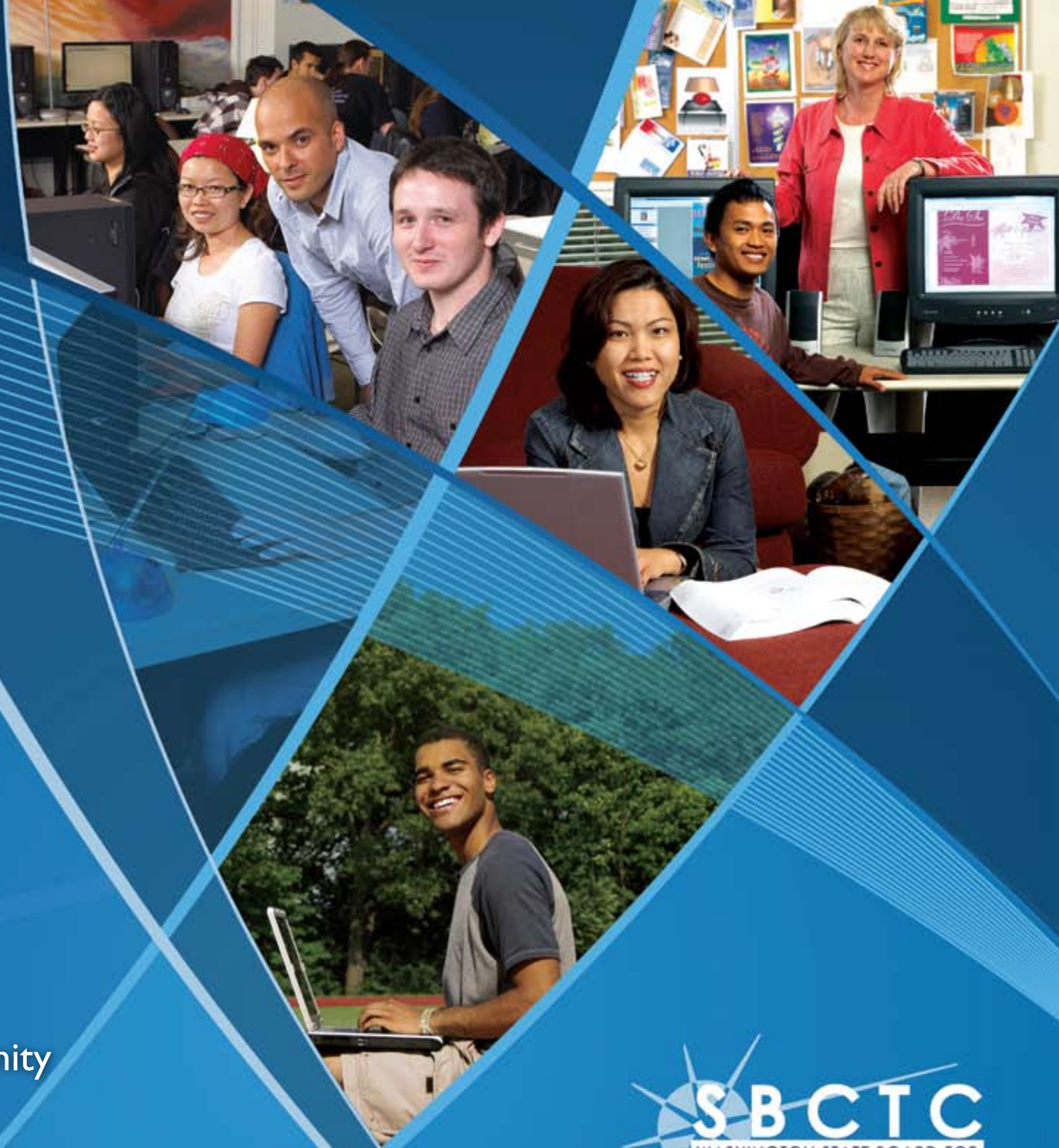

Strategic Technology Plan

For Washington State Community and Technical Colleges

SBCTC
WASHINGTON STATE BOARD FOR COMMUNITY & TECHNICAL COLLEGES

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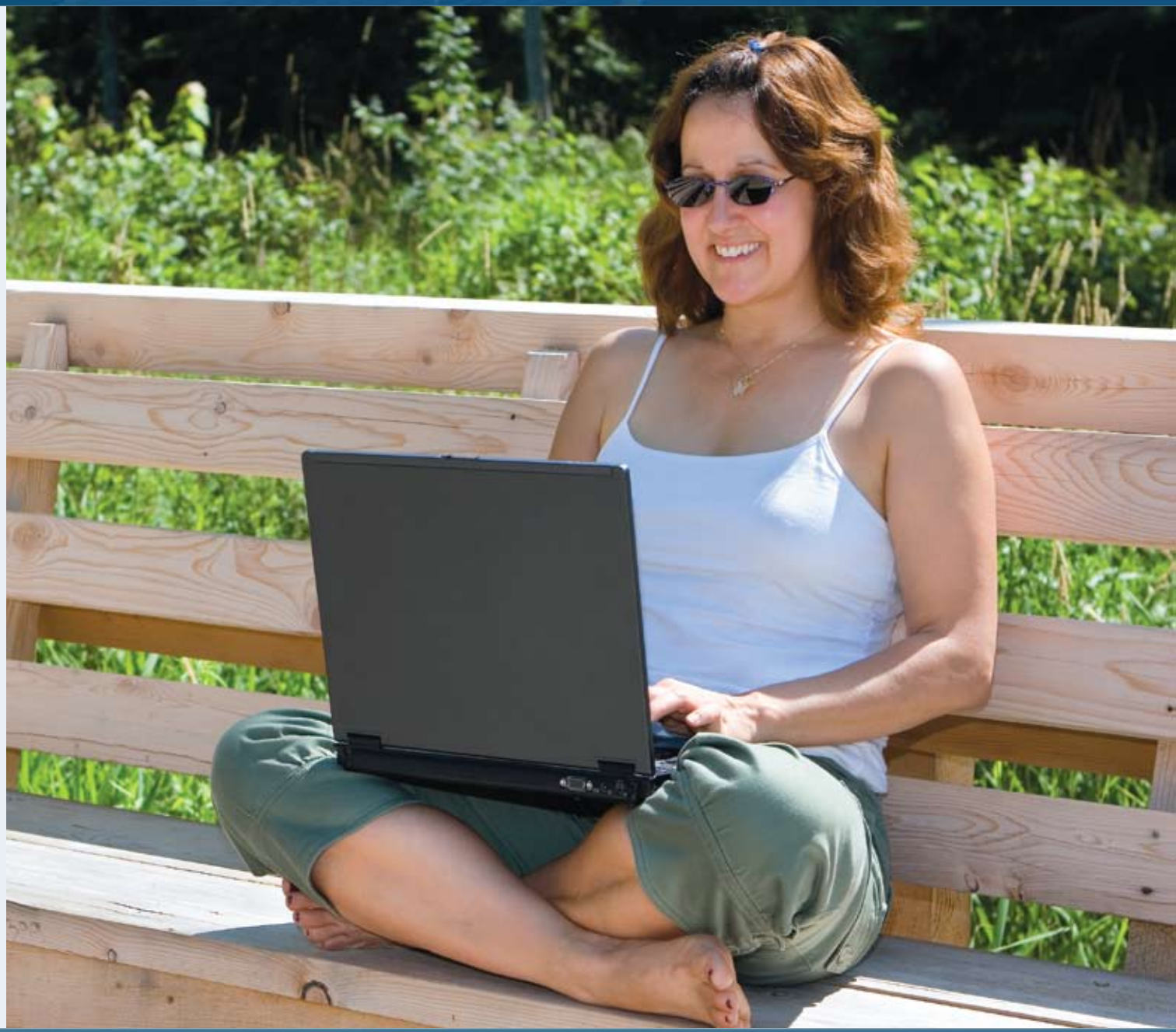

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Preface

This strategic technology plan is the product of an intense 18-month analysis conducted by the Technology Transformation Task Force of the State Board for Community and Technical Colleges.

The Task Force examined the role and impact of web-based learning and the use of information technology in higher education throughout Washington, across the U.S., and around the world. Task Force members also listened carefully to the experiences and opinions of Washington students, faculty, and staff. It quickly became apparent that this was an exercise in measuring the growing distance between what is and what ought to be.

As the Task Force's work progressed, its sense of urgency about the need for change grew. The gulf between what younger "digital generation" students expect – and what the community and technical college system currently provides – is widening with every passing month. A generational, structural change is taking place in how people learn and what online services they expect. The online, interactive world is second nature to more and more of today's students, and colleges that don't recognize the centrality of this shift face impending irrelevance.

Equally important, online learning has untapped potential to meet educational needs that have gone unmet for generations. The barriers of time, distance, and conventional classrooms prevent far too many working parents, immigrants, high school dropouts, and mid-career professionals from improving their lives and increasing their contribution to our society and economy. And today, rising transportation and energy costs make expanded online learning an even more urgent need.

Outdated, inflexible data systems currently prevent the community and technical college system (and its partners in the P-20 education system) from sharing and analyzing information that could help pinpoint and seal the leaks in Washington's education pipeline.

A similarly outdated patchwork of online learning and student services systems fails to provide the seamless, efficient, and transparent 24/7 online services students and prospective students need to find, enter, and complete the education and training programs that can transform their lives and our state's economy.

The Task Force's conclusion is that we clearly do not have a 21st century information technology system. We are late to recognize the educational impact and potential of the Internet, late to take advantage of the shift to open, student-centered, web-based applications, and late to listen to what our students and faculty are telling us about what they need to thrive in this new era.

What emerged from the Task Force's work is a clear vision of how we can confront this growing crisis, close the distance between what is and what ought to be, and transform our use of technology to help meet the urgent educational needs of our citizens and our state.

We recognize that this plan, like the technology it describes, must be frequently updated to remain relevant and useful. We also recognize that meaningful commitments must be followed with meaningful resources, in the form of funding, time for professional development, and thoughtful and sustained leadership.

The future is already here. It is just not evenly distributed yet.

William Gibson, author

Introduction

Washington needs more people with higher levels of education, and to meet that goal, there is broad consensus that change and innovation are urgently needed. The principles in the community and technical colleges' System Strategic Direction include a clarion call for policy and investments "centered upon student needs, student diversity, *the impact of new technologies*, and enhancing students' knowledge, skills and educational attainment."

Raising educational attainment is also the overarching goal of *Washington Learns*, Governor Gregoire's groundbreaking 2006 examination of cradle-through-career education in Washington, and *Moving the Blue Arrow*, the Higher Education Coordinating Board's 2008 Master Plan for Higher Education in Washington.

To meet the goal of rising educational attainment, Washington must expand educational opportunity not only for young people, but also for adults who are already in our workforce. We need to actively recruit them and to encourage them to reach higher and complete the education and training programs that can transform their lives and the economy of our state.

Community and technical colleges are at the center of this challenge. Our open door policy meets people wherever they are on their educational journey. We serve high school dropouts, new immigrants, mid-career college graduates seeking new skills, and everyone in between. Our missions include workforce training, college degrees and certificates, adult literacy and basic education, English instruction for immigrants, and continuing education for lifelong learners.

Washington's 34 community and technical colleges are already key to Washington's progress and prosperity and to our students' ability to succeed in today's competitive global economy. Today, over 470,000 people are enrolled in one or more of our programs, and over the years, countless Washington residents have launched their careers from one of our campuses.

Still, we know we are not doing enough to meet the needs of this young century. To raise the levels of skill and knowledge needed to sustain economic prosperity, we cannot wait for students to come to us. Research tells us that not all students learn best in a traditional classroom setting. And we certainly cannot serve the people who need education the most by continuing the practices that have left them behind in the past.

To reach out to today's learners, we must dismantle the barriers of geographic isolation, cost, competing demands of work and family life, and past educational failure and frustration. We must create a system for learning that is welcoming to all, easy to enter and use, and tailored to the needs of each learner. Most important, we must create a system that fosters the personal relationships and support all human beings need to learn and thrive.

Today, technologies that can help us achieve these goals are unevenly distributed and under-used in our society and in our college system. Like other organizations, our community and technical college system struggles to keep up with changing technology. And like most other organizations, our system has made misjudgments about where technology was headed and how we should adapt. But we have also had our share of success with technologies that have provided innovative online learning, improved student services and administrative efficiency. This plan represents all we have learned from our successes, from our mistakes, and from the experiences of our peers across the country and around the world.

This plan also represents our sense of extreme urgency about our need to catch up, keep up, and provide all colleges and all students with the technological tools and support services they need to succeed in the 21st century.

Technology, teaching and learning

Our expectations about how technology can support teaching and learning have changed dramatically in the last decade. Little more than ten years ago, sitting at a computer was an isolating, solitary experience. Internet connections were slow and unreliable. Navigation required experience, patience and skill. And competent, confident users of the Internet tended to be mostly young, relatively affluent people.

Today, computer use has penetrated far more deeply into diverse populations. It is also much more focused on social interaction, with applications ranging from web-based phone and video to social networking sites to lifelong portfolios. The online world is vastly easier to navigate, so even beginners quickly gain confidence and skill in online environments.

As the Internet transforms the way we communicate with one another, do business, and entertain and inform ourselves, it is also profoundly changing how people learn. It presents a vast, borderless new opportunity to extend the reach of our educational institutions, to personalize learning, and to dismantle barriers of time, distance, and discomfort with traditional classrooms.

The learning styles and preferences of young people who have grown up online showcase these changes. Today's high school graduates are less linear and sequential, and more likely to multi-task – to chat online, monitor the news, and listen to music while they study. They expect constant interactivity and collaboration. They both consume and build the Internet by writing their own blogs, by maintaining their own social networking pages, and by contributing to sites like YouTube.

For this generation of learners, there is little tolerance for the traditional "I lecture, you listen" method of instruction. Why should they sit in a lecture hall when they could listen to a podcast of a lecture while working out or doing their grocery shopping? In fact, why would they listen to a lecture at all? This generation of learners prefers exploration, conversation, inquiry, and active engagement.

But it is not just the millennial generation that can benefit from technology-enhanced learning. Even those who have never touched a keyboard, and who lack home computers, find that learning online eliminates the performance anxiety of traditional classrooms and allows them to make mistakes and learn at their own pace without the fear of disapproval or ridicule. For adult learners who suffered as children from undiagnosed learning disabilities or other causes of classroom failure, this can be a transformative experience.

Accessible design technology and universal web design can also level the playing field for students with disabilities. New technologies offer an expanding array of benefits to students who are blind or visually impaired, to students who are deaf or hard of hearing, and to students with physical disabilities that preclude the use of a mouse or keyboard.

Still, new technologies are no substitute for good teachers. All students – from the tech-savvy to the tech-neophyte – benefit from the guidance of an expert instructor with deep subject knowledge, a wide array of teaching strategies, and the ability to bolster student motivation, interest, and confidence. Learning is and always will be deeply personal. And today, interactive learning technologies provide teachers and their students with new ways to connect with each other and the world through networked learning communities.

Technology and student services

In recent interviews and focus groups, students asked why they cannot get their financial aid checks electronically deposited. That was a tip-of-the-iceberg question that points to the growing gap between the use of convenient, web-based consumer services in the commercial world and in our colleges.

Student advising requires making appointments, finding a parking place or taking a bus, and sometimes standing in line – all for a transaction that could be handled with online services. For many students, this transaction also requires taking time off work or finding child care.

So providing more convenient, online student services – online advising, online registration, education and career planning, searchable course catalogs, transcripts, library services, tutoring and financial aid management – all through a one-stop student portal – will clearly bolster student recruitment, retention and success. A one-stop portal should serve as a "dashboard" from which students can log in and have access to all their courses, their financial aid accounts, educational plans, and grades.

Online student recruitment and advising can also serve middle and high school students who need to explore their options and plan the education they will need to achieve their dreams. User-friendly online resources can help these students by demystifying college and financial aid, by providing personal e-mail responses to their questions, and by establishing early relationships between students and colleges.

Education technology trends

Online learning growth

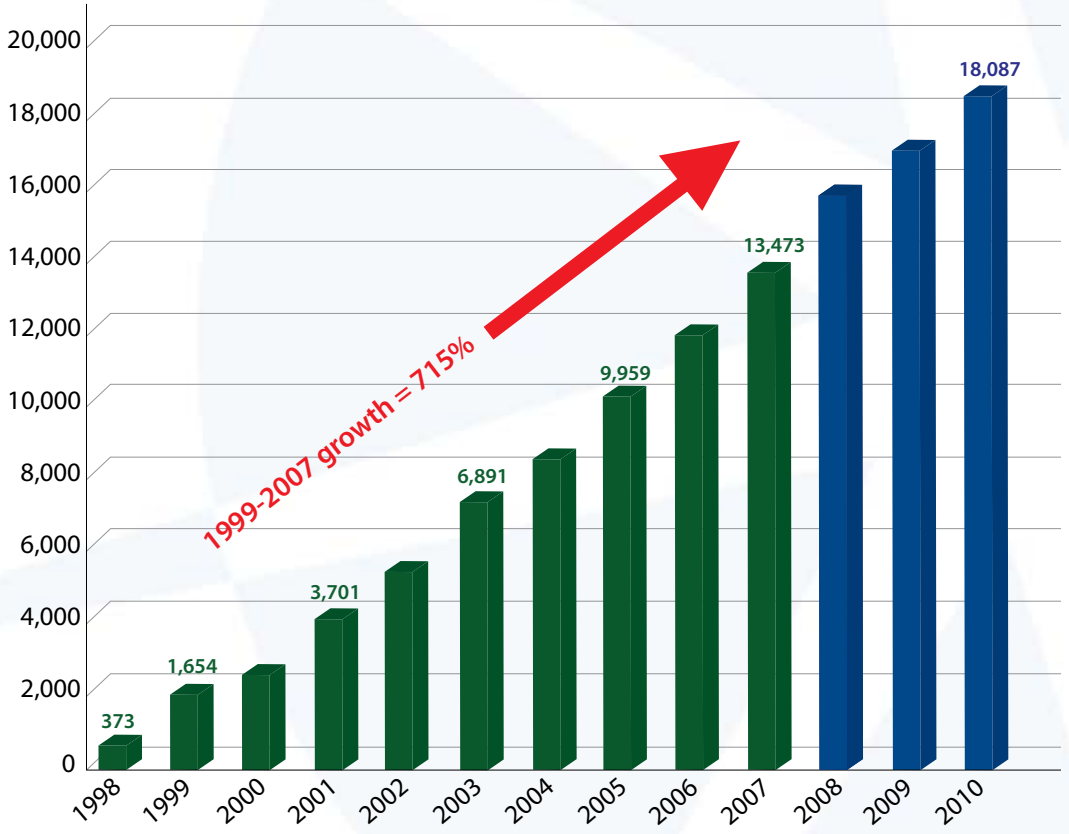
Online learning in Washington community and technical colleges has grown 715% in the past eight years.

In fact, the growth of online learning in Washington's community and technical system is outpacing the nation. Nationally, online course-taking has grown by 10%; however, in our system, the rate of growth exceeds 15% per year. Twenty-three of our 34 community and technical colleges offer a total of 86 different degrees and certificates completely online, and 16 colleges offer a completely online AA degree.

Online learning is also becoming a more important part of classroom-based courses. While 11% of community and technical college courses are fully online, an increasing percentage of "hybrid" courses replace some, but not all, classroom or worksite instruction with online learning. "Web-enhanced" courses that use online resources as a supplement to classroom work also continue to grow. Our colleges have done better than many other states in offering online learning, but there is huge untapped potential for growth.

Growth in Online Courses

Fall FTE: 1998-2010



Online learning growth, cont.

Today, students expect their instructors to post the course syllabus, reading list, assignments, and grades online, to respond to e-mailed questions, and to encourage collaborative online discussions. Tech-savvy students want more opportunities to learn online and more ways to collaborate and communicate with each other and with students around the world.

Faculty want to be able to lead – not follow – their students' growing use of these new learning tools, but they often lack the training and support they need to do so. Faculty have clearly expressed their desire to be at the center of technology planning and innovation.

In spite of the almost explosive growth in online learning, there are obstacles to full student and faculty access to its benefits. Students must pay an extra fee for each online course they take. In many colleges, there is no specific preparation program for students who have not used computers or the Internet before, and there is often no assessment to measure students' readiness for success in online classrooms.

Many students who could benefit from online, hybrid, or web-enhanced classes may still be intimidated by the technology, shut out by the extra fees, or discouraged by the difficulty of finding and enrolling in the classes they need.

Colleges also face obstacles and disincentives to improving and expanding online learning. Each college must pay fees to participate in WashingtonOnline (WAOL), the community and technical college system's statewide platform for online learning. There is no statewide system of professional development for college faculty and staff who want to master new technologies and tools. And there are no dedicated funds for technology investments, innovations or training.

As the online environment changes the way students learn, it is also changing the nature of teaching. Faculty are becoming facilitators who plan, orchestrate and guide learning rather than sole source providers of knowledge. Recent surveys make it clear that this is a transition that faculty are eager to embrace, but to do so, they will need training and support, time for collaboration with peers, and a voice in technology choices and deployment.

Online Learning Definitions

Online courses are conducted completely on the web.

Hybrid courses replace some – but not all – classroom time with online learning. For instance, a class that would ordinarily meet five days a week might meet three days a week, and substitute online activities to replace the other two class sessions.

Web-enhanced courses meet in regular class sessions, but use online resources for additional student-teacher and student-to-student interaction, posting of assignments, course materials, and student research.

WashingtonOnline (WAOL) is a system-wide service provided by the State Board for Community and Technical Colleges. WAOL provides a platform for colleges to share course content, open textbooks, and online course enrollments so that students enrolled in one college can take online classes offered by another. Colleges can also use the WAOL platform to support their own online, hybrid, and web-enhanced classrooms where faculty and students can read assignments, take quizzes, post grades, develop and share ePortfolios, and collaborate through online class discussions and webinars.

WAOL also provides 24/7 technical support, and professional development for faculty and staff and supports the NW eTutoring Consortium.

Open access

In 2001, the Massachusetts Institute of Technology launched an OpenCourseWare Initiative that placed all the course materials for 1,800 MIT courses online, free to anyone in the world. This was a defining moment and an immense change in how higher education thinks about its content. Each month, the MIT site receives about 1.8 million visits. A high school student reported that the website "contributed hundreds of hours to my education in physics as well as biology. Discovering and utilizing MIT's OpenCourseWare site was like finding $40,000 sitting on a park bench." MIT is now one of many higher education institutions that share course content. Others include the Open University's OpenLearn, Rice University's Connexions, and collaborations like the Open Educational Resources Commons and the OpenCourseWare Consortium.

All across the world, the trend of sharing resources – curriculum, course materials, textbooks, software, and support services – is growing. This is a vast new frontier for educators and students alike. While many faculty embrace this trend, others fear that posting their work online is somehow giving away the store. After all, if students can learn what they want to know online, what is left for faculty to do? The truth is, of course, that there is plenty for faculty to do to help students learn how to select, analyze, critique and synthesize information from this vast new resource. There is also a continuing need for students to master the age-old skills of clear writing, problem-solving, and logical thinking.

But using open educational resources – and contributing to them – requires significant change in the culture of higher education. It requires thinking about content as a common resource that raises all boats when shared. It requires replacing our "not invented here" attitude with a "proudly borrowed from there" orientation. And it requires a new willingness to share and distribute the best of our own course content and software, and to participate in creating and maintaining open textbooks.

Clearly, MIT's reputation for excellence has not suffered as a result of sharing its course materials. But one can well imagine that in MIT faculty meetings – as in those in our community and technical colleges – it took some time and conversation to change the way faculty think about their intellectual property and their contribution to learning.

Open educational resources make apparent the truth that our course content is not what distinguishes us from our peers. What faculty provide – and what students need and value -- is synthesis, planning, personal interaction, and guided dialogue among learners.

Where we are now

The first focus of information technology (IT) in the community and technical college system was to improve efficiency in college business practices, finances and human resources. In the late 1970s, the colleges established a shared IT organization whose purpose was to "establish service levels and provide for computing resources." The statewide Center for Information Services (CIS) hosted basic administrative applications that all community and technical colleges use for administrative functions. These tools – and the precedent of statewide, shared IT infrastructure – are important assets that continue to serve the system well, but their promise has not been fully realized.

Originally, the primary customers of IT were administrators. While faculty and students benefited from technology-driven increases in administrative efficiency, they were secondary customers.

The advent of online learning in 1997 was a significant turning point in the direct use of technology to benefit students. That use has grown, but it has not been fully integrated with the administrative and student services applications that could – but don't yet – provide a seamless, customer-friendly environment for recruitment, registration, student advising, and financial aid management.

The culture of sharing teaching and learning resources across all 34 community and technical colleges has been nurtured by the growth of WAOL, which now manages 30% of online enrollments from the 34 colleges in the system. But the shift towards sharing is not yet fully realized. Only twelve of the 34 colleges currently use WAOL for all of their online, hybrid, and web-enhanced courses; and many online courses are still offered only to students enrolled in the college that offers them, even though those courses might be needed by students in other parts of the state. This go-it-alone approach is fostered by the requirement that colleges pay to use WAOL.

The lack of a single universally used statewide platform for all online courses means that students often have to learn multiple online course management systems, and use different logins and passwords for each of them. And even now, not all faculty have access to the course management, webinar and ePortfolio software and training they need to offer online, hybrid and web-enhanced courses.


Wi Fi
ZONE
Free Wireless
Internet

Where we begin: lessons learned

The tension between system-wide vs. college-based technology applications is central to the limitations of the current system.

Originally, developing our own administrative software was a good solution, and CIS provided very successful services. But when the first generation of software and servers became obsolete, our system had a choice: It could purchase software and hosting services from outside vendors, or rewrite software in a newer computer language and expand our own hosting capacity. The system chose to rewrite and re-host our own software, which proved to be an overwhelming, labor-intensive, multi-year task. While that work was underway, individual colleges began to customize or invent more of their own solutions to meet emerging student and faculty needs. And while all this was going on, the IT world changed dramatically.

Today, the IT industry offers packaged, hosted systems for most of the administrative, student services, and teaching and learning needs of community and technical colleges. The total cost of ownership of these systems is often lower than the cost of system-developed and locally hosted solutions. These purchased systems, like most home computer software packages, are sold with automatic updates that continue to add functionality.

Both the community and technical college system's successes and its failures clearly point in the direction of migrating to centrally purchased software solutions and hosting services that provide all colleges with integrated teaching and learning, student services, and administrative systems.

Equitable access to these common, baseline resources will require providing these services to all colleges and all students without extra fees. These technological tools have moved from being "extras" to being a basic part of how colleges do business and how teaching and learning take place.

Colleges' natural desire to preserve their distinct identities will not be compromised by sharing common administrative tools, data analysis systems, teaching and learning tools and online student services. And whatever the colleges may lose in technological autonomy will be more than equaled by what students gain in seamless student services and improved access to the courses they need, when they need them.

The community and technical college system's experiences – along with extensive surveys, conversations and consultations with faculty, students and staff – have led us to seven simple principles that guide where we will go from here.

Guiding principles

1. Our IT solutions will be aligned and funded to meet the learning and service needs of all students and faculty at all 34 community and technical colleges.

2. We will use IT to help both colleges and the State Board make better use of data to drive decision-making and to improve both student success and administrative efficiency.

3. We will pursue a strategy of implementing system-wide software and hosting services that are cost effective, easily integrated, user-friendly, and constantly improving.

4. We will work to integrate our information technology efforts with our partners in public schools and four-year colleges and universities in order to create a seamless P-20 online learning environment for students and services that promote seamless transitions between institutions.

5. We will provide comprehensive professional development for faculty and staff in the use of evolving technologies. Faculty and staff will be involved in directing these efforts.

6. We will create an accountable, open, system-wide governance structure to guide IT strategy and investments.

7. We will cultivate the culture and practice of using and contributing to open educational resources.

Open textbooks are complete texts written by academics that can be used online for free and printed for a small cost. Open textbooks are already used at University of Puget Sound, Caltech, and in many other colleges and universities. Textbooks cost students close to $1,000 a year. Textbook prices are rising faster than inflation, as publishers constantly release new versions, and "bundle" books with supplemental materials such as DVDs that students don't want or need.

Goal and strategies

Most strategic plans have many goals; this plan has only one: to mobilize technology to increase student success.

The value of every investment in technology will be measured by its contribution to achieving this single, fundamental goal. This sounds perfectly obvious, of course, but given the history of technology use in community and technical colleges (and in most other education systems), it represents a new orientation, a new commitment, and the intentional creation of a new culture.

In this new culture, students and prospective students will be the center of the universe, and the entire system will be organized to meet their learning needs. To the greatest extent possible, online learning resources will be open, free, and widely shared. Information technology will be regarded – like electricity in college buildings – as a utility that students, faculty and staff use every day and take for granted.

This shift is consonant with the 2005 Washington Learns Committee report, which calls for a "world class, learner-focused, seamless" education system.

Clearly, creating such a system requires far more than changing the way we use technology. But technology can and must play a central role in the way we pursue that overarching policy direction because web-based technology has the potential to deliver the world to every learner, to help customize and personalize learning for every student, and to erase the seams between disparate parts of our education system.

We will support innovation wherever it occurs. Students, faculty, staff, and global partners are all sources of creative ideas for meeting local community needs and creating pioneering technology solutions. So although this plan clearly calls for centrally provided, system-wide solutions, we also aim to nurture an open, system-wide testing environment and support for local experimentation. We will always need a place to experiment and test new ideas to drive innovation. We will allow people to take risks and develop a culture of support for "idea entrepreneurs" no matter where they are in the system.

Strategy I: Create a single, system-wide suite of online teaching and learning tools that provides all Washington students with easy access to "anywhere, anytime" learning.

We cannot realize the full value of teaching and learning technologies with today's patchwork of programs. A single, consistent, system-wide set of teaching and learning tools and resources is the first and most essential step toward the seamless, student-centric and customized education system we need.

Action 1: eLearning. Assemble a system-wide suite of online teaching and learning tools, support services, and a central 24/7 help desk through WashingtonOnline to accommodate online, hybrid, and web-enhanced classes in all colleges.

Action 2: Free Textbooks. Wherever possible, eliminate published textbooks in favor of free, open, online materials.

Action 3: Library Resources. Create a rich, easily accessible online library system that includes both global and local learning resources and tutorials on how to use them. Buy statewide licenses for online journals and library reference services rather than individual licenses at each college. Provide a common, robust integrated library operating system through which students can find and check out books and other library resources from libraries across the state and the world. This library system will support seamless sharing of book collections, document delivery and information literacy instruction across the community and technical colleges and with the university system.

Action 4: ePortfolio. Provide a statewide platform that allows students to create lifetime online portfolios of their academic work, from first essays to PhD theses and professional work products. Students' digital portfolios will show what they know and what they've built, and can be used as an online resume to help them get a job.

Action 5: Online Tutoring. Collaborate with other higher education institutions to support the Northwest eTutoring Consortium, a statewide system for online tutoring.

Action 6: Technology Proficiency. Create an assessment that measures students' proficiency in using online technology. Create easy-to-use tutorials and provide personal support to bring those unfamiliar with the online environment up to speed.

Action 7: Access. Investigate the feasibility of providing laptops to students who cannot afford them. Support Washington broadband initiatives to bring high-speed Internet access to every Washington student's home.

Action 8: Universal Design. Ensure that all online, hybrid and enhanced courses and college web sites are fully accessible to students with disabilities. Provide faculty and staff professional development on universal design best practices.

Strategy II: Create a seamless P-20 system for personalized online student services including recruitment, retention, advising, course catalog, transfer, and financial aid management.

It is not enough to simply provide classes for those who enroll in our colleges. We need to reach out to those who have never considered attending a college – to the half million adults in our state who lack a high school diploma, to the working parents stuck in low-wage jobs, to immigrants who need both language and job skills, and to the middle and high school students who think college is beyond their reach.

We also need to increase retention and completion rates among those who do enroll. We lose far too many students before they reach their educational goals, and we must do more to dismantle the barriers to their success.

This will require changes that go beyond the ways we use technology, but technology offers powerful new tools for managing and personalizing the relationships between students and colleges. When anyone makes even the most tentative inquiry about a college, these new tools create a way for colleges to latch on to them, follow up with encouragement, information, and personal responses, and even to remind them periodically that the door to educational opportunity is open to them. Once students enroll, these systems alert college personnel when students are struggling, so they can offer help such as online advising. And if students leave, this system has the capacity to find out why, to encourage them to return, and to analyze data to pinpoint and seal the cracks in the educational pipeline.

Action 1: Online Advising. In partnership with the Higher Education Coordinating Board, provide statewide access to a single online advising and educational planning resource that is simple to use and appealing to people of all ages and education levels.

Action 2: Student Relationship Management. Purchase a single statewide package of student relationship management software that tailors responses to student inquiries and helps college personnel systematically respond via e-mail, phone or in person. Train staff to use this system, and analyze the results to track improved student success.

Action 3: Course Catalog. Create a statewide, online, searchable course catalog and quarterly schedule so students can plan their academic futures and colleges can make in-demand courses available.

Action 4: Electronic Deposit. Purchase software that allows electronic deposit of financial aid checks to students' bank accounts and allows student online tracking and management of financial aid and scholarships.

Strategy III: Create a system of lifelong learning and change management for faculty, staff and college leadership.

To fully execute Strategies I and II, community and technical college faculty, staff and leaders need time to build new skills and collaborate in new ways. They need to learn to use new teaching tools and pedagogies, to explore what it means to truly become student-centered, and to understand the many ways in which web-based technologies are changing our classrooms, our economy and our workplaces. We recognize that the cultural shift this plan calls for will take time, money, and sustained commitment.

Action 1: Professional Development. Strengthen and expand professional development programs and create the expectation that all faculty, staff and college leaders will continue to learn, collaborate, share knowledge and resources, and work together to make the best use of new technologies to improve student learning. Use new methods such as webinars, multi-disciplinary faculty learning communities, and social networking software to extend the reach of professional development.

Action 2: Time to Learn. Make learning to use new technologies an explicit part of job descriptions and duties, and organize time to include professional development and collaboration within regular work schedules.

Action 3: Learning Opportunities. Aggregate the colleges' purchasing power for professional development. Create a statewide fund to support faculty participation in cutting edge conferences (both in person and online) and ask participants to share what they learn with their colleagues with social networking and webinar software. Buy a statewide membership in leading national professional development consortia, and extend benefits to all faculty and staff. Advertise these opportunities to faculty and staff throughout the system.

Action 4: Course Redesign. Develop faculty capacity to continually improve the quality of online courses through collaborative, iterative design. Develop a peer review methodology for evaluating and redesigning existing and new online courses.

Action 5: IT Staff. Create a statewide structure that provides consistent opportunities for IT staff in both colleges and at the State Board to learn, collaborate, and share best practices as they make the transition from software developers to integration experts who tie together best-of-breed applications. Create a process to support career advancement and leadership development.

Action 6: Support Innovation. Establish and fund system-wide innovation and testing projects to pilot emerging technologies. Create a rapid response team that can take innovative ideas and implement them promptly. Partner with corporations and other higher education institutions to seek new ways to make learning more accessible to all Washington residents.

Strategy IV: Use data to drive continuous improvement in both student success and administrative efficiency.

A statewide, integrated set of administrative tools can help make administrative functions simpler, less expensive, and more focused on supporting student success. In addition, there is a need for greater capacity to collect and analyze data, and for more sophisticated use of data to drive improvements in student learning, administrative efficiency, and accountability to the Governor, the Legislature and the public.

Action 1: Administrative Software. Purchase system-wide, centrally supported administrative software that saves money, supports teaching and learning and online student services, and simplifies staff training. Explore using state or vendor hosted systems to minimize or eliminate the need for customized, locally developed software.

Action 2: Business Intelligence. Invest in business intelligence software to analyze data to track student recruitment, retention and success rates, and other metrics of efficiency and effectiveness. Invest in ongoing training to maximize use of data.

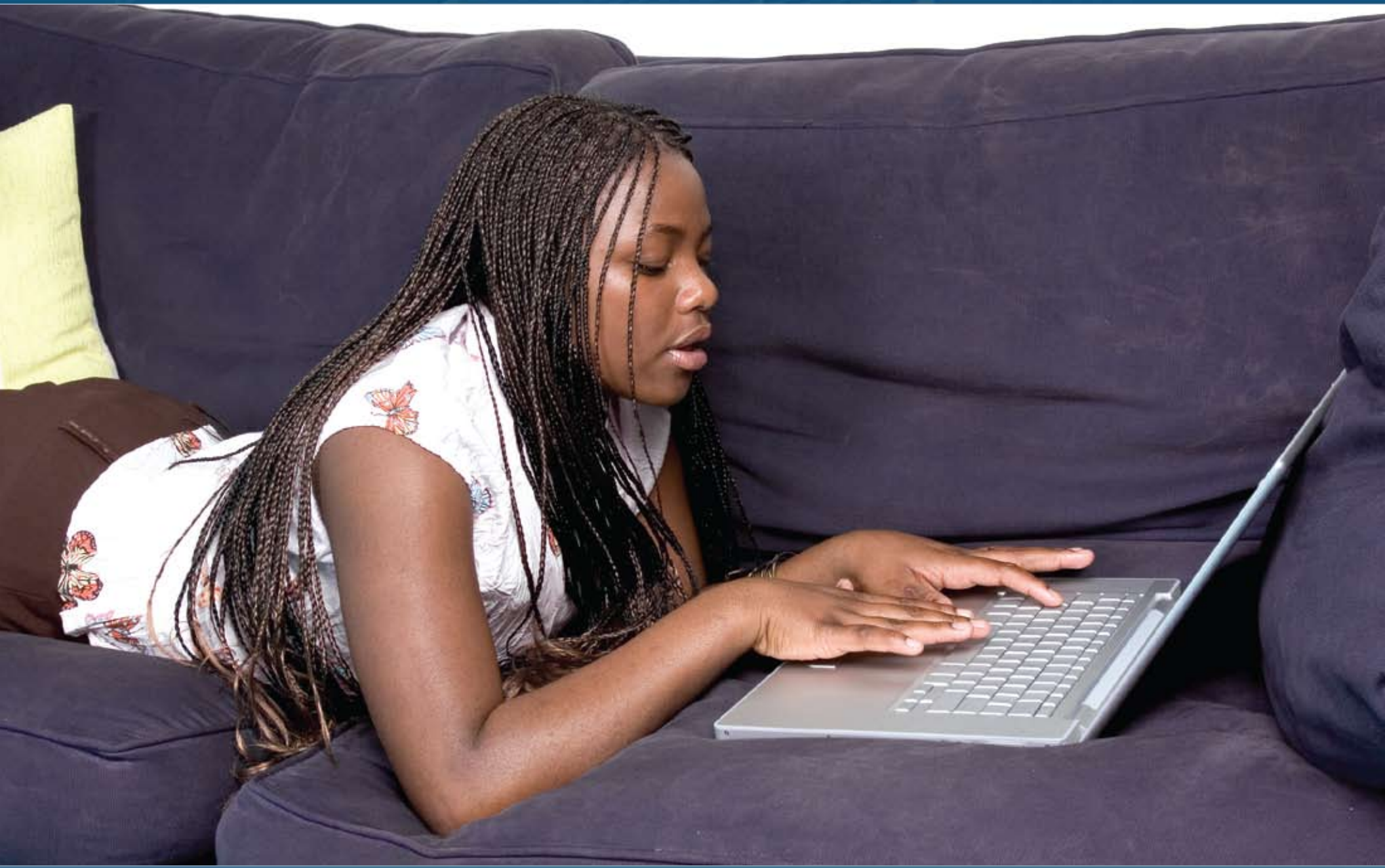
Strategy V: Treat information technology as a centrally funded, baseline service in the system budget.

IT is an integral part of the cost of education, and so it must become an integral part of the education system's budget. The investments we make in IT are key policy choices that express our state's values, aspirations, and priorities. These choices should be open to public discussion and legislative debate, so that the opportunities, costs, and savings are clearly understood.

Action 1: Line Item Funding. Make system IT investments a line item in the State Board's budget request to the legislature.

Action 2: Technical Infrastructure. Invest in college infrastructure such as rewiring to provide additional outlets for student laptops and mobile devices. Provide easy to use, 100% wireless coverage on all college campuses.

Action 3: P-20 Integration. Convene a P-20 technology group to explore whether common platforms, software and services could be shared by early learning providers, public schools, community and technical colleges, and four-year public and private colleges and universities in ways that improve system seamlessness and data analysis and save money.



The ultimate interdependence: global knowledge creation and exchange

Matthew Henson and Robert Peary first reached the North Pole in 1909. It was a heroic feat that required months of arduous travel and hardship. Today, anyone with Internet access can see the North Pole (and the South Pole, too) on a live webcam.

In fact, if Henson and Peary were traveling to the North Pole right now, it's likely that there would be live web coverage of their journey and open sharing of the new knowledge they created along the way. People in every country in the world would be tracking their progress in real time, swapping blog postings and commentary, and making connections between the expedition's discoveries and their own work. There would be a global storm of knowledge creation and sharing – and probably a flurry of pop culture production and art inspired by their ordeal and their ultimate triumph.

That is exactly what is happening now, thousands of times over, on topics ranging from photoelectric engineering to plant genetics.

Today there is a global intellectual commons online. We can be a part of it – and teach the skills needed to participate in it – or we can retreat to the frozen past of Henson and Peary, when time and distance were enormous barriers that required heroic effort to overcome.

The value of information technology investments is, very simply, that they allow us to be active participants in the 21st century. They give our students and faculty access to the global intellectual commons, to the interactive world of knowledge creation and sharing, and to the vast wealth of online human creativity and connection.

The prosaic, practical return on our investment in information technology will be better jobs for our graduates and a stronger economy for our state. But the real value of information technology will be measured on a larger map – the map of the interdependent world today's students and faculty will learn to navigate, and will help to chart.

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