

# The Maine View

Published by The Maine Heritage Policy Center

January 4, 2011

## Schools for Maine's Future: The Promise of Digital Learning

By Stephen Bowen

Maine's schools face a series of challenges in the years ahead. Despite sizable increases in school spending, student achievement outcomes have remained flat or have declined. At the same time, ongoing budget shortfalls may lead to additional cuts in school spending. Drops in school enrollment, which are happening at an alarming pace in some areas of Maine, will mean fewer students in Maine's schools, which may in turn lead to cuts in school programming.

Maine's schools, therefore, need to dramatically improve student outcomes even as student enrollment drops, and will have to do so with declining revenues. But how?

Researchers across the nation are suggesting that digital learning holds great promise for providing students with high quality instructional programs no matter where they live, at a cost that is affordable for schools and school districts.

### Digital Learning defined

- Digital learning takes many forms. Students can take online courses full time or part time, and can take them in a traditional school setting or at home. Some online courses "meet" at a regularly scheduled time, while others allow students the flexibility to work at their own pace according to a schedule that works best for them.
- Digital learning opportunities are provided to students in a variety of ways. Some states have created "virtual schools" which make online courses available to students in that state, while other states have allowed the creation of virtual charter schools. In some states, school districts or a consortia of school districts provide online courses to their students directly. School districts without these options can purchase online courses directly from providers.

### Digital Learning today

- According to researchers, "over 1.5 million K-12 students were engaged in online and blended learning" during the 2009-2010 school year.
- Researchers anticipate that online learning enrollment will continue to climb rapidly, with some observers predicting that in less than a decade, half of all high school courses will be taken online.

### Advantages of Digital Learning

- It is highly adaptable to individual learning needs, allowing students to learn at their own pace and at a time that is convenient to them.
- It provides students in rural areas with access to courses they might otherwise be unable to access, including Advanced Placement courses for college credit.
- It provides opportunities for teachers who may not want to teach full time, or who want a more flexible schedule.

### Implementing Digital Learning in Maine

- Maine's existing Digital Learning Program allows the state's school districts to offer digital courses to students, and provides school districts with a list of "approved" digital learning providers from which they may choose.
- The state's law does not provide for "open enrollment" in digital learning courses across districts, which means that students may only enroll in those courses to which their own school district provides access.
- In developing digital learning policies for Maine, Maine lawmakers should adopt the "Ten Elements of High Quality Digital Learning" established by the bipartisan Digital Learning Council in the fall of 2010. This set of policy principles was designed to ensure that every student has access to high quality digital learning opportunities.

**The three challenges for Maine’s schools**

Maine’s schools face three major challenges in the years ahead.

First, the academic performance of Maine’s students remains stubbornly flat. According to the U.S. Department of Education’s National Assessment of Educational Progress, just 35 percent of Maine’s eighth graders are proficient in math, 35 percent are proficient in reading, and 34 percent are proficient in science.<sup>1</sup> Worse still, the percent of eighth graders proficient in reading and science has actually declined in recent years, and SAT scores for Maine’s high school juniors have remained flat or declined as well.<sup>2</sup> With the global economy becoming more competitive with each passing day, Maine can no longer tolerate underperforming public schools.

Second, after decades of steadily rising school funding, Maine is confronting significant budget shortfalls into the foreseeable future. The state Bureau of the Budget’s most recent projections anticipate a budget shortfall for the FY 2012/FY 2013 biennium which totals more than \$1.1 billion.<sup>3</sup> Shortfalls of this size will almost certainly result in further cuts to state aid for schools. The Maine Department of Education is already anticipating that state funding for schools for the 2011-2012 school year will total \$887 million, which is less than schools received from the state for the 2006-2007 school year.<sup>4</sup> This means Maine’s schools will have to improve student outcomes at a time of declining revenues.

Third, Maine is experiencing declining student enrollment. According to the Maine Department of Education, total statewide K-12 enrollment plunged from 214,985 in the fall of 1999 to 194,536 in the fall of 2008, a 9.5 percent drop. In some areas of the state, however, the enrollment drop over that period has been far more dramatic. In Piscataquis County, enrollment dropped 30 percent over that ten year span, and fell 22 percent in Oxford County, 18 percent in Hancock County and 17 percent in Washington County.<sup>5</sup> Schools statewide—but in the rural parts of Maine especially—are confronting the challenge of providing a high quality education to a student population that is steadily shrinking.

The charge to Maine’s schools, then, is to dramatically improve student outcomes, and to do so with fewer dollars and fewer students than they have today. That is, to say the least, a formidable task.

Could digital learning help Maine meet these challenges?

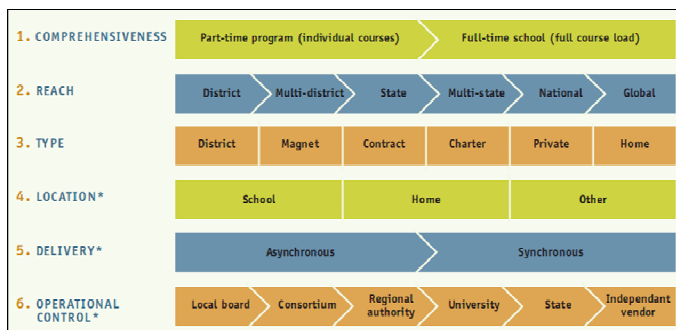
**Digital Learning Defined**

The internet has utterly transformed modern life. Because of its development, the way people get information, communi-

cate with each other, and go about daily activities such as banking and shopping has changed dramatically. The internet is transforming schools as well, by providing more and more students with access to educational opportunities they might not otherwise have had. Computers have been an important learning tool for decades, but in the past, have typically played a supporting role, allowing students to access information and complete writing assignments, for instance. Today, however, improved technology and wider access to the internet mean that through digital learning, entire classes can be delivered via computer, allowing students access to coursework at any time from anywhere.

How does it work? Typically, online learning programs blend text, audio, video, simulations, and interactive demonstrations to provide direct instruction to students. In some instances, instruction by teachers is done in real time using technology such as interactive white boards, while in other instances, students access course content when it is convenient for them, with teachers providing needed support by phone or e-mail. A digital program’s “course management” software tracks student achievement, adjusting content as needed and providing teachers with up-to-date information about student progress. Instructional materials are typically available digitally, though some programs use written texts and other materials which are sent to students.<sup>6</sup>

Though digital learning programs tend to share common features, they now come in a variety of forms. To make sense of this broad marketplace, observers have taken to organizing digital learning programs by where they fit into a series of “defining dimensions.” This way of thinking about digital learning originated with researcher Gregg Vanourek, who published the following chart in a 2006 report on virtual charter



schools:<sup>7</sup>

As Vanourek’s graphic illustrates, there are a number of variables which determine how digital learning opportunities are structured. A digital learning program can mean anything from a single online course or an entire online school. Some pro-

grams are tailored for an individual school or district, while others reach thousands of students all over the world. Digital learning programs can be offered in synchronous form, which means that courses “meet” at a specified time, or are done asynchronously, with students working on their own time and at their own pace. The level of teacher involvement in these programs varies as well, with teachers playing supporting roles in some courses and taking more direct instructional roles in others.

Online courses are also provided in a traditional school setting, with the classroom teacher providing support to students who work independently with digital content. Programs of this kind are known as “blended” programs because they combine digital content with regular classroom instruction.

One of the reasons for the wide variation in digital learning options is the number of different entities offering such programs. States like Florida run entire online schools, which provide courses to students all over the state. In New Hampshire, a statewide virtual charter school offers digital courses, which are available free of charge to all New Hampshire students (see sidebar). In a number of states, school districts have formed consortia which allow them to jointly develop digital courses to offer their students. For districts without access to options like these, private providers such as K-12 Inc. and Apex Learning provide courses for purchase by districts.

Digital learning, therefore, must be broadly defined as educational opportunities available to students via the internet, in all the various forms that such programs take.

### Digital Learning Today

Digital learning opportunities have been around for some time, but enrollment numbers have exploded in recent years. According to the Sloan Consortium, more than 1 million K-12 students “were enrolled in an online or blended learning course in the 2007-2008 school year.” This was a 47 percent increase from Sloan’s findings for the 2005-2006 school year.<sup>8</sup> The International Association for K-12 Online Learning (INACOL) recently estimated that enrollment in online learning courses has risen by another half-million students since the Sloan Consortium’s 2007-2008 school year study.<sup>9</sup>

INACOL reports that there are now online virtual schools in 27 states, which “provided roughly 320,000 course enrollments in school year 2008-2009.” Twenty-four states are home to full-time online schools, with a combined enrollment of about 175,000 students.<sup>10</sup>

The rapid growth of digital learning shows no signs of letting

### New Hampshire Virtual Learning Academy

In June of 2010, New Hampshire Virtual Learning Academy (NHVLA) graduated its first class of high school seniors. The school, which was founded in 2007, has an enrollment today of more than 3,000 students, almost all of whom take one or two online courses part-time. Sixty students, though, are enrolled full time, and 12 graduated from the school this past summer. Ten of those graduates will go on to college.<sup>11</sup>

NHVLA is not a state-run virtual school like those found in states like Florida, but rather a virtual charter school. It is operated independently of the state and governed by its own Board of Trustees, yet is available to all New Hampshire students free of charge. Funding for the school is provided by the state, which maintains a trust fund to finance the state’s charter schools. This fund provides the school with a set tuition rate per student, which varies depending on whether the student is full-time or part-time.<sup>12</sup>

The online school offers more than 80 courses, ranging from classes to help students prepare for the GED to six Advanced Placement courses. Additionally, the Academy provides access to courses not commonly found in New Hampshire public schools, such as two courses in Mandarin Chinese, and three Latin courses. Students may enroll at any time, can access courses and course materials 24 hours a day, and are expected to “submit a specific amount of work each week” to keep up with course requirements.<sup>13</sup>

The Academy’s 150 teachers are all certified to teach in New Hampshire schools and all meet the standards for a “highly qualified” designation. Much of the school’s curriculum and course content was purchased from Florida Virtual School, one of the nation’s oldest and most respected online schools.<sup>14</sup>

The success of NHVLA, which has seen its enrollment skyrocket since its launch in 2007, demonstrates the advantages online schools offer to students and families. Could NHVLA be a model for Maine?

up. Individual school districts are reporting increased interest in online learning. Seventy percent of school districts surveyed by the Sloan Consortium reported that at least one student had taken an online course that school year, and another 15 percent of districts reported that they planned to introduce online learning opportunities within the next three years. The districts surveyed expected online enrollments to continue growing at double-digit rates.<sup>15</sup>

Students, families, and teachers have expressed a great deal of satisfaction with online learning. A study conducted by the Wisconsin Legislature found approval ratings for online learn-

ing “over 90 percent from all three groups.” The study also found that online learning students were overwhelmingly satisfied with “the availability and amount of contact with their teachers.”<sup>16</sup>

While Maine does not have a state-run virtual school or any full-time online school of any type, students in Maine’s schools are availing themselves of digital learning. According to INACOL, “25 percent of the state’s high schools offer courses via the Virtual High School Global Consortium.”<sup>17</sup> The Western Maine Education Collaborative, for instance, a consortium of nine school districts in Western Maine, offers its high school students access to a number of online courses, including “semester and full year electives, core, technical, Advanced Placement and pre-Advanced Placement courses.”<sup>18</sup>

Online enrollments might be even higher if students had access to all of the digital learning opportunities they wanted. According to Project Tomorrow, “almost half of 6-12th graders have researched or are interested in taking an online class, and more than 40% believe that online classes should be part of an ideal school.” Unfortunately, “only one in ten 6-12th grade students have taken an online class through their school.”<sup>19</sup> Supply is simply not keeping up with demand.

### The Advantages of Digital Learning

Digital learning is growing by leaps and bounds because it offers students, families, and the education community a number of benefits.

For students, the biggest advantage, according to the Center for American Progress, is that digital learning “allows for more flexible and individualized learning.” “Self-paced courses,” the Center reports, “allow students who learn quickly to complete courses at a pace that remains engaging and avoids boredom,” while allowing more time for those students who need it.<sup>20</sup> Student-centered learning of this kind is almost impossible in a traditional classroom setting.

Through digital learning, students can access specialized courses to which they might otherwise have no access at all. Students in rural or remote communities, for instance, can take Advanced Placement courses, or courses in fields such as foreign languages or advanced mathematics. The Florida Virtual School alone offers more than 90 different courses, providing a wealth of learning options to Florida students.<sup>21</sup>

Digital learning may also represent a lifeline for non-traditional students who struggle with the structure of conventional public schools. Enrollment data suggests that one of the leading reasons that districts enroll students in online learning courses is to get them caught up on the classes they

need in order to graduate.<sup>22</sup> The flexibility of digital learning makes it a perfect fit for students with jobs or families.

Digital Learning also means giving students access to highly effective teachers. Studies of teacher quality suggest that “teacher quality is unevenly distributed in schools and that the students with the greatest needs tend to have access mainly to the least-qualified and least-effective teachers.”<sup>23</sup> Digital learning, though, holds out the promise of providing all students with access to top teachers.

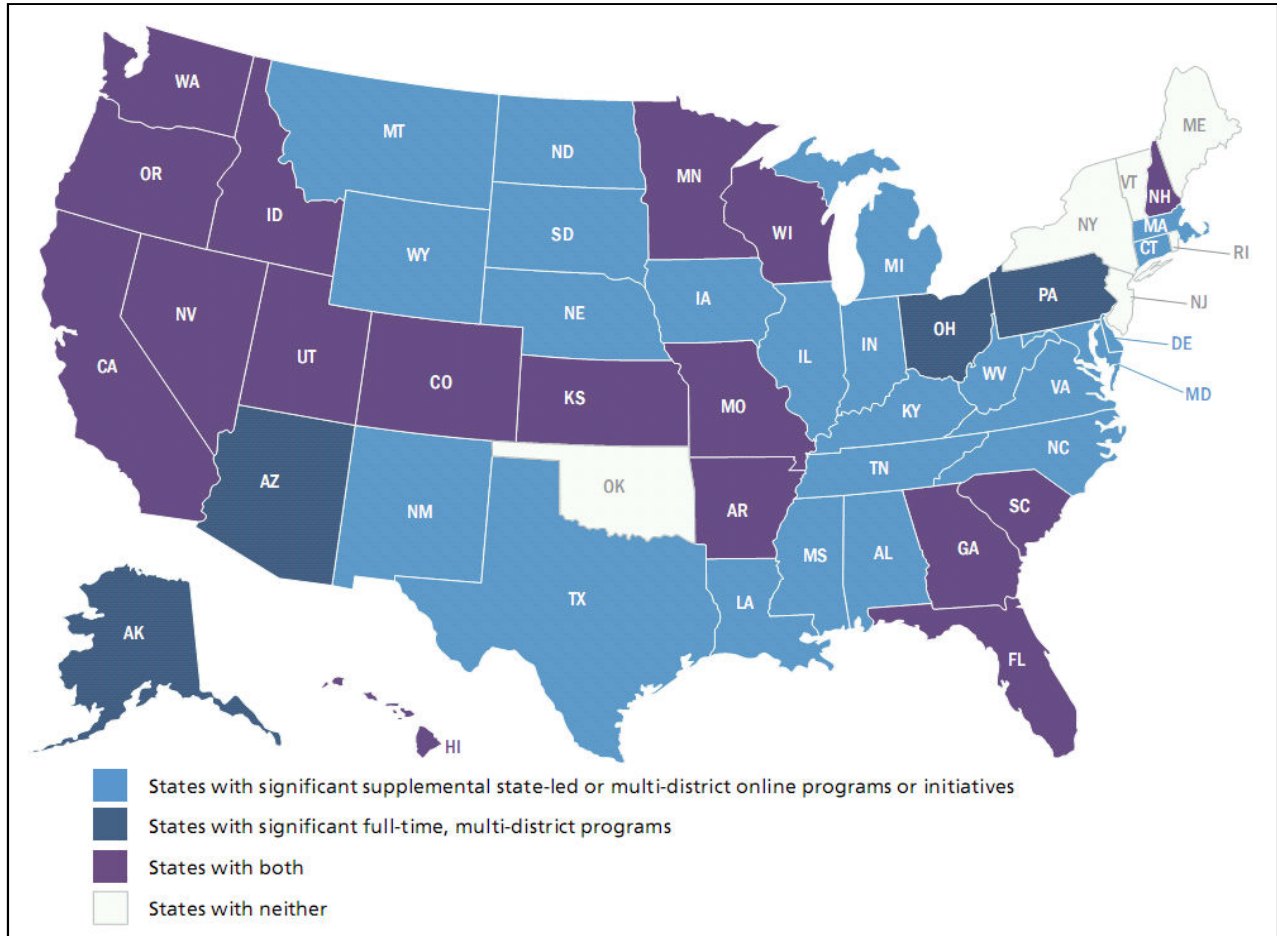
The most important advantage of digital learning is that it works. A 2010 U.S. Department of Education study which reviewed “more than a thousand empirical studies of online learning” found that “learning outcomes for students who engaged in online learning exceeded those of students receiving face-to-face instruction.” This result came in part, the Department reported, because “online learning is much more conducive to the expansion of learning time than is face-to-face instruction.”<sup>24</sup> A 2005 Learning Point Associates report likewise found evidence that “student academic performance increased in online programs and schools.”<sup>25</sup>

That digital learning programs successfully meet the educational needs of students is just one of the benefits that they provide to schools and school districts. Through digital learning, districts can offer students access to courses that would otherwise be unavailable to them, and do so without the additional costs of hiring a full or part-time teacher. Because online courses can be accessed anytime, schools don’t need to worry about the kind of scheduling conflicts that complicate course enrollment in so many schools today.

Teachers benefit from digital learning as well. Because such programs take over much of the work of direct instruction, teachers are freed to work one-on-one with students needing additional help, and because such programs provide a steady stream of real-time data about student performance, teachers are better able to adjust support strategies accordingly.

Digital learning also provides employment opportunities for those who wish to teach part time. Retired educators and teachers with small children at home may not be ready for the demands of a full teaching workload, but can work part time through online learning while maintaining a flexible schedule. As school districts, especially those in rural areas, continue to struggle with the challenge of finding effective teachers, digital learning may become an ever more attractive option.

For a rural state like Maine, digital learning is, as researchers Anthony Picciano and Jeff Seaman put it, “not simply an attractive alternative to face-to-face instruction but increasingly



The Maine legislature passed online learning legislation in 2009, but as this chart from NACOL’s 2008 *Keeping Pace* report illustrates, Maine’s embrace of digital learning came well after most states had such programs in place.

is becoming a lifeline to basic quality education.” “Online learning,” say the researchers, “provides these districts with a cost beneficial method of providing courses that otherwise would require hiring teachers.”<sup>26</sup> With Maine confronting ongoing budget shortfalls, declining student enrollment, and meager student outcome gains, digital learning is an educational approach that Maine should vigorously pursue.

**Implementing digital learning in Maine**

In 2009, the Maine Legislature passed legislation to create the Maine Online Learning Program.<sup>27</sup> The “program” created by this legislation, however, isn’t really a program at all. Instead, what the legislature did was the following:

- Clarified the state’s attendance and enrollment laws to ensure that online learning courses fulfilled state attendance requirements.
- Added definitions for terms like “online learning program or course” and “online learning provider” to state law.

- Ordered the state Department of Education to create a “list of providers approved to offer full-time and part-time online learning programs and courses,” and described the criteria by which the Department is to grant its approval. The state’s school districts, incidentally, may continue to purchase online courses from non-approved providers if they wish to.
- Required the Department to report annually on the number of “programs and courses” offered through the Online Learning Program, the number of students served and their performance, the costs of the program and so forth.

Though legislation of this type was probably a necessary first step toward expanding digital learning opportunities in Maine, it is important to point out that passage of the online learning law did not, in and of itself, make a single digital learning course available to a single Maine student. As before, students may only access those digital courses that their local school

districts make available to them. As good of an initial first step as the state's new law may be, if Maine is to fully embrace digital learning, it will need to adopt a much more comprehensive set of digital learning policies, such as those advanced last fall by the Digital Learning Council.

### The Digital Learning Council

In the summer of 2010, former governors Jeb Bush of Florida and Bob Wise of West Virginia established the Digital Learning Council, a bipartisan panel tasked with developing a policy "roadmap" to help states "integrate current and future technological innovations into public education." This past December, the panel released a set of ten "elements of high quality digital learning," and called on states to adopt digital learning policies that are consistent with the ten elements.<sup>28</sup>

What are the ten principles which the Council suggests should guide the development of digital learning policy at the state level?

**1. Eligibility: All students are digital learners.** States should ensure that all students are allowed access to digital learning opportunities. Presently, students in Maine only have access to those digital courses their school districts provide.

**2. Access: All students have access to high quality digital content and online courses.** States should not enact enrollment caps or otherwise limit student access to digital learning opportunities. Online learning opportunities should be made available across geographic boundaries as well, not limited by regional or school district borders.

**3. Personalized Learning: All students can customize their education using digital content through an approved provider.** States should permit the broadest possible use of online learning options, allowing students to access the number and type of online courses they need, at the time and in the place they need them, so as to maximize student success.

**4. Advancement: Students progress based on demonstrated competency.** States should allow students to progress through school based on achievement of individual learning objectives, rather than limit that progress artificially by grouping students, as is the near-universal practice today, in age-based cohorts which move from one grade level to the next as a group. Digital learning allows students and schools to break free of such constraints, and state laws should allow them to.

**5. Content: Digital content, instructional materials, and online and blended learning courses are high quality.** States should make certain that digital learning content is of the highest quality and is consistent with state learning standards.

**6. Instruction: Digital instruction and teachers are high quality.** States should ensure that their teacher preparation programs include training in online learning instruction and management, should ensure certification reciprocity with other states that have high standards for online instruction, and should provide their own teachers with ongoing professional development "to better utilize technology." Alternative routes to teacher certification, which Maine does not permit today, should be more widely available.

**7. Providers: All students have access to multiple high quality providers.** Policies should be adopted which ensure each state is home to a healthy digital learning marketplace. Digital learning providers should be of high quality, but states should avoid enacting the kind of heavy-handed overregulation that would limit the number of digital learning providers from which students and school districts can choose.

**8. Assessment and Accountability: Student learning is the metric for evaluating the quality of content and instruction.** States should hold digital learning providers accountable by using independent assessment systems to measure student achievement. Poorly performing programs should be terminated.

**9. Funding: Funding creates incentives for performance, options and innovation.** Whereas school funding today is typically based on attendance rather than achievement, funding for digital learning should be structured in such a way as to incentivize course completion and the achievement of state learning results. Florida Virtual School, for example, is paid for its services only after students have successfully completed courses.<sup>29</sup>

**10. Delivery: Infrastructure supports digital learning.** The advent of digital learning will require investments in computer hardware, communication networks, and technical support services. Decisions regarding Infrastructure spending at both the state and school district level should be made with these needs in mind.

### The First Step? A Digital Learning Summit

Developing comprehensive digital learning policies of the kind proposed by the Digital Learning Council will require a great deal of work. As a first step, the Digital Learning Council suggests that governors hold digital learning summits, at which stakeholders can learn more about the transformative potential of digital learning and begin the work of drafting digital learning policies. As a new governor and new legislature take power in Augusta, this is the perfect time for such an effort to be undertaken here in Maine. Governor-Elect LePage, upon assuming office, should make the advancement of comprehensive digital learning policies a top priority.

**Conclusion**

Maine's schools face a number of challenges in the years ahead, but digital learning holds the promise of improving student outcomes at a time of declining school funding and plunging student enrollment. The time has come for a major

digital learning initiative, led by Maine's next governor. With the right policies in place, Maine could ensure that all of its students have access to the digital learning programs they need to assure their success in school and beyond.

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Stephen Bowen directs the Center for Education Excellence at The Maine Heritage Policy Center. He can be reached at [sbowen@mainepolicy.org](mailto:sbowen@mainepolicy.org).

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Editor and Director of Communications Chris Cinquemani can be reached at [chris@mainepolicy.org](mailto:chris@mainepolicy.org).

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P.O. Box 7829, Portland, ME 04112, Phone: 207.321.2550 Fax: 207.773.4385

<http://www.mainepolicy.org> <http://mainefreedomforum.com> [info@mainepolicy.org](mailto:info@mainepolicy.org)