.

A Proposal

Because WGU is uniquely positioned to help address an educational problem that is of keen interest at both the state and federal levels, it is proposed that funding be sought that would allow WGU to:

1. **Create programs of study based upon competencies and proficiencies developed in partnership with key employer and industry groups.** WGU's program in Electronics Manufacturing Technology already illustrates this potential. Developed in active cooperation with employers, the competency standards embedded in the program are also consistent with national efforts to develop consistent hiring and certification standards in the electronics industry as a whole, being developed under the auspices of the National Skills Standards Board (NSSB). Additional competency-based programs of this kind—aligned with specific performance standards now under development in critical fields—might include such areas as Health Care Professionals (especially in the area of long-term care) and Early Childhood Professionals. Performance standards developed in such programs will be explicitly designed as models for other educational providers to adopt, once their credibility in the marketplace for employment has been established.
2. **Work directly with federal agencies to help develop appropriate professional certifications and training and/or professional-development programs that would enable agency employees to meet higher standards of performance.** Following the path blazed by the military, individual federal agencies might undertake systematic job analyses to determine the specific skills needed for effective performance. In a process similar to that used by the NSSB, results could be used to develop articulated performance standards, with targeted training programs designed explicitly to meet them. WGU's experience in developing portable "generic" competencies (e.g. in communications and quantitative skills) that are required by many types of occupations might be particularly valuable here—for instance in establishing integrated requirements for a given federal GS employment level, regardless of agency or location.
3. **Provide standards-based professional development and training in assessment and curriculum development for K-12 teachers and other educational professionals.** One of the primary reasons for failure to implement local standards-based reform has been limited opportunities for appropriate professional development for the teachers who must take reform to the classroom. The WGU is in an excellent position to provide such training on a broad basis using distance-delivered instruction accessible to practicing teachers in remote localities and to develop purpose-built training materials for use in the pre-service and in-service education of teachers (e.g. CD-ROMS) on topics like pedagogical and

assessment skills necessary for teaching in competency-based curriculum. Once established, moreover, the resulting competencies would provide a ready vehicle for furthering alternative certification by allowing direct assessments of teacher performance.

4. **Work directly with college admissions officers and corporate employment offices to better articulate key proficiencies for entry.** A prominent theme of federal "school-to-work" initiatives is increasing convergence of the skills needed for successful performance in college and in the workplace. WGU has already recognized this convergence by establishing comparable skills blocks for such areas as communications and quantitative skills in both its "academic transfer" and its "vocational" programs. This work could be carried much further by developing model entry-level performance criteria that could be voluntarily adopted by individual employers and educational institutions in an approach similar to that being used by the National "New Standards" project.
5. **Propose, for national review, competencies appropriate for performance at the "fourteenth" grade level.** This would be intended as a broader exercise designed to both extend and to provide substance for a national conversation about necessary adult skills. Such conversations have in part been provoked already by efforts like the National Adult Literacy Study, but have not been sufficiently extended to embrace needed post-high-school levels of performance. Again, the objective would not be to set a single common national "standard"—an exercise that would likely result in watered-down levels of performance. Rather it would be to establish useful benchmarks of high performance for voluntary adoption by individual institutions and systems, as well as to anchor further national research on adult proficiency.

WESTERN GOVERNORS UNIVERSITY

V. F. Hall
University

April 28, 1998

Governor Knowles
Alaska

Governor Hull
Arizona

Governor Romer
Colorado

Governor Gutierrez
Guam

Governor Cayetano
Hawaii

Governor Batt
Idaho

Governor O'Bannon
Indiana

Governor Radcliff
Montana

Governor Nelson
Nebraska

Governor Miller
Nevada

Governor Johnson
New Mexico

Governor Schafer
North Dakota

Governor Keating
Oklahoma

Governor Kitzhaber
Oregon

Governor Bush
Texas

Governor Leavitt
Utah

Governor Locke
Washington

Governor Geringer
Wyoming

Committee on Labor and Human Resources
Senator James M. Jeffords
428 Dirksen Senate Office Building
Washington, D.C., 20510-6300

Dear Chairman Jeffords:

On behalf of the Western Governors University (WGU) it is our pleasure to be addressing you regarding an issue, which is very important to our individual states. As Governors of WGU member states, we are very committed to the quality delivery of distance learning educational opportunities for students. WGU provides the vision and capability to accomplish this goal.

To provide you with a brief background, WGU is a non-profit corporation whose members consist of the Governors of 17 states and one territory. Chaired by Governors Michael O. Leavitt of Utah and Roy Romer of Colorado, WGU is a virtual university, which will provide innumerable distance learning opportunities for higher education students, making accessible course offerings primarily from accredited providers. The innovation of WGU stems from its value-added brokerage of courses through an on-line catalog system called the SmartCatalog™, and unique offering of competency-based credentials. WGU will simultaneously expand access to higher education and pioneer the market for educational credentials defined by competencies. WGU is in the process of seeking accreditation from the four regional accrediting agencies that have primary jurisdiction for the majority of WGU states. As an example of the innovation that WGU has spawned, those four agencies have established the Inter Regional Accrediting Committee (IRAC) to provide a common mechanism for the review of multi-regional institutions such as ours.

We are particularly supportive of the proposed legislation that would enable the Secretary of Education to experiment with the most effective and efficient ways for distance learning, allowing technology-based institutions to participate in the Title IV programs. We believe giving the Secretary broad experimental authority for a pilot group of institutions is preferable to attempting to completely overhaul Title IV to accommodate the rapidly evolving way of delivering educational services. We do urge that the Secretary's waiver authority extend to the entirety of the HEA, as it is inherent in experimentation that one does not know in advance what needs to be changed. As an example, financial responsibility standards that place considerable importance on the value of fixed plant are irrelevant in a virtual environment. (The lack of such fixed costs decreases the total cost of education).

Committee on Labor and Human Resources

April 24, 1998

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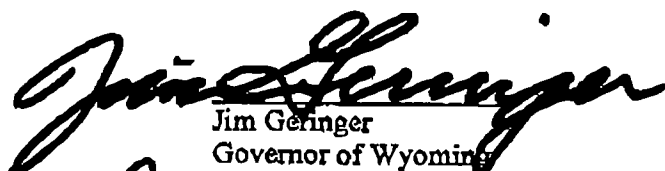
We do urge the Congress to continue to move towards eliminating areas of discrimination against students who are seeking to learn through the use of telecommunications technology, albeit to do so in a measured way. In the 1992 Higher Education Amendments, the Congress wisely decoupled telecommunications-based learning from correspondence study. Now before the Congress are proposals to take the next logical steps. We strongly support the inclusion of all of a student's direct educational expenses, expressly including computers, software and costs of communications in the calculation of Cost of Attendance. A student who uses telecommunications technologies to participate in higher education ought not be disadvantaged in comparison to a student who commutes to a nearby campus or who lives in student housing. Finally, we support the elimination of the "50% rule" for accredited degree-granting institutions. As telecommunicated-based distance learning becomes more effective, its increasing utilization is inevitable. Responsible institutions ought not be constrained by an arbitrary cap on their ability to best serve the needs and interests of their students.

Entities such as the Western Governors University, which will provide quality distance learning opportunities for students, make the expansion of this essential program a vital issue for today's higher education student. We thank you, in advance, for your strong consideration of this crucial issue.

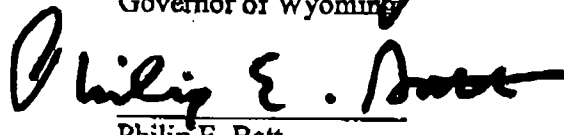
Sincerely,


Roy Romer
Governor of Colorado


Michael O. Leavitt
Governor of Utah

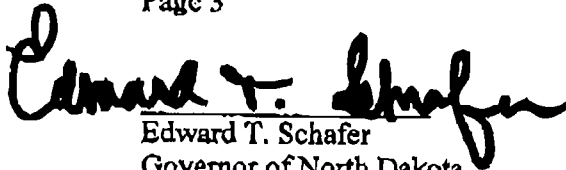

Jim Geringer
Governor of Wyoming


E. Benjamin Nelson
Governor of Nebraska


Philip E. Batt
Governor of Idaho

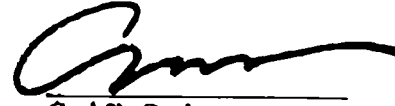

Benjamin J. Cayetano
Governor of Hawaii

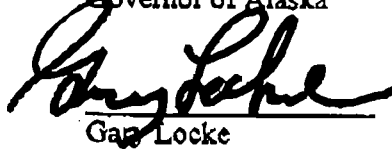
Chair on Labor and Human Resources
April 24, 1998
Page 3

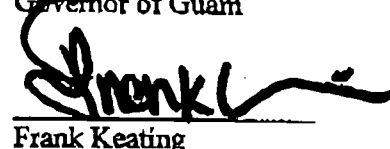

Edward T. Schafer
Governor of North Dakota


Marc Racicot
Governor of Montana


Tony Knowles
Governor of Alaska


Carl T. Gutierrez
Governor of Guam


Gary Locke
Governor of Washington


Frank Keating
Governor of Oklahoma

cc: Senator Dan Coats, Indiana
Senator Judd Gregg, New Hampshire
Senator William Frist, Tennessee
Senator Mike DeWine, Ohio
Senator Mike Enzi, Wyoming
Senator Tim Hutchinson, Arkansas
Senator Susan Collins, Maine
Senator John Warner, Virginia
Senator Mitch McConnell, Kentucky
Senator Edward M. Kennedy, Massachusetts
Senator Christopher J. Dodd, Connecticut
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STATE OF COLORADO

EXECUTIVE CHAMBERS

136 State Capitol
Denver, Colorado 80203-1792
Phone (303) 866-2471



Roy Romer
Governor

*Univ. of
Colorado*

MEMORANDUM

TO: Tom Freedman

FROM: Alan Salazar

DATE: December 4, 1997

RE: December 16th WGU Meeting

The following is a list of people we were planning to have participate in the meeting being held on December 16, 1997 at 1:30pm. Please let us know if you need additional assistance.

Governor Roy Romer
Alan Salazar, Deputy Chief of Staff/Director of Policy & Initiatives
Anne Quinn, Education Policy Analyst
Bob Albrecht, Chief Academic Officer, WGU
Jeff Livingston, Chief Executive Officer, WGU
Dennis Jones, President, National Center for Higher Education Management Systems
Sally Johnstown, Director, Western Cooperative for Educational Telecommunications
Mike Goldstein, General Counsel

Draft December 4, 1997

*Virtual
University
draft*

MEMORANDUM FOR THE PRESIDENT

CC: THE VICE PRESIDENT

FROM: GENE SPERLING

RE: LEARNING ON DEMAND

The vision

Imagine the following scenario:

- A worker (let's call him Joe) currently struggling to support a family of 5 on a \$30,000/year income reads in the paper that the rapidly growing electronics industry in his state is desperately seeking workers with specialized technical skills, and offering jobs paying \$50,000 per year. Joe would love a job like this, but doesn't have a background in "sub-micron manufacturing in a clean room environment."
- Logging on to the Internet with an inexpensive WebTV, Joe finds that a "virtual university" is providing an associates degree that will provide him with the certificate that he needs to get this and other high-paying jobs. He also logs on to a government Web site, where he finds easy-to-understand descriptions of the grants, loans and tax credits that he is eligible for. Fortunately, these programs have recently been reformed to support distance learning opportunities.
- Next, he drives down to a nearby "adult learning services" center. After talking to a counselor and taking some assessment tests, Joe finds that he'll need to brush up on his math to be able to handle the "quality control" techniques used by production workers in the electronics industry. He also confirms with the counselor that the particular program he's considering has a very high placement rate, and that the certification is highly valued by industry. ✓
- Joe signs up for the certification program from Virtual U., and is delighted to learn that he can learn at his own pace. Commuting to the local college at night would have been inconvenient, and meant less time with his family.
- Joe also finds that the software is engaging -- and more interesting than the lectures he sat through in high school. Like a flight simulator, the software often teaches a concept by simulating a "real-world" situation. Joe gets constant feedback on whether he is learning the material from quizzes and how well he can do on the simulation. Joe also communicates frequently with the other students in the course and the teacher via e-mail

and chat rooms, and has become good friends with some of the other students who live nearby.

Some
Goal:

B. K. J.

- After completing the program, Joe returns to the learning services center, where he finishes the tests needed to get his certification. Within weeks, Joe gets a job at higher wages and better benefits, and is able to save more for his children's education.

This vision is achievable:

We believe that this is a realistic scenario, and that achieving the goal of high-quality learning opportunities for adults -- anytime, anywhere -- would be significantly accelerated by Presidential leadership.

However, we are still in the preliminary stages of developing a full-blown initiative. We think that it makes sense to start out in FY99 on a "pilot" basis with a new \$50 million grant program and creative use of existing resources. We would devote time next year to further exploring policies that will accelerate opportunities for learning on demand.

We are confident that this initiative will find willing partners in higher education, industry, and organized labor. For example:

- Since 1995, the Western Governors -- with leadership from Governor Roemer -- have been working to design a "Western Governors University." Some of the goals that they have identified include:
 - providing a means for learners to obtain formal recognition of the skills and knowledge they acquire through advanced technology-based learning at home, on the job, or through other means outside the formal educational system; and
 - shifting the focus of education to the actual competence of students and away from "seat time" or other measures of instructional activity.
- The State of Michigan, Michigan State University, the University of Michigan and other Michigan colleges and universities have recently formed The Michigan Virtual Automotive College. It began offering courses in the fall of 1997 that are targeted to the Big 3, automotive suppliers, UAW, and people interested in getting jobs in the automotive industry.
- The Colorado Electronic Community College was founded in 1995 to broker the courses offered by its 13 college state-wide system. Course work is delivered by a variety of technologies including print, videotape, audiotape, cable broadcast, Internet and CD-Rom. Communication such as presentations, discussions, study groups, with classmates and faculty occurs through a voice-mail system and e-mail. CECC has a

multi-million dollar digital video and multimedia production and training facility located in Denver, Colorado called the Education Technology Training Center. *learning centers*

Next steps

There are a number of concrete steps that we can take to promote “learning on demand.” These include: *①*

1. **Allowing people to use financial aid and other forms of assistance for distance learning:**

- The Department of Education is already prepared to eliminate the differences in the “cost of attendance” calculation that currently exist between distance learners and on-campus learners. Currently, distance learners are not allowed to include costs for computers and other equipment in the determination of student aid.
- The Department of Education is interested in establishing an experimental program with several institutions to try different models for determining student aid eligibility for distance learning, while still ensuring quality and protecting public funds.
- We also think it make^s sense to review other financial aid programs, training programs, and tax credits (e.g. life-long learning tax credits, Section 127) to make sure we are not inadvertently discriminating against distance learning. We have drafted a Presidential Memorandum that calls for this review. *✓*

2. **Encouraging “virtual university” initiatives with a focus on high-quality adult learning**

We think that it makes sense to have a small pilot program that encourages experimentation with new partnerships for providing “learning on demand,” particularly for adults. This competitive grant program, with an FY99 budget of \$50 million, could be jointly administered by Education and Labor, and could fund projects in the following areas:

- a. **Support services for adult learners:** Some adult learners may be totally self-sufficient, and able to search the Internet catalogs of multiple virtual education providers. Others (those making the transition from welfare to work, displaced workers, under prepared learners, those with no prior college experience) may need a range of services -- including assessment, counseling, help in navigating through the range of options, selecting appropriate courses and programs, and monitoring their progress.
- b. **A degree that’s a ticket to a high-wage job:** Curriculum and software developers and the assessment industry need to know what competencies are required for specific and education and training programs. This is particularly important in a virtual environment

where “seat time” is no longer relevant. This requirements could be developed by representatives from employers, professional associations, professional licensing or credentialing organizations, and educational institutions. For example, the Western Governors University is teaming up with the electronics industry to define an associates’ degree for electronics manufacturing.

- c. **Jump-start the market for high-quality software and networked courses.** Currently, the lack of “economies of scale” often prevent commercial publishers and other institutions from investing the amount of money that would be required to develop high-quality educational software and other distance learning offerings. These economies of scale are incredibly important for software and other information technology products - which often have high fixed costs and low (sometimes approaching zero) marginal costs. Critical mass might be achieved by encouraging a consortia to share courses, instructional material, or software to avoid duplication, and combining existing offerings to offer complete certificate or degree programs. Partnerships between commercial publishers and universities would also be encouraged, given that instructional software is often used only by the individual professor that developed it.

3. **Making the government a better user of technology-based training**

The government could help accelerate the development of this market by being a leading user of technology-based training. The Department of Defense is the agency most likely to be able to influence the market. Every year 1.5 million people “graduate” from 30,000 different DoD courses at a cost of \$15 billion and 159,000 student-years. DoD has been a leader in the use of simulation technology for training. Currently, however, only 4 percent of courses involving specialized skill training are using new learning technologies. DOD has an initiative underway to dramatically increase the use of learning technology to reengineer a large number of courses in subject areas which are also relevant to industry (such as avionics, vehicle maintenance, information technology and electronics).

4. **Create “America’s Training Network”**

One of the problems facing the use of technology for lifelong learning is the absence of an organized market and information source for training. In a recent report on workplace change by the American Society for Training and Development, one of the primary recommendations was for the federal government to "encourage the maintenance of institutions, networks and systems that support and facilitate access to information on work-related learning." The Department of Labor has launched a project to create a national training network that will make it easier and cheaper for individuals and businesses to locate, access, and invest in education and training. America's Training Network (ATN) will be developed through partnerships with DOL, DOD, a consortium of states, and the Council for Excellence in Government. This will build on the highly successful “America’s Job Bank” -- which has been accessed 188 million times in the last six months!

Draft December 4, 1997

MEMORANDUM FOR BRUCE REED
 SECRETARY RILEY
 SECRETARY HERMAN
 FRANK RAINES
 RON KLAIN

FROM: GENE SPERLING

RE: LEARNING ON DEMAND

Attached is a draft memorandum for the President on "learning on demand."

The goal of this initiative is to provide "anytime, anywhere" learning opportunities for adults using new technologies -- such as the Internet, CD-ROM, satellite, and interactive TV. Many adults would like to take college courses, but can not attend a traditional college due to inconvenient class hours, campus inaccessibility, family responsibilities, business travel, or physical disabilities.

Since we are still in the preliminary stages of developing a full-blown initiative, we think that it makes sense to start out in FY99 on a "pilot" basis with a new \$50 million grant program and creative use of existing resources. We would propose to devote time next year to further exploration of policies that will accelerate opportunities for learning on demand.

The memo does not request a decision on the funding level. Clearly, any new spending for "learning on demand" needs to be weighed against competing priorities. Decisions on the funding level -- if any -- will be made as part of the broader FY99 budget process.

If you have comments, please send them to Tom Kalil on my staff by 5:00 p.m. today, who can be reached at (202) 456-2802, fax (202) 456-2223.

THE WHITE HOUSE
WASHINGTON
MEMORANDUM

Unkai University

To: David Longanecker, Maureen McLaughlin (Education)
Patricia McNeil (Education)
Linda Roberts, Carol Wacey (Education)
Seth Harris (Labor)
Lou Finch (Defense)
Kelly Carnes (Commerce)
Miley Gonzalez (Agriculture)
Luther Williams (NSF)
Henry Kelly, Martha Livingston (OSTP)
Michael Cohen, Tom Freedman (DPC)
Jim Kohlenberger (OVP)
Barry White (OMB)

From: Tom Kalil (NEC) *TAK*

Re: Content component of "Learning on Demand" initiative

Date: October 29, 1997

Attached is a short paper that attempts to be more explicit about the "high quality instructional software" goal in the Learning on Demand initiative. Rough budget figures are included.

Comments are welcome. My e-mail address is kalil_t@aeop.gov - phone is (202) 456-2802.

720 37

Draft 10/28/97 Tom Kalil

High-Quality Software for "Learning on Demand"

One of the critical components of the Learning on Demand initiative is to encourage the development of a market for high quality instructional software. In the last several years, experts in the field of technology for life-long learning have begun to develop a vision for how this might be done, and what the software would look like from a technical and pedagogical view point. Below are some of their recommendations:

1. Focus on high enrollment courses

One large community college that offered 2,000 courses found that 25 courses accounted for 44 percent of student enrollment. This distribution is typical in both community (44 - 52 percent) and four year colleges (35 percent). Focusing on these courses (the "1% solution") would have the biggest impact on learning - and might also overlap with some elements of high-school curriculum.

2. Uses technology in appropriate ways to improve student performance

Some of the potential benefits of technology include:

- Self-paced instruction available anytime, anywhere.
- Real-time, competency-based assessment.
- Allow student to "learn by doing" using techniques such as modeling and simulation. A good example of this an effort to develop an on-line biology lab called EvolveIT. This teaches the basic concepts of natural selection by allowing students to manipulate variables like variability, inheritability, and fitness - and observe the evolution of a hypothetical population of birds on a series of islands.
- Offer individualized instruction (e.g. intelligent tutoring systems that are "smart" enough to recognize student errors and tailor instruction accordingly).
- Provide real-time and asynchronous communication between students and teachers to create "communities of learners."
- Use multimedia to make instruction more engaging or explain concepts that are easier to communicate using multimedia (e.g. time and motion in physics, foreign language instruction); or the use of hypertext to allow students to explore a subject at various levels of depth depending on their interest and background.

Realizing these benefits requires that the software for technology-based training move beyond digitizing the material in a traditional textbook.

3. Foster partnerships between universities and commercial publishers/software companies

Many promising experiments with instructional software never move beyond one classroom because university professors lack the expertise and financial resources required for marketing, distribution, customer service and support, etc. University-publisher partnerships would combine the strengths of each party -- such as the content expertise of the universities and the business expertise of the publishers.

4. Develop software that is modular, portable and based on open standards

Instructors and students should have the ability to mix and match software modules from multiple sources. [This is analogous to the professor that creates a customized "reader" from multiple journal articles.] This would allow "learning objects" from multiple content providers to be combined and recombined to meet specific instructional requirements.

Of course, for this to be true, the software needs to be portable (works across different operating systems and computing platforms) and based on open standards. Without these characteristics -- it would be difficult or impossible to integrate content from multiple providers.

Rough costs of developing a program to promote this kind of high-quality software**1. "Challenge grant"**

- Assume cost of software development per course is \$3 million
- Federal match is 50 percent - for average grant of \$1.5 million
- 20 courses per year - with an average of 2 awards per course/topic to promote competition. This would allow ten grants directed to "higher ed" and ten grants that are directed to training/vocational-ed.

Cost = \$60 million

2. Planning grants

- \$200K - \$300K planning grants to encourage consortia that could involve universities, community colleges, employers, industry associations, unions, etc. to:
 - define user requirements
 - develop joint RFP

Cost = \$10 million -- assumes 40 grants

3. National leadership

- Evaluation
- Conferences, policy development
- Collection and dissemination of best practices
- Ability to fund small number of "unsolicited proposals" for new ideas

Cost = \$5 million

Total cost = \$75 million

THE WHITE HOUSE
WASHINGTON

September 17, 1997

MEMORANDUM FOR "LEARNING ON DEMAND" WORKING GROUP

FROM: TOM KALIL ^{TAK} AND ANNE LEWIS ^{ALL}

RE: LEARNING ON DEMAND

Attached is a draft discussion paper for a life-long learning initiative that would accelerate the development of a market for "anytime, anywhere" computer-based education and training for adults. Although the Administration has an aggressive strategy for improving K-12 education through the use of technology - we currently have no counterpart initiative for higher education and adult training. We think that it makes sense to explore such an initiative, particularly given (a) the growing number of adults who would like to acquire additional skills, but find it difficult to attend traditional campus-based classes; and (b) the increased household penetration of personal computers, the Internet, and other technologies.

Below is a preliminary list of the policy options that we think should be explored. We would like your comments, as well as any additional suggestions, at tomorrow's meeting.

1. **Remove legal barriers to distance learning** that may exist in current financial aid laws;
2. **Promote the development of high-quality instructional software** through grants to consortia of industry, universities, labor unions, and software developers - particularly in areas such as basic and remedial skills;
3. **Make the government a cutting-edge user of technology-based training;**
4. **Invest in longer-term R&D** to improve the "state-of-the-art" for learning software and to conduct evaluation [OSTP has been chairing a working group to pursue this];
5. **Expand "America's Training Network"** so that firms and workers can easily discover training that meets their needs;
6. **Target the "working poor" for technology-based career development and training opportunities;** and
7. **Encourage dissemination of federally-sponsored computer-based training.**

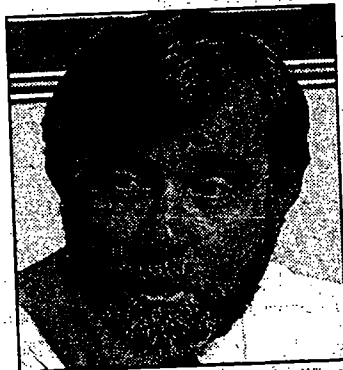
VIRAL
University -
ELU

Financial aid sought for learning over the Net

By Mary Beth Marklein
USA TODAY

WASHINGTON — The Clinton administration, responding to the growing interest in delivering and receiving higher education via the Internet, is proposing to expand financial aid for distance learners.

"Currently we treat distance learners sort of as stepstudents," says Education Department assistant secretary David Longanecker. But he says their ranks will increase rapidly as opportunities for distance learning expand through initiatives such as Western Governors University (WGU), which began testing some on-line ser-



1994 GNS file photo by Jym Wilson

Longanecker: Distance learning becoming more prevalent

vices last week.

Under the proposal, included in President Clinton's rec-

ommendations for the reauthorization of the Higher Education Act:

► Students who attend degree-granting institutions that educate students primarily through distance learning would be eligible for financial aid. Current law bars federal aid from students at institutions that offer more than half their courses outside the traditional classroom.

► Currently, students who take distance learning courses at a traditional college or university can get federal financial aid as long as they qualify but are eligible for less than on-campus learners, including those who live at home and

commute to school. The proposal would broaden their aid package to include allowances for cost of living and cost of computer equipment.

► A \$30-million pilot program would be established to encourage and support institutions to develop and use innovative technology.

A House education committee, in a letter to the Education Department, said it would support efforts to conduct and monitor pilot projects to ensure that distance education programs are academically sound.

An Education Department study released late last year says 33% of higher education institutions offered distance

education to more than 700,000 students in 1995, and growth has escalated rapidly since then, says Patrick Conway, founder of the U.S. Distance Learning Association in Livermore, Calif. He says the proposals are a big deal for adults who find it difficult to access education on a scheduled basis.

One beneficiary would be WGU, a four-year degree-granting institution supported by 17 states and territories that expects to enroll students beginning this spring.

Says WGU's Jeff Livingston: "We're very pleased (by) the recognition that technology is having an impact."

Tuesday February 23, 1998
USA Today