Consultation Report

To The

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Preface

The dogmas of the quiet past are inadequate for the stormy present and future.
As our circumstances are new, we must think anew, and act anew.
Abraham Lincoln

Virginia's public institutions of higher education, dating from the establishment of the College of William and Mary nearly 300 years ago, have historically been among the best in the country. Created and sustained as an assemblage of relatively independent and autonomous institutions, they have developed a diversity of missions that has historically well served the post-secondary educational needs of the Commonwealth.

More recently, Virginia has reasserted that leadership in the technology domain with a telecommunications infrastructure serving the diversity of educational missions that is, quite frankly, the envy of every other state in the Union. Initiatives in technology-based educational outreach in the Commonwealth date back to the earliest such efforts in the nation and at this time include some of the country's premier examples of effective institutional collaboration and innovative efforts to improve the quality of learning and to address the escalating cost of higher education.

The maturation of the set of digital technologies that underlie the personal computer and both wireline and wireless telecommunications brings with it the opportunity, in fact the necessity, to expand access to post-secondary educational opportunities for new sets of educational constituencies and to address some of the historic weaknesses of higher education in general—weaknesses that deal with issues of cost, quality and access.

Society's higher education requirements are undergoing a fundamental transformation brought about by changes taking place in what has been called the new knowledge economy. This new economy requires a workforce capable of handling an exploding knowledge base. Some experts have estimated that the shelf life of a technical degree today is less than five years. Although many of the critical skills required in the high-performance workplace have not changed, the pace of knowledge advancement requires constant updating of knowledge and skills. Education no longer ends at graduation. Viewing a college education as the mastery of a body of knowledge or a complete preparation for a

lifetime career has become outmoded. Increasingly, students who already possess a degree are looking for learning opportunities that will improve job or career skills.

With these changes in business and industry, Americans today will work at several different jobs during their lifetimes, each job requiring new skills, new knowledge, and new attitudes and values. The education and training of the current labor force is the key to increasing productivity over the next two decades. The American Society for Training and Development estimates that more than 75 percent of the nation's workforce needs retraining. Consequently, adults will continuously enter and reenter post-secondary education.

Driven by the increasing requirements of the knowledge economy and by the income premium related to postsecondary education, the demand for four-year institutions is exceeding current capacities. According to the National Center for Educational Statistics, the earnings advantage of male college graduates over male high school graduates was 50 percent in 1997, compared with 19 percent in 1980. Today, approximately 70 percent of high school graduates go on to college, up from just 56 percent in 1980. The next decade will see college enrollments by 18-22 year-olds jump from 7.7 million to 10 million students.

In addition, the number of older and employed part-time students is growing because of the need to upgrade skills and knowledge. It is predicted that in the twenty-first century, each individual in the workforce will need to accumulate an additional 30 credit hours every seven years—a number of student equivalents considerably larger than today's college enrollment of over 15 million. Today, the traditional college-age group makes up a shrinking majority of the student population. "Traditional" undergraduates—those who are 18 to 22 years old, attend full-time, and live on campus—constitute less than one-fourth of all students in higher education. The New Majority is over 25, attends part-time, and lives off-campus. Many of these students work or have child-rearing responsibilities; they place a premium on time management and on balancing education with other demands. In addition, an even greater number of adults would like to pursue a college education but cannot because of inconvenient class hours, campus inaccessibility, family responsibilities, business travel, or physical disabilities. While remaining a suitable option for the minority of college students who match the traditional profile, residential education alone simply cannot serve the needs of today's working adult students.

The explosive growth of the Internet, signaling the convergence of

computing and communications technologies, both drives and enables significant changes in the economy. Many observers have noted that the Internet is literally transforming all institutions and organizations in society, resulting in a societal change that is analogous to the transition from an agrarian world to an industrial one.

This technology is maturing at a time when the traditional educational model is cracking under the strain of new societal requirements. Meeting the needs of an increasingly heterogeneous student body requires greater flexibility in access and significant improvements in quality, all accomplished in a cost-effective, affordable manner. The Internet is ideally suited to meet these new learning needs. More important, emerging networking technologies do not just respond to new learning requirements—they also help to shape them.

Through the Internet, it is now possible to offer instruction to anyone, anytime, anywhere. Almost all colleges and universities are wiring their campuses for broadband, comprehensive access and are ensuring that each student has 24-hour access to a computer (typically a laptop) and the Internet. These technologies are extraordinarily cost-effective; virtually unlimited access to the Internet costs under $300 annually, about the equivalent of five textbooks. The plummeting costs of networked devices will make access even more affordable and widespread.

Massive amounts of intellectual resources are now available on the Web, and more resources are uploaded every day. Soon, entire digital libraries of both general and specialized knowledge will be available. Students will be able to access the best resources from around the world—high-quality, self-paced, customized, and world-class in content and pedagogy.

Digital learning applications are steadily improving. Search tools that enable complex and stored queries, as well as automated updates, are developing rapidly. Web-enabled presentation software is becoming easier to use while facilitating the communication of ideas and information in ever more powerful ways. Hybrid CD-ROMs provide the multimedia richness of CD-ROMs and the up-to-date capabilities of Web sites. Real-time audio and streaming video can now be delivered through standard 56 kbps telephone modems. Virtual-reality applications will offer additional enriching tools. Interactive databases, spreadsheets, and Java applications engage users with customized exercises, demonstrations, simulations, and tests.

Collaborative applications enable students to interact with each other and with teachers. Features include topic threading and real-time chat tools. Web-based audio and video conferencing are now stable applications.

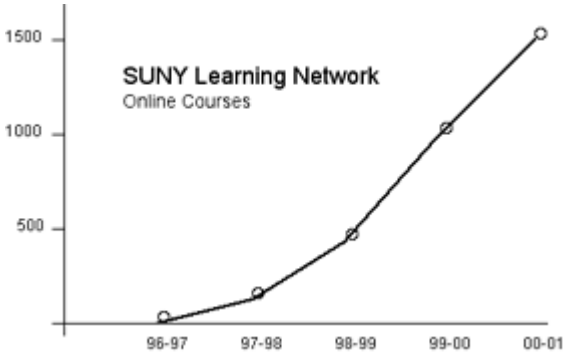
Faculty can make presentations using audio or video with synchronized HTML/presentation software, can demonstrate concepts using shared electronic whiteboards, and can test students, including using surprise pop-up quizzes, ask questions of individual students, and provide individual feedback. Students can move through live or archived materials according to their own schedule and convenience and can communicate with teachers, other instructional resources, or fellow students. Push technologies deliver software and local information (news, announcements, and other time-sensitive data) and also deliver instructional content. High-performance servers will enable large volumes of students to reliably access course material while also participating in live events.

As a consequence, the 1990s saw the extraordinary growth of distance education in higher education, particularly Internet-based courses at the collegiate level. These include both credit and non-credit courses, even full degree programs, and the numbers continue to rise. According to a report by International Data Corporation, in 2002 approximately 85 percent of two- and four-year colleges will offer distance education courses, up from 62 percent in 1998. For the same time period, student enrollments are projected to increase from just over 500,000 to well over two million students. All types of institutions are experiencing this extraordinary growth.

Institutions which focus on serving working adults are experiencing the greatest growth trajectories in the online market. The University of Phoenix, for example, increased its overall enrollment (both on and off line) from 68,000 to 84,000 students during the period from November 1999 to November 2000. Although the institution maintains 55 campuses and 98 learning centers in 18 states and abroad, it is best known for its rapidly growing distance education component. Phoenix Online, as it is called, has pursued an aggressive growth strategy. Its tracking stock, issued by its parent company, the Apollo Group, raised $70 million from Wall Street investors on the first day it was offered. Phoenix Online's enrollment increased 67 percent in the past year, from 11,100 to 18,500 students.

Colleges and universities which serve primarily a commuting student population are also experiencing phenomenal growth in online learning when they decide to make such opportunities available to their students. The University of Central Florida (UCF) in Orlando, a campus that is projected to grow from 25,000 to 40,000 students over the next decade, has moved from an initial online enrollment of 1,497 in 1997-98 to its current online enrollment of 11,270 in 2001. An additional 27,000

students at UCF are enrolled in courses that blend online study with face-to-face meetings during the current year.



Even the most traditional campuses are experiencing the same phenomenon. The SUNY Learning Network, a consortium of State University of New York campuses that offer online courses, started with eight courses in 1995-96. There were 34 courses offered in the 1996-97, 180 offered in 1997-98, 460 courses offered in 1998-99, 1000 courses offered in 1999-2000, and more than 1500 courses in 2000-01.

The message for everyone in higher education is, "When online courses are offered, students of all ages will come!"

We believe that all of Virginia's college and universities, like all institutions of higher education, need to develop the capacity to offer online instruction. They need to do it because, as one person we met with in Richmond put it, that's how colleges and universities will be doing a significant part of their business in the future. Online education offers Virginia an opportunity to build on the extraordinary strength of its existing higher education institutions and to realign them to meet twenty-first century needs. Our intention in this report is to make recommendations that position Virginia's institutions for the future and create the capacity for ongoing, expanded service to the citizens of the Commonwealth.

Executive Summary

The Commonwealth of Virginia has a well established and generally quite successful college and university structure. A hallmark of this structure has been a high degree of institutional independence.

Efforts of some of the Commonwealth's institutions in the distance learning arena are both mature and innovative, ranking among the best efforts of institutions in the United States.

A number of issues are driving the interest in advancing an electronic campus initiative or establishing a virtual university. These include:

- Coping with an estimated increase of 38,000 traditional-age students during the next decade.
- Serving educationally underserved communities in both degree and non-degree educational initiatives.
- Offering opportunities for degree completion for those who have attended college but failed to graduate.
- Providing for more than occasional bilateral agreements for transfer of credit between institutions.
- Affording non-traditional second and third career professionals and workforce development candidates access to higher education.
- Overcoming the possibility that Virginia's institutions will be left behind in a new, highly competitive online environment.
- Establishing a way to deal with a perceived lack of leadership at the state level in regard to distance and distributed learning.
- Providing streamlined access to the state's institutions via a portal.
- Creating a mechanism to offer degrees not offered currently by Virginia institutions.
- Taking advantage of online learning to meet enrollment growth at less cost.

Exacerbating the ability of the Commonwealth's institutions of higher learning to respond constructively to these issues is their perceived fiscal situation. For over a decade, both the relative and absolute fiscal position of the Commonwealth's institutions has deteriorated as a consequence of budget priorities and economic conditions at the state level. The consequences appear to be:

- A perception by the institutions that serving additional students

simply causes their fiscal situation to erode further.
- A focus on retrenchment rather than expansion that is mirrored by an emphasis on increasing revenue rather than further reducing costs.
- A lack of venture capital within institutions to undertake new initiatives that address any issue other than improving the fiscal position of that particular institution.
- A commitment by the Commonwealth, over the next several bienna, to provide some fiscal relief to the institutions through base budget adequacy while the short term economic prospects for the Commonwealth make this problematic.
- A perception on the part of state supported institutions that, absent achieving base budget adequacy, educational initiatives that do not flow funding directly to them will only worsen an already difficult situation.

At the same time there are a number of misconceptions about how an electronic campus or virtual university might address these issues. Among these misconceptions are the views that:

- One can launch an initiative, absent demand side information that would identify what segments of the economy drive and need additional post-secondary learning experiences.
- Online courses and programs are more costly to develop and deliver than their face-to-face counterparts.
- A virtual university can be "free" (require no state investment) by leveraging existing resources.
- Establishing a separate degree-granting institution is a good idea and would solve a variety of problems that cannot otherwise be resolved.
- Collaboration is an end in itself.

To address some or all of the perceived problem arenas while not further worsening the fiscal situation of the Commonwealth's institutions of higher learning, we recommend that the Commonwealth create an Authority for the express purpose of encouraging, both through coordination and financial support, new educational initiatives that address educationally underserved constituencies in technologically innovative and cost efficient ways. The Authority, henceforth referred to as *Virginia Educational Ventures,* might operate somewhat in the following way:

- *Virginia Educational Ventures* would contract (through an RFP process) with an institution or consortium of institutions to make appropriate demand studies to identify and determine the characteristics of educationally underserved communities of interest

in the Commonwealth.

- Following one or more demand studies and determination of the most promising opportunities, *Virginia Educational Ventures* would contract (through an RFP process) with one or more state supported educational institutions to develop and execute a strategy to address, on a continuing basis, the educational needs of those constituencies.
- Seed money, or venture capital, would be provided by *Virginia Educational Ventures* to assist in program development, market research and business planning for the contracting institution.
- *Virginia Educational Ventures,* where appropriate, would help identify potential partners (from the private sector, from the philanthropic community or from other state and federal agencies) to help share the risks associated with the new educational initiatives.
- *Virginia Educational Ventures* would serve as an advocate for student access to online programs and concentrate on raising public awareness of such opportunities in the Commonwealth.
- *Virginia Educational Ventures* would retain responsibility for assessing the effectiveness of the program or project for which they issued an RFP and for which they awarded the contract.

To meet the extraordinarily stringent requirements of not further eroding institutional base budget adequacy, *Virginia Educational Ventures* would need to be:

- Organized as an independent agency or authority of the state with a legislative charter that exempted *Virginia Educational Ventures* from conventional state purchasing processes.
- Governed by a board of trustees or visitors who exercise conventional board oversight over the Authority.
- Operated with a small staff who oversee the RFP process and general administrative activities of the Authority.
- Funded by the legislature with sufficient flexibility to permit other sources of revenue and/or cost sharing.

Environment Scan

The growing interest in distance and distributed learning in Virginia reflects that across the nation. The past several years have seen an explosion of activity in online delivery and tremendous interest in creating virtual colleges and universities. Several of the individuals with whom we spoke in Richmond expressed an interest (or anxiety) about where Virginia stands in relation to this activity. The following analysis of the successes and failures of each of these types of efforts underlies the consultants' recommendations. The goal is to have Virginia learn from what has gone before and, indeed, leap-frog over the efforts of other states.

To assess the significance of the numerous virtual university initiatives that seem to be appearing in every state, one must begin by cutting through the hype. A recent report, *The Business of Borderless Education: UK Perspectives,* notes:

> Documenting current activity in borderless higher education is not easy. In a world of 'spin' it is in the interests of new providers to emphasise potential and to massage reality . . . [but] obtaining data on actual student enrollments is difficult.

Despite the fact that each type of institution discussed below is being driven by the demands of the changing economy and workforce development needs and despite differences in developmental strategies, only a few are meeting those needs.

Most four-year institutions that have focused on 18- to 22-year-old students continue to do so. Despite a growing interest in online learning among these institutions, the vast majority of teaching and learning activity remains limited to the classroom. Even though information technology and distance education are high on the agenda of every four-year institution—at least at the executive level—there is a wide gap between that interest and the development of serious, large-scale responses to the announced needs that are driving most virtual university efforts. First, despite an explosion in online activity, most of today's enrollments in online courses consists of current students who are engaged in an alternative option to classroom learning. Although providing such alternatives certainly improves each institution's quality of service to students, this is a long way from serving the burgeoning needs of the knowledge economy. Second, most online activity is confined to

disparate courses rather than making up full degree or certificate programs. To be sure, a small number of institutions have done heroic work in this arena, but most four-year institutions are nowhere near offering the number of full programs or workplace-oriented courses that are required by the new economy. Third, almost all of the newly announced virtual efforts on traditional campuses are developing exceedingly slowly. Timing is generally set by the institution, not by the needs of the customer.

As distance-learning opportunities have exploded in the past five years, it is the academic area that has received both the most attention and the bulk of the financial resources. This is not surprising since students searching for learning opportunities at a distance want courses and degrees. However, there is a critical role for student and administrative support services for distant learners. Without appropriate support, distant learners find that their goal of learning from home or work faces hidden barriers that are merely frustrating in some cases and overwhelming obstacles to progress in others.

For a variety of reasons, most colleges and universities developing distance education structures or higher education systems creating virtual universities have stumbled over the provision of student services. It isn't that the functions that need to be performed are new (*e.g.,* admission, registration, financial aid, academic advising, library and computer services etc.) but rather that the processes and strategies for providing them for a new category of learners must be different. The major problem isn't that the challenges cannot be effectively overcome but rather that the existing organizational structures on campuses and in higher education systems get in the way of responding effectively to the needs of a new category of learners (*i.e.,* those studying at a distance).

Certainly a major reason is that the extensive range of services for students already in place on campus are almost always organized by function, such as admissions, financial aid, registration, and so forth. This de-centralized structure works well on campuses where students are physically present and can move from office to office as necessary. For the distance learner, however, de-centralized structures are difficult to understand and even more difficult to navigate. The ideal organizational structure for the distant learner is centralized "one-stop shopping."

Almost every state in the United States is engaged in some kind of virtual university consortial effort. In some cases, the consortium involves only public institutions: the State University of New York (SUNY) Learning Network, UMass Online, Georgia G.L.O.B.E., the Education Network of

Maine, the University of Texas Telecampus, and the recently announced effort in Tennessee. In other states, the effort involves both public and private institutions: the Kentucky Virtual University (KYVU), the Michigan Virtual University, the Illinois Virtual Campus, and the Ohio Learning Network.

What is driving these efforts are the demands of the changing economy as this excerpt from the KYVU homepage exemplifies:

> The mission of the KYVU is to be a student-centered, technology-based system for coordinating the delivery of postsecondary education that meets the needs of citizens and employers across the Commonwealth. . . . Consistent with the statewide strategic agenda for postsecondary education, the primary purposes of the KYVU are to:
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> - Enhance and expand educational access and increase educational attainment across Kentucky.
> - Upgrade workforce skills and expand professional development through basic and continuing education.
> - Increase collaboration and foster efficiency and effectiveness in delivering courses and programs.
> - Enhance educational quality.
> - Increase global competitiveness of Kentucky's educational resources. (KYVU, 1998)

What else do these state consortial efforts have in common? All operate a "portal"—a Web site that lists participating institutions and courses and, in some cases, degree programs offered online. Their primary operational activity is as a referral service, since none of the consortia are degree-granting and none offer their own courses but rather list those of the participating campuses. Students must choose a "home" campus in which to enroll. Because each of the campuses has its own residency requirements and transfer policies, students inevitably have limited opportunities for study beyond what a particular campus traditionally offers. As a consequence, the majority of students taking courses in these virtual university endeavors are simply on-campus students studying online at their home campuses.

It is questionable how far these efforts, as currently constructed, can go toward meeting their primary goal of economic development, since they have not resolved such thorny policy issues as residency, transfer and articulation, and tuition and financial aid. Despite the hype, students must still follow traditional practices at a home campus. Most virtual university plans have been filled with compromises, trying to balance the needs of distant learners for access to academic offering and services with the

concerns of campuses that the virtual university not be a competitor or duplicate functions which the campus provides for its students. These consortia are generating demand for higher education because of the publicity surrounding their creation, but they are also generating frustration on the part of students because of antiquated residency and transfer policies.

Another category of participants in the virtual education space is independent, nonprofit institutions. Some of these—like the Western Governors' University (WGU), the United States Open University (USOU), and Jones International University—have been recently formed. Others—like the National Technological University (NTU) and Excelsior College (formerly Regents College)—have been around for years.

Founded in 1984, the National Technological University was established to deliver academic courses directly into corporation training facilities, via satellite, for engineering professionals. Today NTU awards master's degrees in 18 engineering, technical, and business areas and offers more than 1,300 academic courses, all supplied by 52 leading U.S. universities, including about half of the top-25 U.S. engineering schools. Courses today are delivered via satellite, the Internet, videotape, and CD-ROM.

The Western Governors' University opened its doors in 1998. Like NTU, WGU does not teach its own courses but instead has partnerships with other institutions all over the United States to provide instruction through distance education. WGU awards degrees by assessing students' knowledge through a set of competency-based exams. WGU has achieved candidate status for accreditation through a consortium of four regional accrediting agencies.

In 1999, Britain's Open University (BOU) announced plans to begin offering an Americanized version of its distinctive distance education program through a U.S.-based sister institution, the United States Open University. Currently in pilot stage, the USOU faces a number of serious challenges, including adapting BOU's course structures to U.S. students and finding the right students to enroll.

Each of these institutions targets working adults. Demand is high in professional areas—business and management, health care, education, and information technology. Because these institutions grant degrees and enable students to study according to the demands of their busy lives, the independent nonprofits are closely aligned to the needs of the changing economy.

Corporate universities exist predominantly in the United States. According

to Corporate University Exchange, their number rose from 400 in 1988 to 2,000 in 2001. The significant increase in the number of corporate universities could be a sign that companies no longer consider continuing education and training as a cost that should be cut but rather as an investment that can attract and retain the best workforce. Companies may realize that they must prepare employees to compete in the global economy, to meet and exceed service expectations, to adjust to changing roles and new technologies, and to respond to current and future global pressures.

Despite the large numbers of "corporate universities," in most instances these organizations represent a "re-branding" of their company's human resources and training functions. Little has changed except the name. The majority are focused on improving the competitive edge of their own companies through improved group and individual performance, and most show few signs of activity at the higher education level. Despite the adoption of a lot of the language of higher education in corporate training circles, few if any companies are, in fact, trying to compete with traditional institutions. Their offerings are primarily noncredit, nondegree courses; 82 percent are used primarily to convey corporate culture to the company employees. Even Motorola University, a frequently cited corporate university exemplar, generates only about 7 percent of its revenue externally, mostly through enrollment in courses like "How to Establish a Corporate University."

Some observers believe that corporate universities represent a potential threat to traditional institutions. Until very recently, colleges enjoyed a captive market, and corporations paid whatever institutions charged for executive education. But today, by launching their own corporate universities, companies are taking it upon themselves to educate their employees and/or to demand courses that fit their particular business needs and challenges. They are also requiring that courses be developed more quickly and at more competitive prices. In addition, corporations want their educational partners to provide many more, often time-consuming and costly services such as round-the-clock access to professors, mentors, and fellow students.

Despite the large amount of attention recently directed at for-profit institutions of higher education, many of them have been around for a relatively long time. DeVry was founded in 1931, the Keller Graduate School of Management in 1973, and the University of Phoenix in 1976.

Two things are worth mentioning in our discussion of the impact of for-profit institutions on traditional four-year institutions. The first is that

even though these institutions, like their nonprofit counterparts, are primarily site-based, their greatest growth trajectories are occurring in the online market. The University of Phoenix, for example, enrolled 75,000 students in 2000, a 22 percent increase over the previous year. Their online campus grew by 44.7 percent, to 13,779 students. The projected growth of their site-based programs is 17-18 percent; the projected growth of their online programs is 35-40 percent. In examining these trends, the authors of *The Business of Borderless Education: UK Perspectives* observed that technology is not the primary competitive issue, despite their view that in the longer term, "the majority of continuing professional development is likely to become virtual." The U.K. and Australian teams agreed: "At present, virtual, corporate and for-profit institutions are not far in advance of traditional universities in exploiting the potential of technology to change their educational model."

Rather, the biggest competitive challenge to existing institutions, particularly those that serve working adult students, lies in the more efficient way that the new private providers utilize staffing resources and in their highly professional approach to teaching and learning. Close attention is paid to quality through mandated teacher training, rigorous evaluation of the teaching process, an emphasis on supporting all teachers including part-timers, a focus on professional expertise, and close attention to service levels for learners.

Key elements in the ability of the new providers to attract adult students include convenient locations; 24x7 learner support; frequent enrollment points; short, intensive study periods; the potential for "banking" and transfer of credit; and a curriculum that is taught by practicing professionals and that is of direct and immediate applicability to the workplace. *The Business of Borderless Education* correctly observed that in the professional-development market, "the social aspects of learning are perhaps less significant than in undergraduate education." These providers are creating a new kind of institution—one built on inclusiveness and accessibility, much like the community college, rather than on the exclusiveness and inaccessibility that typifies our medallion institutions. In the process, they are creating new "brands."

What lessons can be gleaned from this analysis that will benefit Virginia's effort?

First, the vast majority of "new" students enrolled in online education cannot or do not wish to enroll in campus-based programs. Second, working adults value convenience and flexibility, 24x7 learner support, ease of transfer and curricula that are directly applicable to the workplace.

Regardless of the particular institutional or organization structure one chooses to employ, characteristics such as these are essential to success. Third, because the online higher education landscape is becoming increasingly competitive, rapid development of programs in this arena is essential. Fourth, while "one-stop shopping" and consortial activity appear to be a natural place to begin a statewide virtual campus initiative, no existing virtual university consortium has resolved the thorny problems of transfer and residency (primarily because they have not, for the most part, been resolved by prior state policy efforts). Finally, we believe that Virginia has not fallen behind other parts of the country and may be able to move ahead of existing efforts by adopting the innovative strategy outlined in the Executive Summary.

To be sure, most of Virginia's current higher education outreach programs are based on a 1970s broadcast TV model—still place and time bound, delivered in a classroom. However, both the time and the place are more convenient to potential students thereby significantly broadening access. Old Dominion University's TELETECHNET, developed with seed money from the Commonwealth, is an excellent example of what can be constructed in this vein. While at one level this delivery strategy may sound somewhat archaic, suffering from the limitations that characterize site-based programs, it compares favorably with the vast bulk of technology supported distance education in other states. Offering 20 baccalaureate degrees, ten graduate degrees and several certificate programs, TELETECHNET enrolls more than 20,000 students annually and can proudly point to more than 2,000 graduates. TELETECHNET is a significant departure from the historic delivery of education which is constructed on a 14^{th} century model, and demonstrates the willingness of what was once a traditional, campus-based institution to develop an innovative response to educational needs when incented to do so.

Similarly, the Community College System now has 30,000 unduplicated headcount students taking courses online including a number of degree programs. Distance learning at the community college level is growing at 20 percent per year. Fifty percent of all of the Commonwealth's community colleges have a general education degree online. In addition, the Community College System has initiated a number of successful online programs that share learning opportunities for students in low enrollment Associate Degree programs that would otherwise not be available to the vast majority of Virginia's citizens.

Probably the oldest distance learning effort in the state is the collaboration of the University of Virginia, Old Dominion University, George Mason University, Virginia Commonwealth University and Virginia Tech in the

delivery of post-graduate engineering education. Beginning before the Internet, even before televised lectures, using the technology of the TeleWriter, this program has been, and continues to be, a well recognized success.

Virginia institutions of higher learning are not currently taking advantage of the infrastructure provided by Net.Work.Virginia which would permit new modalities of educational support for the online learner. Clearly, one reason these new approaches to education—asynchronous, self-paced, web-based, flexible time to start and finish, etc.—are not seen more frequently is the absence of seed money or venture capital to help defray the larger development and start-up costs. Another reason has to do with the low population density of so much of the geographic extent of the Commonwealth. These areas are dramatically undeserved in terms of access to the telecommunications technology to take advantage of new modalities of learning. Any proposed solution strategy must, at some point, consider ways to surmount these infrastructure inadequacies by encouraging the institutions of higher education to devise new ways of bringing high speed telecommunications capability to Virginia's chronically underserved, less populous regions.

The outside observer is inclined to think that Virginia's historic institutional independence has not inhibited those institutions who so desired, to aggressively, and frequently collaboratively, enter the field of distributed and distance learning—and to do so quite successfully. The insider, on the other hand, is likely to bemoan the lost opportunities occasioned by the relatively uncoordinated, self-interest motivated, actions of the Commonwealth's institutions of higher learning. It is sometimes useful to remember the first law of engineering:

If it ain't broke, don't fix it.

In the case of the Commonwealth's institutions of higher education, the second law of engineering may be as appropriate:

If you can't (or don't want to) fix it, feature it.

The consultants believe that an approach for Virginia that *features* institutional autonomy is preferable to one that tries to *fix* it.

Drivers

As might be expected, the consultants heard a litany of issues that appeared to be driving the interest in some sort of electronic campus for Virginia. Some issues, perceived to be a problem by one group, were not considered a problem by another group. The view of the relative importance of an issue clearly hinged on the perspective of the evaluator —community college or senior institution, campus or Richmond based, education insider or outsider, etc. Nevertheless, certain issues were raised with sufficient frequency so as to suggest that they should help inform any proposed course of action.

- Coping with an estimated increase of 38,000 traditional-age students during the next decade.

It would appear from our conversations that the projected increase in traditional-18-22 year-old students was not considered to be a particular driver, even though almost everyone mentioned it. It would be unrealistic to expect that this cohort of new students would be serviced in any major way by online education opportunities since most of those students are presumed to be seeking a residential experience. Online learning can help meet enrollment growth by supplementing residential instruction with online offerings. For example, one Florida institution has set a goal of having undergraduates take 25 percent of their courses online, thereby relieving pressures on already overcrowded campus facilities.

A focus on the estimated increase of 38,000 students during the next decade can lead to a narrow view of the Commonwealth's "burden" of higher education. Although that number is substantial, it represents only the tip of an iceberg of potential students who will be seeking additional post-secondary learning experiences. (It also represents a community of students which existing institutions know well how to service.) The less well understood potential student is the second and third career professional in search or reskilling. In terms of student load, this is also likely to be the larger burden on educational resources in the future. Clearly, one of the first efforts of any solution proposal will be to more accurately assess and identify this community of potential learners.

Balancing the need to serve traditional and non-traditional students at the undergraduate level often does not address other needs such as workforce training, second career preparation and so forth. Only when all such needs and projections are brought together can the Commonwealth begin to adopt policies to serve all of those populations.

- Serving educationally underserved communities in both degree and non-degree educational initiatives.

The lack of clear advocates for educationally underserved communities of interest in areas of the Commonwealth like Southside and the Eastern Shore is reflected in the focus on resident undergraduates by most of the Virginia education establishment. The other segments, which include degree and non-degree seeking students, are typically substantial. The success of the University of Phoenix and comparable institutions has come from their recognition of the size of some of those markets.

However, for-profit institutions are forced, by economics, to address the "low hanging fruit"—the market segments that provide sufficient density of demand so as to make the business case easy. It may well be, and probably is, the case that those unserved educational markets that have the most value to the Commonwealth from an economic development standpoint, do not make such an easy business case. It is useful to remember that the education system (public, private, for-profit, etc.) is a fundamental part of the Commonwealth's infrastructure. The agency of the state is used to address an infrastructure problem when it is apparent that private enterprise is unable to make the business case but the value to the common good is sufficient to call for solution of the problem; hence, governmental agency involvement in road, bridge, and dam construction. So it must be with education as well. Online education represents a powerful lever to redress imbalances.

- Offering opportunities for degree completion for those who have attended college but failed to graduate.

Some of our interviews identified poor graduation rates for students at some institutions as an issue. While we have not studied the Virginia statistics, the numbers we heard were not at great variance with what other states report. We are mindful that the past two decades have seen a 20 percent increase in the percentage of high school students going on to college. This surge of new students undoubtedly contains a higher percentage of less well-prepared and less well-motivated students. That graduation rates have dropped in the less selective institutions is neither surprising nor particularly alarming.

Graduation rates are certainly a matter for concern for both institutions and policy makers. The cost of student drop-out is considerable since significant numbers of those students re-take courses if they return to public institutions and the public investment is lost if they do not return. Low graduation rates also impact the curriculum, course size, dormitory

needs, and so forth within the institution. Higher graduation rates, on the other hand, would conceivably impact the enrollment pressures in the institutions. However, the graduation rates cited for Virginia (60 percent) are neither low nor high and probably cannot be substantially affected by public policy.

Even if one were to be alarmed by the trend, it is not clear in what way an electronic campus or virtual university would address the problem of unacceptable graduation rates at particular institutions. Poor graduation rates have many causes, most of which online education cannot address. To the extent, however, that there may be a large number of students lacking a relatively small number of credits to complete a degree program (the "swirling student"), online education offers a potential remedy, especially when those students are unable or unwilling to return to a residential campus.

- Providing for more than occasional bilateral agreements for transfer of credit between institutions.

Institutional representatives with a substantial out-migration of students—the community colleges, for instance—not surprisingly, considered the transfer of credit issue to be a problem. It was frequently viewed as a problem by institutions with a substantial in-migration—the senior institutions, for instance—but not admitting of a simple solution that could be codified in some obvious way. Of course, the transfer of credit issue pre-dates and is generally disconnected from the creation of online learning experiences. One is inclined to take the pessimist's view that if the institutions have not resolved this problem in the preceding 50 years, why should we expect the existence of computers and fiber optics to change that situation?

The transfer of credit issue has two major facets; the acceptance of credit done elsewhere as one is admitted into an institutional program of study and; accommodation of the "swirling" student who has, perhaps over an extended period of time, accumulated course credits that fit no current, coherent college or university program of study. The former problem seems one that should be addressed bi- or multi-laterally by the Commonwealth's institutions, particularly in situations such as transfer from Community College to senior institution programs. The latter, to the extent that it can be identified as a real problem, could be handled in a number of ways, each involving the design and operation of a program to assist the "swirling" student to degree completion.

- Affording non-traditional second and third career professionals and workforce development candidates access to higher education.

Providing access to non-traditional second and third career professional and workforce development students tests the limits of public policy in most jurisdictions. From our interviews, Virginia is no exception. Americans are accustomed to the notion of supporting or subsidizing students from grades K through 12 if not K through 16. While the mechanisms differ from the public school level through high school and into the community college and college level, the public generally provides support through taxation and loans underwritten by local, state and federal government. But the non-traditional students—older, part-time, evening, commuting or non-U.S. citizen—are treated unevenly at the collegiate level. The Federal government has, in recent years, been struggling with making student loans available to part-time students and online students. Various support funding is often not as available to them as to the traditional students, even though the so-called traditional students are in the minority on most large university campuses.

Workforce development students present a difficult problem to policy makers. What programs should be available from public institutions? What support for such programs should be available to the institutions and/or the students? Program support, differential tuition, student aid and a host of other financial support programs might be made available to foster workforce development. But how are such programs to be balanced against the needs for traditional undergraduate education when the Commonwealth is struggling to maintain programs for the latter? Few jurisdictions would claim to have achieved an ideal balance.

However, without some entity within the Commonwealth to bring to light the student need for programs, support or even new institutions, policy makers are likely to focus on the traditional student and to neglect the economic driver of workforce development as a key factor in post secondary education.

- Overcoming the possibility that Virginia's institutions will be left behind in a new, highly competitive online environment.

A fear of being left behind in a new, highly competitive online environment seems to be a major driver for many institutions' increasing interest in distributed and distance education. What many institutions implicitly realize is that the market for non-traditional, new majority students is much bigger and growing much faster than that for traditional age students. Many institutions worry that ceding the new majority market to their rivals will eventually diminish their influence. Consequently, according to some estimates, over 90 percent of U.S. institutions are either initiating or extending their distributed education

programs.

In the preface to this report, we argue quite forcibly that Virginia needs to develop the capacity to compete in this market, and we reiterate that point here as well.

- Establishing a way to deal with a perceived lack of leadership at the state level in regard to distance and distributed learning.

Neither an electronic campus nor a virtual university guarantee leadership at the state level. Leadership in delivery systems comes only through initiating and maintaining these systems, not by fiat. It became clear in our interviews that what one person desired in the way of additional coordination was perceived by another as unwarranted interference.

A number of our interviews surfaced the opinion that much of the lack of leadership and coordination that was of concern was more likely the result of campus policy (or lack thereof) than it was of some failure at the state level. Many of the problems pointed to such as transfer of credit, funding, etc. seem only loosely connected with issues of online learning. Many were prepared to substitute the "devil they didn't know" for the one they did because the current problems seemed so intractable. The consultants are of the view that the new set of problems engendered by a new virtual university or electronic campus would be every bit as difficult as the old and, very likely, would include some, if not all, of the old.

- Providing streamlined access to the state's institutions via a portal.

The consultants were asked to recommend optimal ways to secure an electronic portal that allows students to apply, register and receive programming and support for their learning activities. Each of the foregoing is a reasonable expectation of a student enrolling in a learning activity and each is currently the responsibility of the institution that serves as the home for that learning activity. If there were to be established a separate and new entity to provide learning activities then it would be a reasonable expectation that the new entity provide these same services.

It would clearly be of value to citizens of the Commonwealth to have a single access point to identify the range of programs and courses, and specifics regarding them that are available across the Commonwealth. One can easily visualize "clicking" on a web page to transfer to the portal of the providing institution. What is not so easily accomplished is the provision of common application, registration, billing, and other student services, especially in a state that prides itself on not having a higher

education "system."

What we have here is the conflict of two core values of the educational establishment in Virginia; it should be convenient for students to acquire learning activities, and it is important for the Commonwealth's institutions to maintain their highly valued independence and autonomy. Certainly every institution will have a slightly or significantly different process for supporting its various programs. This is the good news and the bad news of independent and autonomous institutions. What seems to be missing in Virginia is any commitment (or even any expressed interest) in spending a significant amount of time in wrestling with institutional differences to achieve "one click" registration and the like.

The consultants also noted that a simple listing of courses or programs would seem to be of minimal assistance to citizens in search of learning opportunities. Some strategy to assess the value of the listing elements would be of particular help to individuals attempting to choose among programs or courses. User feedback strategies such as those employed by ebay, Zagat or Amazon may have value.

- Creating a mechanism to offer degrees not offered currently by Virginia institutions.

Traditional institutions of higher education cannot easily add new programs to the curriculum for a number of very good reasons, including the prospect of hiring permanent faculty to staff new programs. Yet, as markets and tastes change, students seek degrees and certificates in the changing economy. Given the broadening of the educational landscape with the introduction of new kinds of providers, it seems unlikely that significant educational demand will go long unmet. Some mechanism is needed to help students find the degrees from providers unknown to them. A virtual university or electronic campus is used in some states to provide that mechanism. However, simpler devices such as a public portal can serve as well. A portal, well publicized and marketed, can serve as a major resource for students who seek degrees not delivered by institutions known to them.

To the extent that existing institutions perceive a substantial demand for an educational offering, and to the extent that such is in an area compatible with their mission, one would expect that they would move to fill the gap. Two things, however, seem to be missing in Virginia: 1) demand side information to identify which potential offerings will have a reasonable student constituency, and 2) a business planning process that will enable institutions to address specific problem areas and not further erode their perceived budget situation.

- Taking advantage of online learning to meet enrollment growth at less cost.

Our interviews surfaced the opinion (or the hope) among some that online learning can be less expensive than traditional bricks and mortar. As the projected enrollment growth is in "traditional" students, seeking a residential experience, that hope seems misplaced. Even if it weren't, a point that we make several times in this report is that programs are not intrinsically less or more expensive because they are offered online. There are expensive online courses and there are inexpensive online courses. The relative expense is a function of parameters chosen by the course designers. And, of course, the same is true for traditional campus-based programs. How else would we explain the tuition differential between institutions offering the "same" course?

What is clear is that any organization in the midst of transition from one paradigm to another (say residential to online instruction) will experience higher costs as it is required to continue doing most all that it had done under the old paradigm while attempting to create new offering under the new paradigm. This transition will never be accomplished absent seed money—whether generated internally from some sort of R&D funds or externally from some form of venture capital.

Financial Issues

The higher education institutions of the Commonwealth are sometimes quite noisily criticized for absorbing what is considered too large a share of the state budget. This generally translates into accusations of inefficiency. It seems only fair to note that today's institutions are serving more students with a lesser share of state resources in an environment of capped tuition. How have they done this? The typical strategies of any highly labor intensive activity are to become less labor intensive or to maintain their labor intensiveness but substitute less expensive labor resources. It is clear that the Commonwealth's institutions have followed both strategies. To reduce labor intensiveness they have increased class sizes. To reduce labor costs they have substituted adjunct faculty and teaching assistants for full time faculty. Both decisions are roundly criticized, both from within and without the academic community.

Another avenue to reduce costs in a labor intensive industry is to

substitute capital, in the form of technology, for labor. The presumption is that capital costs are more of a "one time" nature, or require replenishment funding less often than annual labor costs and fringe benefits and, in the case of information technology, are decreasing rather than increasing as are labor costs. However, to begin even a partial transition to less labor intensiveness requires the presence of venture capital—particularly when the organization's labor force is fully deployed and it is extraordinarily difficult to realign organizational resources without damaging the quality of the product, which in this case, is the education of the citizens of the Commonwealth.

It seems fair to say that the Commonwealth's institutions of higher education are poorly prepared to understand how and where to substitute technology for labor. It seems fair because the same observation can be made regarding the education establishment of any other state in the Union. There are, in Virginia, a few notable examples of the introduction of technology to break through seemingly impermeable barriers. We will mention only two.

- VIVA, the Virtual Library of Virginia, has created a consortial approach to acquiring on-line educational resources that has not only reduced the cost of the resources where they were already in place, but has caused their availability to exist in places that, absent VIVA, they would never have existed. Ultimately, access and convenience is greatly enhanced for all citizens of the Commonwealth.
- The Math Emporium at Virginia Tech has directly attacked the labor intensiveness of math education with a self-paced, technology supported learning environment that is both less costly to support and demonstrates improved learning, student retention and student satisfaction. The Math Emporium experiment has been so successful that it is being replicated at institutions in several other states.

In the VIVA example, the venture capital to undertake the transition to a new service modality was provided by the Commonwealth but continuing operation is increasingly shared by the institutions as they understand and reap the benefits. In the example of the Math Emporium, only gut-wrenching decisions and extraordinary work schedules by the math faculty were used to produce the "venture capital." Absent an impending disaster created by increased student load and reduced faculty resources it would be difficult to imagine why any institution would undergo the level of trauma represented by the effort to create the Emporium without the incentive of venture capital.

During our interviews we heard numbers ranging from 20 to 80 percent

as the amount of the real cost of a student enrollment that is supported by state funds. To some extent, the spread is probably reflective of the differing mission and roles of the institutions. As the percentage of real cost supplied by the state has dwindled, and during a period of capped tuition, institutions have taken a series of cost containment steps that are viewed as reducing the quality of a student's educational experience. While no institution wishes to make this observation public, all are eager to make it in private.

While education theorists are not of a single mind as to the negative (or positive) effects of increased class size or the substitution of adjuncts for full-time faculty, it is clear that the Commonwealth's institutions have decided that these cost containment strategies are undesirable. As a consequence, the acceptance of additional students is viewed as *eroding the institution's fiscal situation.* We came to understand these as academic code words for the necessity to undertake those undesirable, cost containment strategies to stay within budget.

This budget squeeze, clearly recognizable as a revenue shortfall, has convinced institutions that student body expansion only makes the fiscal situation more perilous. Clearly, most institutions are searching for strategies to reduce the student body as a way to improved fiscal health. Absent base budget adequacy, this is not only rational, but perhaps a case of self-preservation. Precious few of the institutions with which we met perceived expansion, even in highly contained and non-price controlled arenas such as non-credit programs, as a strategy that would work to their fiscal betterment.

Sadly, not only the price, but the real cost, of higher education has continued to outstrip the rise in the consumer price index for decades. It is not difficult to discern why—typically 80 percent or more of the institutional operating budget is devoted to personal services. While some costs, notably technology, continue to decline, personal services cost rise and drive with them the cost of higher education. It appears, and probably is, much simpler for educational institutions to control their prices than their costs.

To take advantage of decreasing costs of technology while concurrently placing less reliance on personal services, requires the presence of seed money or venture capital. When institutions find their personnel fully deployed, as is basically the current situation in Virginia, there are few other segments of their budget which can be tapped for reallocation to create a pool of venture capital. Some have suggested that this might be an appropriate use for endowment funds but, unfortunately, not all state

institutions have endowments which will yield any significant venture capital. Those that do are generally using endowment funds to further subsidize the price of tuition through scholarships, endowed chairs, etc.

As Pogo once observed, "It is difficult to remember that you came to drain the swamp when you are up to your armpits in alligators." The only way out of this self-perpetuating reliance on personal services is the infusion of new monies into the system. This is not to say that the institutions of higher education cannot operate more cost effectively, only to say that to do so requires funding for research and development. While R&D funds are a fundamental facet of any business enterprise, they have not historically been a component of college and university budgets.

Clearly, the legislature of the Commonwealth recognizes the need to restore base budget adequacy. Under the best of economic conditions, the time required to do so was presented to the consultants as several biennia. Virginia is not under the best of economic conditions. With a revenue shortfall in excess of $1 billion in the current budget, and a depressed economy which is likely to continue for several years, the restoration of base budget adequacy funds seems even further away.

However, failure to address at least some of the needs of potential students in the Commonwealth, simply drives the institutions further into the morass of reliance on personal services and residential instruction. The long term impact on economic development in the Commonwealth is difficult to assess, but failure to provide post-secondary learning experiences for the non-traditional student will clearly have a negative impact on the desirability of Virginia as a location for new economy business.

Any proposal to address the non-traditional student and distance learning initiatives which appears to prolong achieving base budget adequacy will be viewed with suspicion, if not outright hostility, by Virginia's state supported institutions of higher education. And, rightly so. Any strategy for providing venture capital to assist institutions in addressing the new economy student must utilize the resources of those institutions.

Any proposed solution must operate as a conduit for funds to the institutions that uses them to assist in addressing the educational needs of Virginia's future. It does so, not by shoring up an already unhealthy reliance on personal services intensive, residential instruction, but by providing the venture capital to service both traditional and non-traditional students in new and more cost effective ways.

Misconceptions

There are a number of misconceptions about how an electronic campus or virtual university might address these issues. Among these misconceptions are five described below.

- One can launch an initiative, absent demand side information that would identify what segments of the economy drive and need additional post-secondary learning experiences.

Discussions with various constituencies in Virginia revealed a clear lack of demand side information that would identify what segments of the economy drive and need additional post-secondary learning experiences. Many of those representing existing institutions believe that they are fully responding to all demand that exists. Others believe that much unmet demand could be served via online education but could not describe the specific nature of that demand—*e.g.,* do prospective students want credit programs or non-credit programs; associate, baccalaureate or graduate degrees; in what academic and professional areas. Few could articulate an agreed-upon interest on the part of Virginia's citizens to study online rather than on traditional campuses.

In contrast, as part of its planning process, Georgia G.L.O.B.E. (the University of Georgia System's new distance learning initiative (http://www.georgiaglobe.org/) commissioned a six-month study of workforce needs and attitudes toward new learning methods conducted by three organizations. The study consisted of:

A statewide survey of 500 registered voters, conducted by Beth Schapiro & Associates, of Atlanta, Georgia;

Focus group research and analyses and a geo-demographic study of distance learners conducted by Carnegie Market Research, of Boston, MA. The focus group research included both on-line learners from University of Georgia System institutions and random sample groups from the general population.

Among the findings:

> Georgia citizens are interested in using the Internet and telecourses to acquire more education in fields where the state is experiencing shortages of educated workers.
>
> Over 40 percent of Georgia adults would be interested in attending a college or university in the next three years.
>
> Over 60 percent of those surveyed indicated they would use either the Internet or Georgia Public Broadcasting to take college-level courses.
>
> Most of those surveyed listed childcare, work schedules, family obligations and long drive times as barriers to attending campus-based courses.
>
> Considering individuals' access to the Internet at work as well as at home, over 65 percent of them have access to the Internet. Over 75 percent of suburban residents, and over 50 percent of rural and urban residents have access.

In addition, research conducted by Bill Drummond and Jan Youtie, of the Georgia Tech Research Corporation, identified 19 key job categories for which a college degree is required, presently experiencing annual shortfalls of 100 employees or more. Job categories with the largest shortfalls, according to the study, are information technology and business.
(Source: November 9, 1999 Georgia G.L.O.B.E. press release.)

Such a demand study not only identifies the specific education needs of the state's citizens, both prospective students and future employers; it also assesses the willingness and ability of those citizens to study online.

- Online courses and programs are more costly to develop and deliver than their face-to-face counterparts.

Almost everyone we interviewed is convinced that online courses and programs are more costly to develop and deliver than their face-to-face counterparts. Yet one can point to numerous examples around the country and internationally where this is not the case.

Many institutions cap the number of students in online courses to fifteen or twenty, which in turn limits their ability both to scale (*i.e.,* produce more cost-effective courses) and to serve more students (*i.e.,* increase access). Indeed, a new, emerging paradigm for online courses calls for a 20:1 (or less) student/faculty ratio, reflecting the on-campus small

seminar. Campus leaders and policy makers are rightly concerned that such applications of information technology are increasing instructional costs rather than controlling or even reducing them.

The highest cost component of instruction is faculty personnel. Currently, the job of a faculty member—whether in class or online—is seen as monolithic: a collection of tasks that are, with few exceptions, carried out by one person. U.S. higher education remains what Bill Massy and Bob Zemsky have called a "handicraft" industry—in which the vast majority of courses are developed and delivered as "one-offs" by individual professors. In most four-year institutions, this repetitive, labor-intensive approach has been transferred to online education as well. Information technology offers the possibility of altering this paradigm.

A number of institutions are breaking through the small-seminar model for online instruction and are creating new paradigms that are both high-quality and cost-effective. By thinking of ways to take advantage of the capabilities of information technology and the Internet and, in so doing, by reconceptualizing the way that courses are designed, many institutions are moving to make collegiate instruction more cost-effective. The Pew Grant Program in Course Redesign, for example, projects an annual savings (coupled with increased quality) of more than $3.5 million as a result of redesigning just 30 courses. [See http://www.center.rpi.edu/fundproj.html for project savings summaries] Over a ten-year period, that number becomes $35 million. Double the number of courses and the result is $70 million. And so on.

What accounts for the difference between the view that by using information technology to redesign courses, we can save money or make money (depending on your frame of reference)—and the common wisdom that no one has yet found a way for online learning to be economically viable?

All instructional implementations—whether at the course or program level—involve choice. One can offer introductory economics for $1,000 by hiring an adjunct faculty member, or one can spend $5 million on developing high-quality, multi-media course materials and hiring a Nobel Prize winner to teach the course. The University of Phoenix online programs, for example, successfully operate at a manageable cost. On the other hand, universities using senior faculty, small classes and extensive technical support have found the costs to be high. Whether online or face-to-face, there are expensive courses and inexpensive courses. The costs of existing courses and programs merely indicate the choices that have been made, not the choices that are possible.

Many of those we interviewed in Virginia approach the cost of instruction as if it were a Platonic ideal rather than the result of a number of design decisions made by the campus faculty and administrators. One thing that experienced online educators know: As you design online courses and programs, you will find that the more you replicate the traditional campus model online—creating what we have called the "bolt on" model—the more your costs will resemble or exceed traditional campus costs. The point is that high (or low) costs are not intrinsic to online learning; they are a result of the design choices that each institution makes.

- A virtual university can be "free" (require no state investment) by leveraging existing resources.

Several of the people we interviewed noted that because of the stringent fiscal situation faced by the Commonwealth, it is not possible to create "something new." Rather the thought is to draw on existing resources or "leverage what we already have." The implication is that a major new initiative to meet all (or some) of the needs articulated by the various constituents does not require an investment on the part of the Commonwealth. As some said, the state has unrealistic expectations of offering a "free service."

The simple fact is that it costs money to do anything new, even if a key part of the new initiative's strategy is to draw on existing resources or to be self-supporting in the long run. Seed money or venture capital is required. When institutions are operating near capacity, as is basically the current situation in Virginia, and capacity is basically a measure of personnel resources, there are few non-personnel budget items that can be tapped for reallocation to create a pool of venture capital. The consultants believe that any institution of higher education can, in theory, develop more cost-effective learning venues. To do so requires funding for research and development. Any strategy for leveraging the state's existing resources to serve unmet educational needs must provide seed money or venture capital.

While other institutions often "contribute" courses to virtual universities within a state system, the operations, administration, marketing and services of a virtual university are not "free." Virtual universities, whether for-profit (University of Phoenix), non-profit (Western Governors University) or state (Kentucky Virtual University), have required millions of dollars in start-up costs. Shifting any "burden" (*i.e.,* services) to existing institutions simply shifts costs.

- Establishing a separate degree-granting institution is a good idea and

would solve a variety of problems that cannot otherwise be resolved.

Some of those we interviewed believe that establishing a free-standing, degree-granting institution is the best way to deal with the expressed educational needs of the state. While following this course of action may indeed solve some of the educational problems confronting Virginia, we suggest that doing so will be extremely difficult and will raise a host of other, equally intractable problems.

The first is the need to go through the regional accreditation process. While time consuming, this can be done. The problem is that accreditation requires a number of features to be in place that are at odds with the streamlined organization advocated by those who envision a new institution. Some, for example, would like the new organization to be able to grant degrees but not be a separate institution with its own president. That is not possible in today's accreditation climate. Finding a way to meet the state's educational needs by leveraging the resources of the existing institutions without establishing a separate degree-granting body would be an easier way to proceed.

Second, some believe that as long as the new entity does not offer instruction, it will not be viewed as competitive to the existing institutions. This view ignores the fact that offering degrees would put the new entity four-square in competition with the state's other institutions. Many in higher education believe that the ability to grant degrees is the one remaining asset that existing institutions have in this new, competitive world of online education, one that should be jealously guarded. Finding a way to meet the state's educational needs without competing head-to-head with existing institutions would be an easier way to proceed.

Third, a number of issues were raised that suggest that an independent institution would be able to overcome certain obstacles currently faced by swirling students, the most prominent of which is access to federal financial aid. Currently, students who take courses at different institutions during the same semester do not qualify for financial aid because they are not recognized as full-time students at any one institution. The hope is that students who are full-time at a new "umbrella" institution but part-time at two, three, or four institutions or can qualify for and receive federal and state financial aid. The problem with this scenario is that an institution that does not offer instruction cannot award federal financial aid (as the weary warriors of Excelsior College, New York's degree-granting institution that offers no instruction of its own will attest.) Again, current financial aid policies are closely tied to existing federal legislation and accreditation practices. Finding a way to meet the state's educational

needs without taking on federal financial aid policy would be an easier way to proceed.

Those who have been involved in starting such institutions attest to the difficulty of the task. New institutions have been established to address certain problems—transfer, accessibility, admissions, calendar, place and time, and so forth—and can do so with adequate funding and legislative support. However, the problems new institutions are intended to solve often turn our to be issues endemic to the academic culture. Some very new institutions operate very much like their traditional counterparts, lacking flexibility, marketing expertise, educational resources to launch into new areas, and workforce development experience. Such enterprises often take on some of the limitations of its brick-and-mortar counterparts such as taking on an identity as a particular kind of educational institution (associate or baccalaureate level), with a particular mission (liberal arts or professional studies or business), and serving a limited segment of the student market.

Finally, there is abroad a misconception that an electronic campus will serve those segments underserved or poorly served by existing institutions. While that may seem possible, it begs the question of why the existing resources of the Commonwealth—which is to say the existing institutions—are not first brought to bear on the educational needs of the citizens. Only if the existing institutions cannot meet identified needs will a new entity be valuable. Turning first to those structures that have been created to serve the public needs would seem a wiser course.

- Collaboration is an end in itself.

Many of the people we interviewed asked us to recommend ways that the existing institutions could collaborate as if collaboration were an end in itself. Ideas about offering joint non-credit certificates, for example, have emerged not to respond to an unmet state need but because such an effort appears to represent "the path of least resistance." Rather than beginning with the programmatic goal and deciding that a collaborative effort is the best way to achieve it, most of those we interviewed talked about collaboration as the goal or as an end in itself.

A major strength and a major weakness of America's higher education institutions is their independent competitiveness. Some have characterized the business of higher education in America as a cottage industry. After all, there are nearly 4000 institutions. By definition, they do not thrive on cooperation and collaboration. Typically, the public institutions within the individual states have been coerced by legislatures to cooperate (at some level) but the price—both financially and

politically—has often been high and the results varied.

Collaboration is an extremely difficult thing to accomplish in higher education, just as it is in the world of business. Unfortunately there are precious few examples of success in either, especially in relation to the number of collaborations that have been attempted. Collaboration succeeds, in our view, when the collaborators are extremely clear about what they are trying to accomplish and why they are trying to accomplish it. Collaboration also succeeds when the collaborators are unable to accomplish the goal as individuals. In our view, the Commonwealth of Virginia would be wise to take the proven path of least resistance in meeting its educational needs and view collaboration as a mechanism to invoke when no single institution can meet those needs.

Operating Principles

The Consultants recommend that:

> **The Commonwealth of Virginia form an Authority, hereinafter called *Virginia Educational Ventures,* for the express purpose of identifying unmet need for higher education in Virginia and incenting the development of online programmatic responses.**

We strongly recommend that *Virginia Educational Ventures* support programs rather than courses. Each program, whether terminating in a degree or certification of some sort, should be offered by an institution as a coherent curricula, designed and evaluated by the faculty of the offering institution or by a consortia of institutions that has carefully determined responsibility and accountability for these academic functions.

- Virginia Educational Ventures would contract (through an RFP process) with an institution or consortium of institutions to make appropriate demand studies to identify and determine the characteristics of educationally underserved communities of interest in the Commonwealth.

Here are three examples of how the process might work.

Ascertaining Programmatic Demand

> The first and most pressing demand study would identify what kinds of programs (credit programs or non-credit programs; associate, baccalaureate or graduate degrees; in what academic and professional areas) would respond to the unmet needs of the Commonwealth's citizens. In addition, the study would ascertain the level of interest on the part of Virginia's citizens to study online rather than on traditional campuses. The results of this study would enable the Commonwealth to prioritize educational need and subsequent programmatic development, beginning with those areas of greatest demand and moving on *seriatim* to address each area that has sufficient critical mass to make program development economically feasible.

Following the completion of such a demand study, *Virginia Educational Ventures* would issue one or more RFPs over time to Virginia's institutions of higher education to develop a programmatic response, either singly or consortially. RFPs would consist of more than a simple request for an online program in a particular academic or professional area; they would outline a number of requirements that must be met, derived from demand study data, as well as a number of generic requirements that are discussed in the next section.

Accommodating the Swirling Student

Many of today's students seek the ability to "mix and match" courses leading to a degree. The transfer process in higher education has become more varied and pervasive. In addition to vertical transfer (movement from a two-year college to a four-year college), students now pursue horizontal transfer as they move from one institution to another. Many students now attend more than one institution at a time; for example, the majority of 1996 baccalaureate graduates attended at least two colleges and universities. Many students taking online courses are enrolled in another, different institution as well. Students attending corporate universities and other unaccredited institutions are seeking to transfer their coursework to accredited institutions. Globalization leads to increasing numbers of students enrolling in foreign institutions and seeking to transfer credits into U.S. colleges and universities.

The issue of the "swirling" student may or may not be a significant problem in Virginia. Following our recommended process, *Virginia Educational Ventures* would first commission a study ascertaining the exact nature and extent of the demand for degree-completion programs to accommodate the "swirling" student. If such a study revealed sufficient demand, *Virginia Educational Ventures* would issue an RFP requesting that some institution in the Commonwealth design and operate an academic "credit bank" that would enable students to deposit credits from any source and, when certain requirements have been met, to earn an accredited degree.

Creating a Portal to the Commonwealth's Programs

It would clearly be of value to citizens of the Commonwealth to have a single access point to identify the range of programs and courses, and specifics regarding them, which are available across the

Commonwealth. Indeed, the Electronic Campus of Virginia has begun such an effort. However, the need to increase the portal's functionality by providing common application, registration, billing, and other student services may or may not be a significant issue in Virginia. An initial question would be how many students (and potential students) want to take courses from multiple institutions simultaneously and find multiple administrative processes burdensome.

Following our recommended process, *Virginia Educational Ventures* would first commission a study ascertaining the exact nature and extent of the demand for a portal as well as its most needed features. If such a study revealed sufficient demand, *Virginia Educational Ventures* would issue an RFP requesting that some institution in the Commonwealth design and operate the portal.

The RFP for the development and operation of the portal might contain requirements for providing "consumer" feedback regarding the courses and programs such as you might find on ebay or one of the online restaurant guides. It is difficult to imagine that the State Council of Higher Education for Virginia or any similar "expert" body could provide current or in-depth reviews of the breadth of offerings that are likely to develop on the portal. As examples such as ebay clearly indicate, consumers will provide a steady, up-to-date commentary that will prove most valuable to other consumers.

One can easily envision similar RFPs issued to address workforce training issues that result in certification, new online degree programs in business, teacher re-certification or information technology or even RFPs designed to upgrade the connectivity of Virginia citizens to permit them to take better advantage of online education opportunities.

- Following one or more demand studies and determination of the most promising opportunities, Virginia Educational Ventures would contract (through an RFP process) with one or more state supported educational institutions to develop and execute a strategy to address, on a continuing basis, the educational needs of those constituencies.

We recommend that Virginia's institutions (public and private) should have a right of first refusal, that is, Virginia's institutions, alone or in consortia, would have an exclusive opportunity to respond to each RFP. If no institution responds or if the responses received are judged to be inadequate, *Virginia Educational Ventures* would then issue the RFP to

public and private providers located outside of the Commonwealth. This provision insures that Virginia's institutions have the first opportunity to respond affirmatively to identified state needs, but in the event that they are unable or unwilling to do so, *Virginia Educational Ventures* will ensure that those needs are met.

We also recommend that *Virginia Educational Ventures* employ a more innovative RFP solicitation process than simply posting a document and receiving responses. Despite the fact that a number of the Commonwealth's institutions have substantial experience in distance learning, the general level of understanding regarding online education among all institutions is, in our opinion, relatively low. As part of the goal of building capacity for all of Virginia's institutions to participate in the emerging world of Internet-based education, we suggest that the RFP process would include a significant educational component to "educate" existing institutions as to what is possible in this new world.

We strongly recommend that a part of the RFP process consist of one or two workshops whose purpose would be to train prospective applicants how to develop and deliver high quality, cost-effective online programs. *Virginia Educational Ventures* might issue an RFP for consultants with experience in designing such programs to run these workshops.

In general, we would expect that *Virginia Educational Ventures* would have a bias toward programs that offer maximum flexibility for students. Consequently, RFPs would consist of more than a simple request for a program to meet an identified need. They would outline a number of requirements that must be met, both those derived from demand study data as well as a number of generic requirements that promote maximum flexibility for students.

Using an RFP that would be issued for an online academic program as an example, such requirements might include planning statements that address the following:

Admission and Transfer. Proposals must include a clear statement of admissions requirements and requisites for transfer students. In general, we would expect that *Virginia Educational Ventures* would have a bias toward programs that transfer all credits with passing grades of C or better awarded by accredited institutions.

Assessment. Proposals must include an assessment plan that describes how the institution or consortia will evaluate the effectiveness of the program in meeting its stated goals. In general, we would expect that *Virginia Educational Ventures* would have a bias toward programs that

reflect an understanding of how assessment can be used to foster continuous improvement in the ongoing development and delivery of online programs.

Cost Effectiveness. Proposals must include a business plan that demonstrates the program's cost effectiveness and that it can be self-sustaining in the future. In general, we would expect that *Virginia Educational Ventures* would have a bias toward programs that reflect an understanding about the cost of the program's design, including both human and technological components, in relation to the identified student demand.

Marketing. Proposals must include a marketing plan that is compatible with *Virginia Educational Venture's* overall marketing plan but includes specific activities to promote the particular program. In general, we would expect that *Virginia Educational Ventures* would have a bias toward marketing strategies that exhibit a sophisticated understanding of how to reach potential online students and a realistically funded effort.

Student Services. Proposals must include a student services plan that addresses how the institutions will deal with admissions, registration, billing, financial aid, advising, tutoring, grading, library, placement, counseling, information technology, degree audits, and transcripts. In general, we would expect that *Virginia Educational Ventures* would have a bias toward programs that deliver student services via the Web via a kind of "one-stop shopping" approach, thereby increasing access to information and timely response times.

Technology. Proposals must include a technology plan that addresses both provider and consumer access to technologies. In general, we would expect that *Virginia Educational Ventures* would have a bias toward programs that are web-based, asynchronous and highly interactive.

Just as students are beginning to expect "better, cheaper, faster" delivery of student services, so too are they beginning to want their academic experiences to have some of the same characteristics. Adult students, with their primary emphasis on professional advancement, want learning that is as close to "just-in-time" as they can get. Yet almost all four-year institutions still follow a traditional term-based calendar, even for their online courses. A very small number of institutions have begun to respond to students' desire for greater flexibility either by starting each of its online courses every two weeks regardless of the number of students enrolled in a course (Rio Salado College) or by using a cohort model in which a course begins whenever between 8 and 13 students are ready to start (University of Phoenix). In each case, no student who wants to take a

course ever has to wait more than two weeks to begin collegiate study. In keeping with our bias toward maximum flexibility for students, we recommend that *Virginia Educational Ventures* encourage and favor program designs that embody these new approaches to enrollment.

- Seed money, or venture capital would be provided by *Virginia Educational Ventures* to assist in program development, market research and business planning for the contracting institution.

It seems likely that programs supported by *Virginia Educational Ventures* will include a business plan that makes the ongoing delivery of the program self-supporting. For degree programs, some of that self-support may actually come in the form of tuition subsidy by the Commonwealth, just as it does for programs delivered on campus. Consistent with prevailing attitudes regarding state support for non-degree programs or certifications, self-sufficiency may or may not include a state subsidy, but might include a subsidy from employers whose businesses benefit from the workforce training provided.

The purpose of the seed money or venture capital from *Virginia Educational Ventures* is to overcome the up-front, start-up costs of developing the online program. As noted previously, institutions of higher education typically don't have research or development funds that are used to initiate new programs. As almost the entire operating cost of a program is reflected in the faculty employed to teach in it and the staff to support it, traditional, on-campus programs have very little start-up costs, just very high, continuing operating costs. Venture capital from *Virginia Educational Ventures* will be used to help construct a viable business plan which includes identifying costs and revenue sources, provide initial outlays for marketing the program, and help defray the initial costs of developing the technology, both software and hardware, to deliver the program.

The provision of seed money for programs identified by *Virginia Educational Ventures* is critical to its success and marks a major difference between this organization and those that only identify educational needs. Indeed, the heart of this enterprise is in uncovering need and matching that need with a provider to meet the need. We believe that the significant educational resources of the Commonwealth can be deployed to meet most of the learning requirements of the Commonwealth's citizens.

- *Virginia Educational Ventures,* where appropriate, would help identify potential partners (from the private sector, from the philanthropic community or from other state and federal agencies) to help share

the risks associated with the new educational initiatives.

Virginia Educational Ventures will help identify potential partners (from the private sector, from the philanthropic community and from state and federal agencies) to share the development costs associated with new educational initiatives. For example, the U.S. Department of Education has occasionally funded teacher education programs; the private sector has funded a significant number of online learning initiatives; similarly some private foundations have funded distributed learning efforts. Commonwealth sources will be the primary sources of funding. Educational initiatives must often be seen as new businesses; their success is not automatic: unlike the field of dreams, 'building' them does not ensure 'they' will come. A major function of *Virginia Educational Ventures* is to help manage the business of learning by identifying educational needs, locating funding and matching the needs with providers that can succeed educationally and financially.

As we expect much of the focus of *Virginia Educational Ventures* programs to be on the non-traditional student, we expect that some of the business community in Virginia will find certain workforce development programs sufficiently valuable to their business interests so as to be convinced of the value of helping to support those programs. Currently, and particularly so in high tech industries, workforce re-skilling is a continuing problem. To the extent that such businesses must provide compensated time-off and time-away from site for employees to re-skill, the impact on the corporate bottom line is significant. Time and place independent learning opportunities have the potential to provide significant savings for these industries.

Local communities, desirous of attracting specific industries to locate in their region, may find the capability to rapidly train the local workforce in the needs of that industry just as an attractive draw as offering special tax relief. Localities hard hit by the out-migration of major business enterprises (particularly a current problem in Southside Virginia) may find the capability to quickly re-train segments of the laid-off workforce for new employment a welcome buffer to declining tax revenues and burgeoning unemployment rolls. There will be many situations in which both local and state government will find supporting workforce training programs has a positive effect on both their revenue and costs.

- *Virginia Educational Ventures* would serve as an advocate for student access to online programs and concentrate on raising public awareness of such opportunities in the Commonwealth.

Virginia Educational Ventures would not offer any programmatic student

services itself. Rather, it would rely on each campus offering a program to provide the student and administrative services required by distant learners. Its student support services role would be limited to disseminating program information and publicizing programs that are available.

Potential students will need to be made aware of a new, one-stop way to secure information about online learning opportunities. Potential program development partners will need to be made aware of the existence of a new catalyst for online program development. Consequently, *Virginia Educational Ventures* would focus its efforts in raising awareness of its existence and its processes for program development, undertaking the following activities:

> Ensuring the maintenance of a central web site that would contain all degree program and continuing education information;
>
> Developing and implementing a pubic relations campaign to raise awareness of new opportunities;
>
> Providing a basic "call center" to respond to requests for information and to refer students to designated contacts at the colleges and universities offering online programs.

Consistent with our view that *Virginia Educational Ventures* should support programs rather than courses, we believe that Virginia's "portal" should focus on a catalog of programs, leading to degrees or certifications, that are available online. The purpose of the portal would be to help the citizen of the Commonwealth locate programs of study that can be undertaken relatively unrestricted by time or locale and connect with institutions offering programs of interest to them. The process of application, acceptance, registration, etc. would be carried out by the institution that supports the program.

The design and operation of such a portal—sort of a union catalog of programs offered in the Commonwealth—is a task that anyone of a number of the Commonwealth's institutions could perform. One of the first RFP solicitations of *Virginia Educational Ventures* might be for just such a service. Perceived as a program rather than course catalog—one that provides descriptions and transfer to other portal mechanisms—the cost to develop and maintain it should be quite small. As such, we would expect the portal to list and "point to" programs offered by Virginia's private colleges and proprietary schools, as well as out-of-state providers who offer online programs in which Virginia citizens are likely to be

interested.

- *Virginia Educational Ventures* would retain responsibility for assessing the effectiveness of the program or project for which they issued an RFP and for which they awarded the contract.

The cycle of project efforts will include identifying and establishing a need or a demand for a particular program or project, quantifying that need in order to write an RFP that is attractive to providers and to funding sources, issuing the RFP and awarding a contract, and assessing the effectiveness of the program to determine if the original demand has been met. If the program misses the mark in some significant respect, *Virginia Educational Ventures* must find ways to encourage the provider to modify the offering to accomplish its purposes.

This focus on assessment is not intended to interfere with the provider's mechanism for faculty and course evaluation. With programs the responsibility of the offering institution, the responsibility for assessment is appropriately lodged in the institution and its faculty. *Virginia Educational Ventures* will be interested in the assessment and evaluation of program goals and objectives; the provider will be concerned with the achieving those goals and objectives.

Particularly in the early life of *Virginia Educational Ventures* we recommend that the Authority employ the service of contractors to assist in evaluating the level of success achieved by the successful RFP respondent. A "post mortem" of program development and operation should provide several useful pieces of data for planning new programs, not the least of which is the opportunity to avoid replicating past mistakes. We envision the RFP process to be a learning as well as a service opportunity for Virginia's publicly supported institutions of higher education.

Organization

The creation of "virtual universities" is occurring in many states and regions of the country. The consultants believe that whatever real successes they may evidence to date are due more to limited expectations than the merits of the idea of creating virtual institutions of higher education *de novo.* It seems a better idea to utilize the well established, mature educational infrastructure already existing in Virginia

than to attempt to create a new competitor that would have to replicate the infrastructure already extant in the Commonwealth's institutions of higher learning.

It is clear, however, that something akin to mission myopia on the part of the Commonwealth's institutions of higher education contributes to the existence of educationally underserved constituencies. This situation is exacerbated in periods of fiscal stress such as the institutions have faced in the past several years. While the State Council of Higher Education is charged with providing coordination, including program approval, it seems a bit of a stretch to suggest that the State Council should attempt to dictate which programs which institutions should develop to serve which constituencies. Rather than the "stick" of program approval wielded by the State Council, we believe a "carrot", in the form of seed money, strategically distributed by a new entity is the best approach to servicing these unmet educational needs.

The proposed *Virginia Educational Ventures* should have a close working relationship with the State Council of Higher Education for Virginia. The activities proposed for *Virginia Educational Ventures* seem most appropriately to be separate from the coordination role of the State Council. However, the Authority is one mechanism to cause to exist programmatic initiatives that are perceived to be desirable by the State Council. We envision a close, but informal, working relationship between *Virginia Educational Ventures* and the State Council of Higher Education for Virginia.

Similarly, the activities and function of *Virginia Educational Ventures* do not seem to fit well with those of the Office of the Secretary of Education. This Secretariat would, of course, have more than a passing interest in the activities and success of *Virginia Educational Ventures* but seems an inappropriate place in which to house it.

Some might suggest that because of the short term (at least in state governance terms) nature of *Virginia Educational Ventures,* its function could be performed consortially by some or all of Virginia's public institutions of higher education. To do so would, however, ignore the advocacy role that *Virginia Educational Ventures* must play for currently underserved or potential educational constituencies. It would also create a level of undesirable and unneeded tension and conflict of interest between institutions who would be both the recipients and the grantors of venture capital.

The required independence, both politically and from conventional state purchasing process, suggests a separate state agency. In Virginia, it

appears that the most appropriate form would be that of an Authority, similar to the Roanoke Higher Education Authority.

Virginia Educational Ventures would require a charter that did not inhibit having favored respondents to RFPs, that permitted broad revenue sharing arrangements between institutions and private sector partners, that allowed for sole-source contracting with outsourcers who might be contracted with to evaluate RFP responses, to provide consultation to award recipient institutions on strategies to design cost effective programs, new assessment processes or articulation agreements extending beyond the Commonwealth.

It is not the consultants' perception that *Virginia Educational Ventures* would become an established feature of the Virginia higher education landscape. Rather, it might operate over the next decade, providing the seed money for institutions to begin the process of meeting the demands of the new economy student. As such, it would be appropriate that the charter of the Authority contain a "sunset" clause, or in some other fashion, after a number of years, undergo rigorous scrutiny in terms of its need and desirability for continuance.

Governance

Virginia Educational Ventures should be organized along the lines of an educational institution with a President and a Board of Trustees or Visitors. The Board might contain both legislative and gubernatorial appointees in addition to ex-officio positions for one or more representatives from the public, and possibly the private, institutions of higher education in Virginia. It might be appropriate for the State Council of Higher Education for Virginia to fill an ex-officio position as well.

As the "clients" of *Virginia Educational Ventures* will be Virginia's institutions of higher education and the long term benefits of its activities will accrue to Virginia's students, it seems appropriate that the Authority have an academic organizational and governance structure. Certainly the characteristics and skill set of the President are those that one would look for in the president of an academic organization.

Absent a well compensated Board of Trustees, which we do not recommend, the President of *Virginia Educational Ventures* will require a knowledge of the operation and philosophy of institutions of higher

education, significant familiarity with the technology and delivery of online learning, and an ability to persuasively interact with business community of the Commonwealth. The Board should be selected so as to assist the President with this multi-faceted set of demands—complementing his or her weaknesses with strengths of their own. We recommend that, in addition to the representatives of affected constituencies enumerated above, that one or more individuals with detailed knowledge of educational technology and online learning be named to the Board.

The President of *Virginia Educational Ventures* may find compelling reasons to establish other, *ad hoc* advisory committees that might assist in developing and/or evaluating responses to RFPs issued by the Authority. It may be necessary or desirable for the President to employ the services of consultants, well versed in online learning, to assist in the development and/or evaluation of RFPs. An organization such as the Electronic Campus of Virginia might serve as an additional advisory group to provide guidance and direction to the mission of the Authority.

The role of the trustees would be to approve grants to institutions who have responded to Authority issued RFPs, employ and evaluate the President of *Virginia Educational Ventures,* observe and track the unmet educational needs of the citizens of the Commonwealth, monitor the success of Authority funded programs, and generally be responsible for the fiscal integrity of the organization.

Staffing

Staffing the proposed *Virginia Educational Ventures* is critical to its success. The size of the staff must be quite small, no more than 2 or 3, with a commitment to remain small. The issue here is to ensure that funds allocated to the Authority reach the institutions of higher education without significant deductions for overhead at the Authority level.

In addition to the usual administrative activities (payroll, accounting, purchasing, etc.), most of which should probably be outsourced where possible, *Virginia Educational Ventures* will need to prepare Requests For Proposals and evaluate the responses. These are two activities that should not be outsourced to the institutions of higher education but may be activities that are, in full or partially, outsourced to contractors with expertise in writing RFPs and evaluating the responses. It would appear more important for the staff to understand the underlying educational

issues than to have extensive experience in crafting and evaluating RFPs. The size of the staff would be commensurate with the volume of RFP activity. In the very early existence of *Virginia Educational Ventures* the staff might consist of only the President and an administrative assistant. As the volume of activity increased, one or two more staff members with a good understanding of higher education might be added.

The role of the President of the Authority will be crucial to the success of *Virginia Educational Ventures.* Someone focused on organizing and managing a staff will take the strategy in the wrong direction. The President must be able to understand the nature of the underserved constituencies in the Commonwealth, convince the Legislature, the Administration and the State Council of Higher Education for Virginia of the worth of various projects and be able to work with institutional presidents and their designated staffs to create innovative and cost effective responses to RFPs and to ensure that the target constituencies are well served. The President of the Authority would need to be a knowledgeable catalyst for collaboration. Additionally, the President would need to understand how to involve the private sector, philanthropic organizations and other governmental agencies when and where appropriate.

We gave some thought to the nature of the job of the President and the type of person who might be most successful. The types of persons who might be most appropriate would include retired legislators with good knowledge of higher education, retired senior executives of colleges and universities, individuals with experience at philanthropic foundations or even people with experience in institutional development.

The virtual environment makes possible—indeed, drives toward—new systems of organization. Traditional business models—those that are vertically integrated and self-sufficient—are becoming obsolete. New business models are more strategic. They identify and focus on a small number of core competencies, on the two or three things that the organization does better than any other organization in the world, and they outsource noncore competencies to a flexible network of service providers. Thus, modern organizations are composed of a small set of core competencies combined with sophisticated processes and skills aimed at integrating the services of outside organizations into the work of the core organization.

An organization's core competencies are those services, products, or other deliverables that create value and that differentiate it from its competition. In higher education, core competencies are teaching,

research, and public service. No one would contend that food service, housekeeping, and bookstore management are core competencies. These functions are commonly outsourced, and some institutions are beginning to outsource facilities management and information technology functions as well. Colleges and universities may well follow the example of business and also consider outsourcing "customer-contact" activities, including registration and financial-aid services. Why, for example, does every institution in a multicampus state system need its own staff for these services?

What are the core competencies of *Virginia Educational Ventures*?

- Identifying the unmet demand for post-secondary learning
- Contracting with providers to meet those demands
- Dispersing seed money to fund the development of needed programs
- Building capacity for Virginia institutions to increase their educational services to the Commonwealth

The result of this work over many programs will be to increase the capacity of Virginia institutions to serve the citizens of the Commonwealth. The intent of *Virginia Educational Ventures* must be to find ways of funding needed educational programs and delivering those programs at a distance to citizens who cannot come to the campuses of the institutions. Happily, the Commonwealth is blessed with strong colleges and universities, educational resources that can be marshalled to use the new technologies to reach broader markets than the students who do come to the campuses. Through careful planning and the initiation of sound business plans built around those new technologies, *Virginia Educational Ventures* can aid the Commonwealth in growing the capacity of Virginia institutions to serve Virginians.

Funding

Funding *Virginia Educational Ventures* might best be viewed in terms of who benefits. Certainly, citizens of the Commonwealth who utilize new learning opportunities should be expected to pay for those services. Currently, the Commonwealth subsidizes tuition income to bring total revenue somewhere into parity with total institutional costs to create and deliver those learning opportunities. There seems to be no compelling reason to change that process for degree programs. It is also true that the Commonwealth benefits (however indirectly) from a better educated

workforce. Workforce training programs are most commonly paid for by the student or some combination of the student and his or her employer. It seems appropriate that the Commonwealth, through the budget process, provide funding to *Virginia Educational Ventures* to be the venture capital that is ultimately utilized by institutions of higher education to design new and innovative programs to address the educationally underserved communities of interest in the Commonwealth, whether they be degree or certification programs.

From time to time, it might be expected that identifiable segments of the business and industrial community in Virginia would directly benefit from some new educational offering. In those cases, it would not be unreasonable to create a public/private partnership to develop the venture capital to design and deliver that educational offering. One can imagine potential programs of sufficient innovation and/or scalabilty that would attract the interest of philanthropic organizations or federal government agencies. In such cases, seed money or venture capital could be the joint responsibility of the state government and the external agency.

There are alternatives or supplements to legislative funding. For example, a fee could be required of every student registering for a distance learning course from a Virginia institution. These fees would be deposited to the seed money account of *Virginia Educational Ventures*. Providing seed funding under this alternative would shift the burden from the taxpayer to the consumer. That might an appropriate step, given the target population of non-traditional students. A fee of $25 would raise $250,000 for every 10,000 registrations. Given the current rate of growth in distance learning programs, such a fee would quickly support a major portion of the efforts of *Virginia Educational Ventures.* Alternately, this per capita "tax" could be a part of the business plan generated in response to *Virginia Educational Ventures* RFPs. In either case, care would be required not to make these online offering unattractive in price as compared to campus-based alternatives.

As the bulk of the funding will pass through *Virginia Educational Ventures* to the institutions of higher education, some may view this as "feeding the horses in order to feed the sparrows." However, *Virginia Educational Ventures* will assume the role of advocate for the educationally underserved communities in Virginia—an advocacy not currently vested in any governmental or higher education organization.

It would not be the intent of *Virginia Educational Ventures* to fund the entire development and delivery costs of new educational initiatives.

Rather, the Authority would provide venture capital to assist the institutions to

- develop a business plan that demonstrated the ability to create a viable design and delivery schedule.
- structure less labor intensive and more cost effective learning venues that can be accessed from a distance.
- identify the size, demographics and price elasticity of the target market.
- identify and support the employment of consultants to assist in creating appropriate assessment methodology.
- identify private sector or other partners who might benefit and share in supporting the program.

While the biennial portfolio of projects of the Authority might be well in excess of a million dollars, the venture capital flowing to each of the institutional initiatives would more likely be measured in the hundreds of thousands of dollars. Suffice it to say that each project will be quite different, ranging in size and scope of community served, having differing intentions and aspirations, sometimes delivering a short course of study leading to some form of certification, sometimes representing a full course of study leading to a degree.

The cost to design, develop, advertise and deploy a feature length motion picture is in the tens of millions of dollars. The cost to develop a college level textbook may be in the tens or hundreds of thousands of dollars. The cost to design and deliver compelling learning environments to be delivered at a distance is somewhere between these two numbers. More traditional learning venues delivered synchronously over television in fixed classrooms are relatively less expensive to design but expensive to deliver because of their labor intensiveness. Web-based, highly interactive learning environments that are received asynchronously are considerably more expensive to design, but less expensive to deliver due to their lesser labor intensiveness. In simplistic terms, for the former case the product is re-designed each time it is delivered, in the latter it is designed once.

Online programs can be inexpensively designed featuring little more interactivity than chat rooms and email. They can be designed to envelope the learner in an immersive, dynamic, multi-media environment—but not inexpensively. There will be occasions where one end of this design continuum will appear more cost effective than the other. In general, we would expect that *Virginia Educational Ventures* would have a bias toward programs with characteristics of the latter —web-based, asynchronous and highly interactive. One time, few

repetitions programs will be attractive using the former technology. Programs with very long shelf lives and large enrollments will be attractive using the latter technology. In either case, there is a strong technology component associated with the delivery. And, in either case, the venture capital necessary to initiate a program is likely to be measured in the hundreds of thousands of dollars.

The costs to begin *Virginia Educational Ventures* are minimal, amounting to little more than office space and equipment. An operating budget of $1.5 million per year should be sufficient to pay for staff and services and still provide in excess of $1 million per year in seed money to begin addressing Virginia's educationally underserved communities.

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Bob Albrecht is Chancellor Emeritus of Western Governors University and a Senior Fellow at the EDUCAUSE Center for Academic Research (ECAR). He served on the faculty at the University of Chicago and at the University of Oregon. After holding positions of Dean of the College of Arts and Sciences and Vice Provost at Oregon, he became the Academic Vice President at the University of Northern Colorado and Deputy Commissioner for Academic Affairs in the Montana University System. He returned to the State of Colorado to become an Associate Vice President at the University of Colorado until he was asked to initiate the Western Governors University. He served in a senior capacity in that new institution becoming Chancellor before he retired.

He has served on advisory committees to Harvard University, the U.S. Army, IBM and Regis University. He spent many years consulting to the Advanced Placement Program and the National Teachers Examination Program with ETS. He chaired the Oregon Committee on the Humanities and worked on many liaison committees in the state systems of Oregon, Montana and Colorado.

Early in his career Dr. Albrecht became involved with outreach programs both as a faculty member and an administrator. Extension, community outreach, and distance learning became more central to his portfolio as he participated in formulating state networks, in leading developments in learning technology and on line learning. This work included a leadership role on the Steering Committee of the Western Cooperative for Educational Telecommunications.

Recent publications have included chapters on distance learning and information technology as well as articles on university administration. Conference presentations and discussions have focussed on distributed learning and information technology.

Bob continues to live in Denver, consulting and writing when he's not traveling or hiking, skiing or snowshoeing in the Colorado mountains.

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George Connick is the founder and President Emeritus of the Education Network of Maine, the statewide distance learning network of the University of Maine System. During his 31-year association with the University of Maine System, George held various faculty and administrative positions, including appointment as Associate Professor of History, two years as Vice President for Academic Affairs at the University of Southern Maine, nine years as the president of the University of Maine at Augusta, and three years as president of the Education Network of Maine. George took early retirement from the University System in 1997.

Dr. Connick has delivered more than 300 presentations on the uses of technology and telecommunications for distance and distributed learning and he is the author of numerous articles and reports on a variety of educational topics. In 1990-91, Dr. Connick chaired the National Advisory Panel for the Office of Technology Assessment of the U.S. Congress which produced the report titled Rural America at the Crossroads: Networking for the Future (1991). In 1999, he served as General Editor of a new book for learners from Prentice Hall titled The Distance Learner's Guide. He was the lead consultant on the planning and development of the Kentucky

Commonwealth Virtual University (1997-99) and he has served as a consultant to more than 30 higher education institutions and systems in the United States and Canada on issues related to distance education.

In 1997, Dr. Connick was awarded an Honorary Doctor of Humane Letters by the College for Lifelong Learning of the University System of New Hampshire and in 2000 he was selected as the second inductee into the U.S. Distance Learning Association Hall of Fame.

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Bob is the author of a dozen monographs and book chapters, over 80 journal articles, as well as research and consulting studies for universities, state and federal agencies, the National Academy of Sciences, and many of the major information technology and library organizations. His column in the Educom Review, *The View From 16th Street,*was frequently quoted in the trade press. Bob currently write a monthly column for *The Learning Marketspace.* He was the recipient of the 1994 CAUSE ELITE Award for lifetime achievement in information technology and in 1995 was named by *Network Computing*as one of the 50 network drivers in the United

States.

He served for eight years on the Coalition for Networked Information Steering Committee, three terms on the OCLC Higher Education Professional Advisory Committee, the CAUSE Board of Directors as vice-chair and chair, the OCLC Research Advisory Committee, as a member of the Board of Directors of SoliNET, a library consortium for the southeastern United States.six years on the EDUCOM Board of Trustees, and as a member of advisory committees for IBM, NeXT, Apple, and Xerox.

He also contributes his time to a number of public service initiatives —among them serving as Chairman of the Board of the Blacksburg Electronic Village; a public/private partnership designed to bring the benefits of networking to rural southwest Virginia.

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Dr. Carol A. Twigg is Executive Director of the Center for Academic Transformation at Rensselaer Polytechnic Institute. The Center's mission is to serve as a source of expertise and support for those in higher education who wish to take advantage of the capabilities of information technology to transform their academic practices. The Center manages The Pew Learning and Technology Program, a $8.8-million, four-year effort sponsored by the Pew Charitable Trusts to place the national discussion about the impact of information technology on campus in the context of student learning and ways to achieve this learning cost-effectively. The Center also conducts The Leadership Forum, a series of activities designed to advance the growth of knowledgeable people to lead their institutions, companies and organizations in The Information Age.

From 1993 to 1998, Dr. Twigg served as Vice President of Educom, a nonprofit consortium of colleges, universities and other organizations dedicated to the transformation of higher education through the application of information technology. At Educom, she founded the National Learning Infrastructure Initiative (NLII), a coalition of 85 higher education institutions, public policy organizations, publishing companies, and digital industries. The NLII's purpose is to enable the transition from traditional time and placebound methods of education to new forms of distributed, student-centered, network-based teaching and learning modalities. She also initiated the IMS (Instructional Management Systems) project which is establishing interoperable standards for online education and training.

Dr. Twigg has published widely and given numerous presentations on such topics as the impact of telecommunications on restructuring higher education and training, the need to improve productivity in higher education, engaging college faculty in using instructional technology, and managing information technology in a distributed environment. She was named by Newsweek as one of the 50 most influential thinkers in the information revolution.

Before joining Educom in 1993, Dr. Twigg served as Associate Vice Chancellor for Learning Technologies for the State University of New York and Director of the Center for Learning and Technology. Prior to that, she served as Associate Vice President for Academic Programs and Information Technology at SUNY-Empire State College, SUNY's college without a campus, and was responsible for new program development, academic and administrative computing, and enrollment management. From 1977 to 1993, she served in a variety of academic administrative positions at Empire State College.

A graduate of the College of William and Mary, Dr. Twigg earned her Ph.D. in English Literature from the State University of New York at Buffalo; she has taught at SUNY/Buffalo, the State University College at Buffalo and Empire State College.

Frequently Asked Questions

We recognize that, while this report is lengthy, no report is ever sufficiently detailed so as to resolve all the questions of all the readers. However, we are happy to try to do so.

If you will send mail to heterick@vt.edu indicating your name, organization and position, we will attempt to answer your question, posting both the question and our response on this page. The question will not appear with the asker's name, but we would like to have that information to help understand if there is a part of the audience for this report to which we have not spoken sufficiently clearly.

Would Virginia's private institutions of higher education be eligible for seed money?

> Yes.

Would the community colleges be eligible for seed money?

> Yes.

If the authority is successful, how might it work/look in three years?

> The authority would contract with or employ outside evaluators for RFPs. There would be no need for a permanent bureaucracy and the size of the permanent staff would be about the same for the life of the authority.

Why create an authority rather than have SCHEV (or some other existing entity) do this ?

> SCHEV lacks the purchasing flexibility necessary to make the RFP process work—primarily the need to have "favored" respondents to RFPs. Other quasi-governmental entities with the requisite purchasing flexibility are either not in the education "business" or have other foci which would require adding the same staff as envisioned for the authority.

The proposal envisions state funds for seed money. Would they be available to institutions from outside Virginia like the University of Phoenix?

> No. Virginia's institutions of higher education would in all likelihood oppose any strategy that appears to diminish their already beleaguered funding. In addition the legislature would have no incentive or interest in funding for-profit or out-of-state entities. If Virginia's institutions do not respond to any RFP, out-of-state institutions would be invited to respond but without the provision of seed money. Such institutions would likely be well-established online providers who would not require such seed money but would welcome the opportunity to serve additional students in

Virginia.

If the Authority studied demand, would it be only for Virginia?

The source of seed money is from Virginia legislative appropriations. As such, we would expect that demand studies would be focused on addressing Virginia educational deficiencies. However, the authority should have the capability to enter into contractual arrangements that go beyond the Virginia institutions and state boundaries, if and where appropriate.

Are you just talking about seed money?

Yes. The production of good online learning products has significant up-front costs that colleges and universities are generally unprepared to fund. The delivery costs of educational products are recovered through tuition and state subsidies. Once developed, online learning experiences should easily recoup their delivery costs. In some cases, delivery costs may actually be less than prices in which cases some of the excess income could be plowed back into the development of other programs. The demand studies should identify those programs that have the capability to support their delivery costs.

How much money would be needed to take this concept to the actual fruition?

The Authority would need something on the order of $500,000 annually for operating expenses and would need another $1,000,000, at minimum, for seed money. The more seed money available, the greater the number of projects that could be launched.

Why does the report leave academic and student support services as the responsibility of the institutions?

Uniform academic and student support services are a problem only if students are taking courses from multiple institutions—the "swirling student." If the demand studies show a very large number of such students, addressing this problem might become important. We doubt that it is. Attempting to find a common set of solutions to these issues among existing institutions is a daunting problem. The idea underlying the authority is not to create a homogeneous solution from the multiplicity of strategies currently in effect, but rather to build on institutional processes already extant. The cost savings in relying on existing offices and processes is substantial.

What is the authority's interest and role after the program is running?

Other than evaluating the level of success achieved by the program to serve as input to later RFPs, the authority would have no ongoing responsibility after the program is launched. Operational review of programs is currently the shared domain of the State Council of Higher Education for Virginia and the offerring institution.

Who monitors state policy interests?

The Board of the proposed Authority would have similar responsibilities to the boards of state supported institutions of higher education. The Board is the body that authorizes funds for projects. Consultation with SCHEV should be an ongoing activity and a role for SCHEV on the board of the authority should help facilitate that dialog.

It is proposed that Board members be appointed both by the Governor and the legislature to represent their policy interests.

What role do you see for ECVA?

The ECVA has been a useful and successful source for institutional collaboration, problem identification and sharing of ideas. It is clear that there is much work yet to be done to address the issues of transfer and articulation.

Would demand studies be the major first effort?

Initially the authority would contract with institutions to do programmatic demand studies. The result of these initial demand studies might well produce enough target areas to identify RFP subjects for some time. There may also be existing demand studies (either from institutions or SCHEV) that would help identify immediate target programs.

The report seems to gloss over the issues of transfer, articulation and financial aid.

The issues of inter-institutional transfer, articulation and financial aid are, indeed, thorny. They existed long before any interest in online learning and have gone basically unsolved for many decades. The consultants believe that it is in Virginia's best interest to resolve these issues on a statewide basis and that those entities charged with statewide coordination should continue to work on them. It is not the responsibility of a new online learning initiative to resolve these policy matters; it is the responsibility of existing policy organizations to do so.

Furthermore, making a solution to these issues a prerequisite for addressing the Commonwealth's educational needs that can be met by online learning would seem to condemn new initiatives to a hiatus of many more decades. The report should not be read as an explication of a comprehensive framework for the solution of many long standing problems of higher education in Virginia. Rather, it is an attempt to devise a short term, jump-start to Virginia institutions to enter the world of online learning and to do so at minimal cost and in a way that does not further erode the budgetary situation of those institutions.

The RFP process would appear to give unfair advantage to institutions that already have well-established distance learning infrastructures.

Those institutions that are "ready" to develop and deliver online learning will, in general, have an advantage in responding to the RFPs. The report does not propose to develop a capacity to deliver online learning for all institutions in Virginia. Rather, it is intended to capitalize on the capacities that already exist. On the other hand, some institutions with less developed online learning capabilities may have the requisite *programmatic* (academic or professional offering) capacity and would have an advantage over others in responding to an RFP.

Why does the report recommend supporting programs rather than individual courses?

Individual courses that serve the needs of institutional degree programs are being developed at many institutions. A focus on individual courses raises the issues of

transfer, articulation, common registration, uniform tuition, etc. which have long gone "unsolved" in Virginia. To make progress in online learning dependant upon their solution raises issues much more difficult than those represented by the development and delivery of full online learning programs by individual institutions. Furthermore, experience elsewhere suggests that under-served populations generally require programs to meet their needs; individual courses are not sufficient.