

Online Learning: The National Landscape

Online learning programs are experiencing rapid growth while sharing a common set of challenges and concerns.

BY JOHN WATSON

THE ADVENT AND GROWTH OF ONLINE LEARNING IS ARGUABLY THE MOST SIGNIFICANT DEVELOPMENT in K–12 public education during the last decade. The public-education system is not known for rapid change, yet recall that in the mid-1990s the Internet was in its infancy and consider the changes that have happened in just over a decade: Nearly all states now have significant online-learning opportunities available to students across the state. Moreover, several states that do not yet have large online programs, such as Wyoming and Vermont, are formally exploring online learning at the state level.

More than 60 percent of states have implemented state-led online programs, in which the state is funding online programs or courses, often through an appropriation by the state legislature. Most of these programs provide one or two online courses to students who are enrolled in a physical school.

About 20 states have statewide, full-time, online public schools for students who wish to take all of their courses online. These schools provide an alternative education for students (and their parents) who want to be in public schools but do not wish to—or cannot—attend physical schools.

Many districts are implementing online learning in a blended model that combines online and face-to-face components, often for students who are recovering credit or are considered at-risk. Similar to fully online programs, the blended approach offers students flexibility, individualized instruction, and an alternative to the traditional classroom.

In addition to the spread of online-learning programs to most states across the country, the majority of existing online programs are experiencing rapid growth in enrollment. Forty percent of the online programs responding to a recent Keeping Pace survey reported annual growth of more than 25 percent in the 2006–2007 school year, and half of these programs reported growth of 50 percent or higher.

This dramatic growth in online learning at the K–12 level follows the migration of post-secondary education and corporate training to the online world—and indeed the spread of

Internet technology to nearly all facets of modern life.

What Is Online Learning?

Online learning is described by many terms that do not have commonly understood definitions, often leading to confusion among educators and policymakers. This article discusses distance learning that takes place via the Internet, both in real time (synchronous) and not (asynchronous), and uses the term *online learning* to describe this method of education. This type of learning includes video, text, audio, and animation that are delivered via the Internet, but not through other channels such as video conferencing.

Whatever term is used to describe it, online learning is being used in many ways, including:

- Expanding the range of courses available to students, especially in rural and inner-city schools, beyond what a single school can offer, in subjects ranging from core courses to electives such as Mandarin Chinese;
- Providing highly qualified teachers in subjects where qualified teachers are lacking;
- Providing scheduling flexibility to students facing scheduling conflicts;
- Affording opportunities to at-risk students, elite athletes and performers in the arts, dropouts, pregnant or incarcerated students, and students who are homebound due to illness or injury, allowing them to continue their studies outside

the traditional classroom;

- Increasing the teaching of technology skills by embedding technology literacy in academic content; and
- Providing professional-development opportunities for teachers, including mentoring and learning communities.

Online courses may be synchronous or asynchronous, may be self-paced or on a set schedule with a start and end date, and may be developed by the online school or licensed from an outside source. Each of these variables has implications for policy and practice. In addition, there is a continuum between courses being fully online or being fully face-to-face, with many varieties of instruction combining both online and face-to-face. In most online learning programs—including all the examples discussed in this article—teachers are highly involved in communicating with students, creating course content, developing and grading assignments, and determining grades.

Types of Online Programs

Online learning programs may be placed into one or more of several categories, although there is some blurring of the lines distinguishing these types of programs:

State-led programs: The Florida Virtual School, Michigan Virtual School, Idaho Digital Learning Academy, and other state-led programs are created by state legislatures, governors, or state education agencies, and funded by the state. In many states, the state-led program is the main driver of online education for students within traditional physical schools. State-led online programs are usually mostly or entirely supplemental, serve mostly or entirely high school students (some have a small number of middle school students), and typically work with local schools that grant course credit and award diplomas. Most hire part-time teachers for the majority of their courses, although some have full-time teachers.

Online charter schools: Charter schools are a type of public school available in the 40 states that have passed charter-school laws. Charter schools have an authorizer that may be a school district, a university, or an independent statewide entity, depending on the state. There are two types of charter schools related to online learning: fully online schools and brick-and-mortar charter schools that have added an online component. Unlike most state-led offerings, these full-time programs are responsible for students' state assessment scores and Adequate Yearly Progress under No Child Left Behind (NCLB).

District programs: District online programs are, as the name implies, run by school districts. District programs may be single-district, meaning that the program serves only students who reside within the district, or multi-district, meaning that the program attracts students from districts other than the one that has created the online program. This is an important distinction that has funding and policy implications. These programs

may be full-time or supplemental.

Consortium programs: Consortium or network programs are collaborative efforts among school districts or other local education agencies. Examples include the Virtual High School Global Consortium, Wisconsin eSchool Network, and Connecticut Adult Virtual High School. These consortia recognize that there is value in economies of scale—in combining resources to create online courses, train teachers, and provide student support—and are demonstrating that such programs do not necessarily have to be run at a state level.

Key Issues in Online Learning

All online programs, regardless of the model, share a common set of challenges and concerns.

Funding

People often ask: How is online education funded? The easiest way to answer is to note that “online education” per se is not usually funded, but schools and education programs using online delivery are funded. The distinction is important, because the way that online education is funded varies by state and is almost entirely dependent on the entity that is provid-



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ing the courses, teachers, and education. The main sources are discussed below.

State-led programs are usually funded by an appropriation from the state legislature, which may range from several hundred thousand dollars to several million dollars per year. This appropriation is usually not tied to the number of students who take an online course. In some cases, these programs also charge a fee to the school districts whose students take an online course from the program; these fees range from about \$50 to several hundred dollars per student per semester course, and may make up a significant portion of the program's budget.

Charter schools that are fully or partially online are usually funded in the same way as other charter schools in the state—primarily through public-education funds. This funding is provided based on student attendance or seat time, so is directly tied to the number of students enrolled in the school.

District online programs are funded through the public-education funding provided to the district. This funding that flows to the district is based on student attendance. Because the online program is a part of the district, the program's funding may not be accounted for directly as a separate item in the district's budget, and it may not be tied to the number of

students in the program. The district may, for example, provide \$250,000 to the program with the expectation that the program will provide as many courses as possible within the budget.

In most states, per-pupil education funding varies based on a number of factors, such as district size. In a handful of states, funding for online courses or students is set at a different level than the funding for students in brick-and-mortar schools. In these cases, funding for online programs is typically at the low end of the range of funding.

The most important aspects of funding related to online learning in each state are based on two variables:

- Does state law allow students to choose an online course, or an online school, with few or no restrictions?
- Does the state fund online students at a level similar to its funding of students in traditional schools?

The states that have had the most growth in online learning, in almost all cases, allow students to choose online schooling and have funding follow the student. For example, the growth of the Florida Virtual School (FLVS), the largest online program in the United States, accelerated greatly when the Florida legislature passed a law that gave students the right to choose an FLVS course and ensured that most of the student's full-time-equivalent funding would go to FLVS. FLVS is about 10 times larger than other state-led programs in states where the right of students to choose to take an online course has not been made clear. With full-time online programs, whether charter schools or district programs, states with open-enrollment laws that allow students to choose a school in any district in the state have seen online education grow at many times the rate of states that don't allow students to easily choose an online alternative.

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Course Quality and Standards

Online courses are subject to state content standards, but many policymakers and practitioners have recognized the need for standards that are specific to online courses. In September 2007, the North American Council for Online Learning (NACOL) released its "National Standards of Quality for Online Courses." Its recommendations fall into several categories: content, instructional design, student assessment, technology, course evaluation and management, and 21st-century skills.

NACOL's release of national standards for online courses has been an important milestone. Prior to its release, online courses were aligned to state content standards, but educators realized that a good online course should be designed to reach goals that are specific to the online environment, such as the way the course is designed to be interactive, or the ways in which the teacher communicates with students. With the national standards now in place, online programs are able to evaluate their courses against the standards to make sure they are taking advantage of the online medium across content, design, assessment, and other measures.

Although there are no requirements for online programs to use NACOL's national course standards, an increasing number of programs are doing so voluntarily to demonstrate the quality of their courses.

Teaching

The skills needed to teach online go beyond the skills needed to be a successful teacher in the traditional classroom. The elements of learning to teach online fall into two categories. The first, learning the technology and the software, is fairly straightforward. The second element of teaching online—effective online pedagogy—is far more complex. Many online programs offer professional-development courses that focus on helping teachers understand how to motivate individual learners, enhance student interaction and understanding without visual cues, tailor instruction to particular learning styles, and develop

or modify interactive lessons to meet student needs.

Online teachers and researchers studying online learning report several key skills for online teachers that should be enhanced through professional development. The following are based on the Southern Regional Education Board report “Essential Principles of High-Quality Online Teaching: Guidelines for Evaluating K–12 Online Teachers”:

- Teachers must develop heightened communication skills, particularly in terms of written communication.
- In asynchronous programs, time-management skills are critical for teachers (and students) because they can be online at any time.
- Teachers must be able to recognize different learning styles and adapt the class to them. Some online programs and many online teachers pay special attention to gaining an understanding of each student’s skills and challenges in the early days of an online course to ensure that the course will meet all students’ needs and abilities.
- If teachers have any students with disabilities, they must know how to adapt course content to meet these students’ needs.

Online programs often evaluate their teachers on more dimensions than most physical schools. This is possible in part because of the nature of the learning management system (LMS) technology, which captures teacher-student interactions, class discussions, and course content in a way that is not possible in a traditional classroom. A school administrator can drop into a threaded discussion much more easily than into a classroom—without impacting the discussion. Also, many online programs survey students one or more times per semester and may ask the students’ opinions about their teachers.

Most state-led online programs are supplemental and hire a mix of full-time and part-time teachers,

Michigan Leads by Example

by Jamey Fitzpatrick

In 2006, Michigan became the first state in the country to require students to successfully complete an online course or learning experience, under legislation signed into law by Governor Jennifer Granholm. This action was part of a comprehensive legislative package to revamp Michigan’s high school graduation requirements, beginning with the graduating class of 2011.

Michigan’s online learning requirement is consistent with one of the major recommendations contained in the U.S. Department of Education’s 2005 National Education Technology Plan. According to the plan, “Educators must embrace e-learning solutions if they want to ensure that every student has a quality educational experience.” In order for Michigan to be competitive as a state, its young people must have 21st-century learning skills that include technology literacy, global awareness, personal productivity, self-directed learning, and working in virtual teams.

Today’s knowledge workers often need to independently acquire new skills via the Internet to meet the ever-changing demands of international markets and technology. More than ever, today’s students need specific skills and knowledge to be competitive in a global, information-based economy. Michigan’s new online learning policy illustrates the importance of online learning and highlights the critical need for greater relevance to be added to today’s high school curriculum by focusing on teaching and learning strategies that are common in today’s workplace.

The impact of the Internet is difficult to measure, yet every sector of our economy can point to specific examples of how communications technology is increasing human productivity and expanding opportunities. In his report to the State Board of Education and the Michigan Legislature, State Superintendent Michael Flanagan stated: “In the 21st century, the ability to be a lifelong learner will, for many people, be dependent on their ability to access and benefit from online learning. The experience of online learning must be integrated into each and every student’s high school education.” Michigan’s policy leaders have openly recognized the pervasive impact of the Internet and called on the K–12 community to harness the power and value of this new delivery tool.

Michigan’s online learning experience can be met in one of three ways:

1. Students can take an online course from an online provider such as Michigan Virtual School, a community college, or a local school district;
2. Students can have an online learning experience of at least 20 hours in duration; or
3. Students can have an online-learning experience embedded in each of the 16 courses that make up the new Michigan Merit Curriculum—the core courses that every student must take.

One way that students can fulfill the online learning requirement is to take the free CareerForward course. This course was developed through a partnership of the Michigan Department of Education and Michigan Virtual University (MVU) to help Michigan students understand how to plan their work lives and career opportunities amid the implications of the global economy. Major funding for CareerForward was provided by Microsoft Corporation.

Now in its 10th year of operation as a private nonprofit organization, MVU was created by the State of Michigan to serve as a champion for online learning. MVU operates one of the largest virtual schools in the U.S. The Michigan Virtual School has given more than 40,000 young people the opportunity to take online courses in anything from Mandarin Chinese to oceanography to forensic science. MVU also operates Michigan LearnPort, an online professional-development portal that gives Michigan’s K–12 community—including teachers, administrators, school-bus drivers, and foodservice workers—an opportunity to access online professional development.

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with a greater proportion of part-time. (There are exceptions; FLVS has mostly full-time teachers.) Most full-time online schools have full-time teachers.

Accountability for Student Achievement

Full-time online schools are public schools that are accountable for the achievement of their students in the same ways that all public schools are accountable, mainly through the requirements of NCLB. Students in online schools take state assessments, and the online schools are measured and reported through state report cards and the other accountability measures that each state has in place.

In the early years of online learning, getting online students to participate in state assessments was a challenge, largely due to the logistical difficulties of getting students to a physical location to take the tests. This is still a challenge for online schools, particularly those that draw students from a large geographic area, as no states have implemented large-scale online assessments. In recent years, however, online schools have redoubled their efforts to get their students to take part in the assessments, and participation rates now approach or exceed state averages in most states.

A significant number of online schools serve students who are at-risk or otherwise underachieving. In some cases, the test scores of these schools have been compared to state averages and didn't perform as well, further contributing to the ongoing debate about the ways in which schools are measured under NCLB. Online schools with a large proportion of at-


allowing for a comparison of test scores of students in online courses against state averages. Advanced Placement courses also have end-of-course exams, and many programs track the results of their students' AP exams.

The Commercial Landscape

As with traditional K–12 education, there is a significant presence of for-profit companies, as well as nonprofit organizations, in online learning. These companies and organizations play a number of roles that fall into a few categories:

- **Software companies:** Online courses are built around an LMS, which is software that provides the structure of the course, houses the content, centralizes communication, and provides grading and other tracking of student activity and progress. Most LMS companies with K–12 clients, such as Blackboard and ANGEL Learning, started in post-secondary education and have adapted their platforms—to greater or lesser extents—to the K–12 level.
- **Online content providers:** Although many online programs develop their own courses, there are several companies that sell courses and content to use online. These companies, such as K12 Inc. and KC Distance Learning—and at least one nonprofit organization, the Monterey Institute for Technology and Education—offer courses and content with higher production values than most single online programs can provide, due to the high cost of content development—in particular, multimedia content.

- **Education-management organizations:** Several companies, including EdisonLearning and Imagine Schools, offer online school-management services to charter schools and school districts. These companies typically work with one school in each of multiple states, and in almost all cases are working with charter schools or school districts, which are subject to the same accountability measures as all other public schools in their states.



Cutting-edge technologies will become an increasingly important part of education ... to the point where most online programs will develop content with broadband in mind.



risk students argue that they should not be compared with state averages, as they risk being penalized for serving students who have not achieved educational success previously. Even if these schools raise students' test scores, the scores may lag behind state averages. This debate is clearly not limited to online schools, and the move toward using student-growth models to measure school performance holds promise across public education, including online programs.

Because state-led programs are mostly supplemental, they are not responsible for student participation in state assessments. They are, however, responsible for student achievement in various other ways. In many cases, because a student's participation in online courses is at the discretion of the local school, the school's decision to allow participation and grant credit becomes the oversight mechanism. A few states require end-of-course exams that are tracked by the state, potentially

Looking Ahead

Online learning is undoubtedly here to stay. Equally clear is that, even though online programs have grown rapidly in the past decade, we are still only at the beginning stages of the spread of this type of teaching and learning. Clayton M. Christensen, a professor of business administration at the Harvard Business School and co-author of the groundbreaking book *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns*, predicts that by 2019, half of all courses in high school grades will be taken online as online courses gain more acceptance and move further into the mainstream.

Part of the reason for the growth of online learning is that online technology allows for innovations that extend learning well beyond the walls of the classroom, and beyond the temporal confines of the school day. Already, students in

Dave Ember

Michigan are collaborating with others around the state, and students in the Massachusetts-based Virtual High School have classmates from countries around the world. In addition, simulations that have long been used in professional training are making their way into K–12 education, and multi-player games are being adapted to teach core content.

While technology is not at the heart of online learning—teachers and students are—technology advancements hold great promise for transforming learning. Rick Ferdig of the University of Florida, an expert in gaming within education, has noted the growing use of new and innovative technologies for delivery of content within online-learning programs. He believes that gaming has been shown to be an important medium for teaching and learning, as psychologists and educators are discovering affective, cognitive, and social outcomes through online, computer, and console-based games.

Technology advancements, coupled with the doubling of computing power every few years and the associated drop in computing cost, suggest that cutting-edge technologies will become an increasingly important part of education. Broadband access will become commonplace, to the point where most online programs will develop content with broadband in mind. One-to-one computing programs will spread, and online learning will blend with classroom teaching as an increasing number of teachers use the Internet to bring new resources to the student and to extend the school day. Access to the Internet and downloadable content will be available through an increasing number of mobile devices—cell phones, iPods, and other tools that are still on the drawing board. All of these changes, of course, are merely an extension of the lifestyle that today's millennial students already enjoy as they download music and movies and connect with their friends on MySpace.

These developments are still in their early stages, but they hold great promise for transforming learning. Educators recognize the many challenges inherent in creating new models of teaching and learning. They also recognize that the benefits of online learning to students (and to teachers, school districts, and states) far outweigh the challenges. ●●●

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Student Viewpoint Flexible Schedule

In June, Roger Sanchez finished his junior year at the Insight School of California—Los Angeles, a public online high school that offers a full-time school experience for students. It was his first year at the school, and he's found that online learning works well with a little planning.



Roger Sanchez

"I spent my freshman and sophomore years enrolled in a traditional high school, and I was happy in a traditional setting. But my family moved, and I thought about what it would take to enroll in a new high school and start over again. Browsing online one day, I came across some information about Insight and it turned out it was actually real. Convincing my parents wasn't the easiest thing in the world, but it was worth it.

"In terms of difficulty, there's hardly any difference in the courses [between my old school and Insight]. In some sense, I feel a little more confident than I did before. I have my own system of learning—the online setting is more student-oriented. But once you read the information, you can e-mail a teacher and they get back to you within 24 hours at the most. And there are office hours, where the whole class attends and can ask questions. There are teachers assigned to every course, as well as supervising teachers who oversee all our work in all our courses. We also have an iMentor, the person you go to for guidance on everything from help with course placement to questions about events. So there are plenty of people to talk to.

"We also have discussion forums for students, where we discuss the course materials and what's going on in class. There are designated areas for non-school-related discussions. Everyone chats in there; it's a little social. We have activities, too. In the spring, we had a trip to Knott's Berry Farm, for example. You can meet people—the administrators, the teachers, other students.

"My course load is probably a little less than at a traditional high school, because there I was on the newspaper staff and took a computer-tech course after school. They're called regional occupational program (ROP) courses, and you can take them in the public-school system here in the city.

"I'm taking an ROP course next year too, though. It's Monday and Wednesday, 5–9 p.m. I think it's a little more intense and hands-on. And I'm starting my own business. I do Web design and try to do a massive integration of technical development, programming, and Web development. The extra time I have taking online courses has allowed me to become more involved in the tech world."

– Carl Vogel