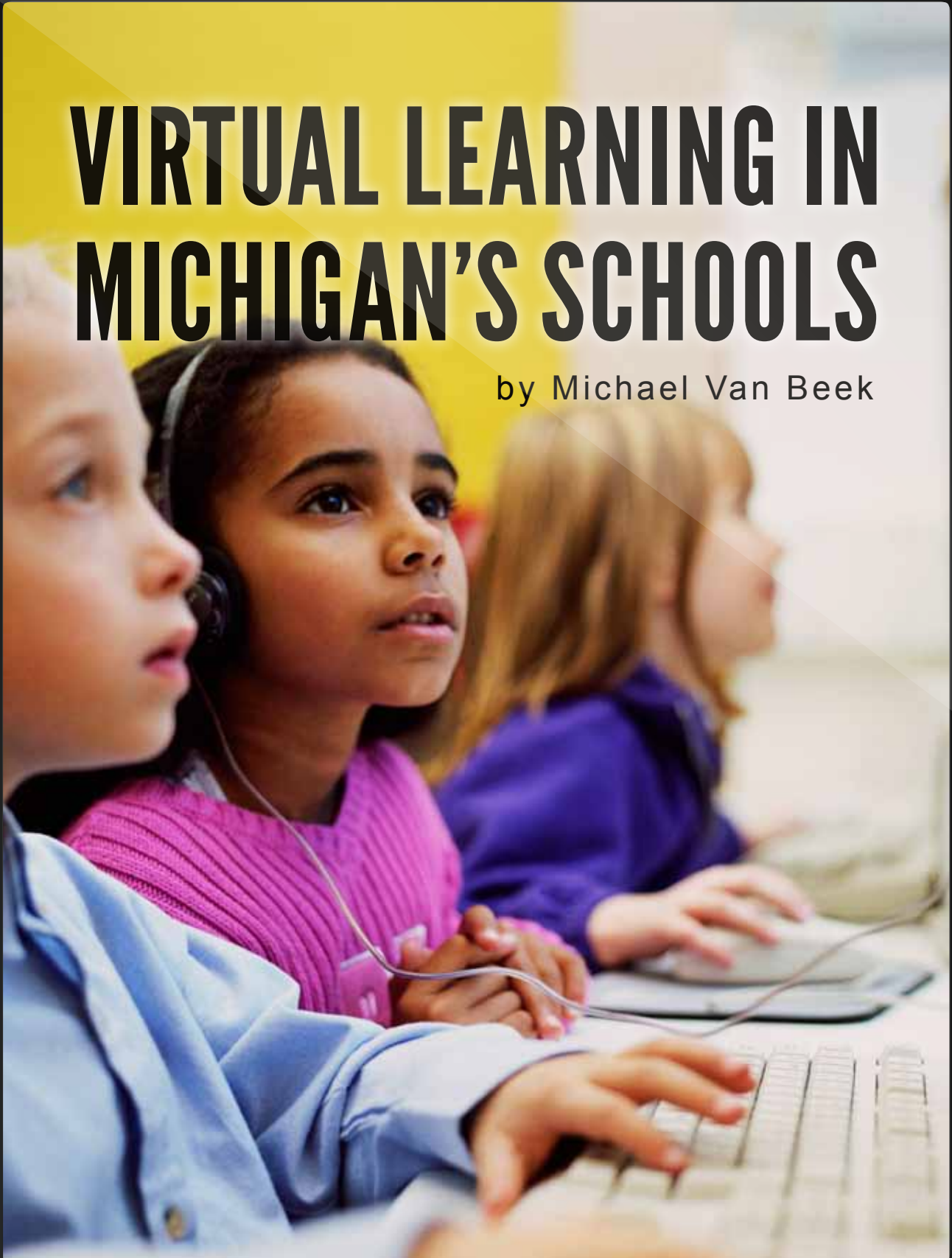


A MACKINAC CENTER REPORT

VIRTUAL LEARNING IN MICHIGAN'S SCHOOLS

by Michael Van Beek





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The Mackinac Center for Public Policy

Virtual Learning in Michigan's Schools

By Michael Van Beek

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Contents

Executive Summary	v
Introduction: What Is “Virtual Learning”?	1
Virtual Learning and Student Achievement	2
The Costs of Virtual Learning	4
Early Cost Estimates	4
Recent Cost Estimates	6
Reconciling the Estimates	8
Virtual Learning in Michigan	9
Michigan Virtual School	9
Michigan Virtual School Costs	11
Single-District Virtual Programs	12
Single-District Virtual Program Costs	13
Multi-District Virtual Programs	13
GenNET Costs	15
Virtual Charter Schools	15
Expanding Virtual Learning Opportunities in Michigan	16
Eliminate the State’s “Seat-Time Requirement” for Online Courses	18
Lift Caps on Virtual Charter Schools	21
Conclusion	23
Acknowledgments	24

Executive Summary

Virtual learning doesn't just involve using computers at school; it involves a new method of instructing students. Virtual instruction is provided by teachers working remotely or by specially designed software — or both — and delivered to students through computers or the Internet. In some cases, supplementary instruction might be provided by a local teacher, but the essence of virtual learning is that students no longer need to share a classroom with a teacher to learn.

Citations for the statements made in this executive summary appear in the main text.

Virtual learning is not for every student, but it's not science fiction, either. Right now in Michigan, it's being used by thousands of students in hundreds of virtual courses in urban, rural and suburban school districts. In fact, Michigan has been seen as a national leader in virtual learning.

This study analyzes the financial costs and academic benefits of virtual learning, and it explores how this innovation could further benefit Michigan public school students. While there's not an abundance of quality research on virtual learning in K-12 schools, several studies suggest that some students, particularly older ones, can perform as well, and perhaps even better, in virtual environments. A 2009 U. S. Department of Education report concluded that students in virtual learning programs outperformed those in traditional brick-and-mortar classrooms. Evidence from extensive virtual schooling in Florida and Ohio demonstrates that instruction delivered online can at least hold its own with face-to-face instruction.

Some early studies suggested virtual learning was unlikely to save money. More recent analyses, however, indicate there are legitimate cost-savings. For instance, Florida Virtual School, which has 214,000 course enrollments, cost Florida taxpayers about 17 percent less per pupil than Florida's traditional brick-and-mortar schools did. Similarly, Pennsylvania's virtual charter schools operate with an average of 27 percent less money per student than the state's conventional districts, while Ohio spends about \$5,700 per pupil each year for its virtual charter schools — approximately \$1,400 per pupil less than the annual minimum foundation allowance that Michigan state government guarantees each school district. Given this evidence, virtual learning may prove able to achieve two goals at once: improving student outcomes and lowering costs.

Michigan has numerous programs currently operating in the state. Michigan Virtual School, one of the first state virtual schools in the country and the largest provider of online instruction in Michigan, makes virtual courses for middle school and high school students available to all Michigan school districts. GenNET, a program run by the Genesee Intermediate School District, offers all Michigan school districts access to more than 900 online courses from independent public and private providers. Both MVS and GenNET have experienced significant growth: Since 2005, MVS has more than doubled its course enrollments, and in 2009, GenNET logged nearly 2,000 new course registrations after just a few

months of offering an expanded online program to school districts outside Genesee County.

Moreover, an increasing number of local school districts are creating their own virtual learning programs and schools. Many of these programs are focused on serving dropouts, homebound students, remedial students, students who have been expelled or others who for some reason have become disengaged from standard classrooms. Michigan also has two virtual charter schools that offer, like MVS and GenNET, online courses to any Michigan student, regardless of where he or she lives. Unlike MVS and GenNET, however, virtual charter schools award high school diplomas, offer courses to both primary and secondary school students and can enroll no more than 1,000 full-time students each.

The costs of these various virtual learning programs in Michigan vary, but it appears that taxpayers could ultimately save money by expanding virtual learning opportunities. For example, MVS offers nearly every course a high school student must take to earn a state-approved diploma, but Michigan's minimum foundation allowance is about 53 percent more than the estimated total cost for a student taking MVS courses full time. GenNET's courses appear to be even less expensive on average than MVS'. While MVS' and GenNET's exact costs are difficult to determine, it appears likely that a full accounting would still find their total costs to be lower than those of traditional brick-and-mortar schools.

Given the potential advantages of virtual learning, the Legislature should make permanent the "seat-time waivers" that currently enable many students to enroll in more than two "full-time online" courses, which do not require regular attendance in a classroom. These waivers are currently available through the Michigan Department of Education, but could be eliminated at any time without legislative consent. In addition, the state should remove its artificial caps on enrollment in virtual charter schools and on the number of virtual charter schools. Michigan's history demonstrates that students and parents desire educational choices, and virtual learning holds promise.

Introduction: What Is “Virtual Learning”?

Personal computers and the Internet have revolutionized entire sectors of American society. Facebook, Twitter, YouTube, Skype and other online communications media have allowed billions of people around the world to share ideas in a matter of seconds, mostly at a very low cost. These advances in computer technology are as remarkable as they are familiar.

But most people are not aware of how computers and Internet technology are transforming the way students learn. This emerging education paradigm is often called “virtual learning,”* and it has the potential to improve student achievement, educational access and schools’ cost-effectiveness.

* “Virtual learning” is also known as “digital learning” or “e-learning.”

Specifically, virtual learning uses computer software, the Internet or both to deliver instruction to students. This minimizes or eliminates the need for teachers and students to share a classroom. Virtual learning does not include the increasing use of e-mail or online forums to help teachers better communicate with students and parents about coursework and student progress; as helpful as these learning management systems are, they do not change how students are taught.

Virtual learning comes in several forms:

- *Computer-Based*: Instruction is not provided by a teacher; instead, instruction is provided by software installed on a local computer or server. This software can frequently customize the material to suit the specific needs of each student.
- *Internet-Based*: This is similar to *computer-based* instruction, but in this case, the software that provides the instruction is delivered through the Web and stored on a remote server.
- *Remote Teacher Online*: Instruction is provided by a teacher, but that teacher is not physically present with the student. Instead, the teacher interacts with the student via the Internet, through such media as online video, online forums, e-mail and instant messaging.
- *Blended Learning*: This combines traditional face-to-face instruction, directed by a teacher, with *computer-based*, *Internet-based* or *remote teacher online* instruction. In effect, instruction comes from two sources: a traditional classroom teacher, and at least one of the forms of virtual learning described above.
- *Facilitated Virtual Learning*: This is *computer-based*, *Internet-based* or *remote teacher online* instruction that is supplemented by a human “facilitator.” This facilitator does not direct the student’s instruction, but rather assists the

student's learning process by providing tutoring or additional supervision. The facilitator may be present with the learner or communicating remotely via the Web or other forms of electronic communication.

Similar forms of virtual learning are sometimes grouped into broader categories:

- *Online Learning*: This is any form of instruction that takes place over the Internet. It includes *Internet-based* instruction; *remote teacher online* instruction; and *blended learning* and *facilitated virtual learning* that involves these two virtual learning methods. It excludes *computer-based* learning.
- *Full-Time Online*: This is online learning with no regular face-to-face instruction or facilitation. It is *Internet-based* and *remote teacher online* learning only, though it may include some occasional interaction with human teachers and facilitators.

Online learning has become increasingly popular in primary and secondary schooling over the last decade. The K-12 online education market is growing by an estimated 30 percent annually. Nationally, course enrollments in online classes rose from about 45,000 in 2000 to 320,000 in 2009. According to the nonprofit International Association for K-12 Online Learning, nearly every state allows at least some students to enroll in online learning programs and schools to some degree.¹

Virtual Learning and Student Achievement

Schools are offering more virtual learning options for a number of reasons. First, virtual learning can meet the needs of students who struggle to succeed in the conventional classroom setting. Second, virtual classes let students access courses and programs that might not be available to them in their local school. Third, virtual learning provides flexibility: Students do not need to adhere to a traditional school schedule to complete their work and earn a diploma.

Virtual learning may not be for every student. Some students don't have the time-management skills, personal motivation or adult support to succeed in a virtual environment. Others may simply prefer the traditional approach. Nevertheless, virtual learning has become feasible for a growing number of students because of technological innovations and sophisticated instructional delivery programs.

This is promising, since the most recent research suggests that online and blended learning can actually boost student achievement. The U.S. Department of Education in 2009 released the findings from a meta-analysis of empirical research on online learning conducted between 1996 and 2008. This meta-analysis screened more than 1,100 studies on the topic and reviewed studies of both blended learning and full-time online courses. Based on the studies that met

¹ "Fast Facts About Online Learning" (International Association for K-12 Online Learning, 2009), 2, 8, http://www.inacol.org/press/docs/nacol_fast_facts.pdf (accessed June 1, 2010).

their rigorous methodological criteria, they concluded, “[O]n average, students in online learning conditions performed better than those receiving face-to-face instruction.”²

The authors of that study also noted, however, that most of the studies that met their criteria came from higher education, professional training or adult learning courses.³ Only five of the virtual learning studies that met their criteria dealt specifically with K-12 education.* For this reason, the authors were reluctant to draw wide-ranging conclusions. Whether virtual learning can produce superior results for all students on average in a K-12 environment is yet to be completely determined, but there is research that suggests it can at least hold its own against traditional instruction.

In 2001, Cathy Cavanaugh, an associate professor at the University of Florida and an experienced researcher of online learning, published a meta-analysis of distance-learning technologies. Using 19 studies that met her research quality standards, Cavanaugh found no statistically significant difference in student performance between face-to-face instruction and that provided in a virtual environment.⁴

Results from Florida Virtual School — the nation’s largest state “virtual school” — also suggest that students are learning well online. This virtual school provides a variety of online learning courses that are accepted for credit in Florida school districts, and any student in Florida is eligible to enroll.[†] In 2007, the Florida TaxWatch Center for Educational Performance and Accountability, a nonprofit research group, compared the test scores of students taking Advanced Placement courses[‡] through FLVS with those taking the courses in Florida’s brick-and-mortar school districts. The average AP test score through FLVS in 2005 was 14 percent higher than the average AP test score in conventional public school districts and 11 percent higher than the average AP test score for all Florida students, including private and independent schools.⁵ In 2006, the FLVS average AP score increased, while the other scores fell. The FLVS’ AP students scored on average 22 percent higher than Florida’s conventional public school students and 19 percent higher than all Florida students.[§]

² Barbara Means et al., “Evaluation of Evidence-Based Practices in Online Learning” (U.S. Department of Education, 2009), ix, <http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf> (accessed Aug. 20, 2009).

³ *Ibid.*, xiii.

⁴ Cathy Cavanaugh, “The Effectiveness of Interactive Distance Education Technologies in K-12 Learning: A Meta-Analysis,” *International Journal of Educational Telecommunications* 7, no. 1 (2001), 81, 83, <http://www.coe.ufl.edu/Faculty/cathycavanaugh/docs/CavanaughIJET01.pdf> (accessed Jan. 25, 2011).

⁵ “Final Report: A Comprehensive Assessment of Florida Virtual School” (Florida TaxWatch, 2007), 19-20, goo.gl/7ZRmb (accessed Jan. 13, 2011).

* Means et al., “Evaluation of Evidence-Based Practices in Online Learning” (U.S. Department of Education, 2009), 32, <http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf> (accessed Aug. 20, 2009). Means et al. use the term “online learning” to describe what is referred to here as “virtual learning.”

† FLVS does not currently grant diplomas. See “Florida Virtual School: Accreditation” (Florida Virtual School, 2010), <http://www.flvs.net/areas/aboutus/Pages/accreditation.aspx> (accessed Jan. 9, 2011); Bill Tucker, “Florida’s Online Option,” *Education Next* 9, no. 3 (Summer 2009) <http://educationnext.org/floridas-online-option/> (accessed April 5, 2010).

‡ Advanced Placement courses allow students to earn college credit in a high school classroom. The courses are approved by The College Board and are generally more rigorous than conventional classes. Students take a test at the end of the course to qualify for college credit.

§ “Final Report: A Comprehensive Assessment of Florida Virtual School” (Florida TaxWatch, 2007), 19-20, goo.gl/7ZRmb (accessed Jan. 13, 2011). For these comparisons, “public school students” includes students enrolled in Florida’s charter and district schools and “all Florida students” includes the former plus private school and home-school students (Betty Coxe, Florida TaxWatch Center for Educational Performance and Accountability, telephone correspondence with Michael Van Beek, Jan. 12, 2011.)

Another example of a potential positive outcome from the increased use of virtual learning comes from South Korea. South Korean parents often hire private tutors to help their children prepare for competitive university entrance exams. Generally, the wealthiest parents could afford the best tutors, and all else being equal, the students with the best tutoring were more likely to get into a university.⁶

But through online learning, more South Korean parents can now afford high-quality tutoring, helping to reduce the disparity between rich and poor. According to *The New York Times*, Megastudy.net, one of South Korea's largest online tutoring services, serves nearly 3 million students and charges only about \$30 to \$40 per course — a fraction of the cost of traditional private tutoring.⁷

Despite these low fees, teachers in virtual learning environments can earn good money, since there are few limits on how many students they can serve online. Rose Lee and Woo Hyeong-cheol, the most popular private tutors in the country, are well-paid celebrities in South Korea: Lee earns about \$7 million tutoring English, while Hyeong-cheol earns \$4 million tutoring math. Almost all of their income flows from online revenues; Hyeong-cheol, for instance, tutors about 50,000 students through the Internet. Both Lee and Hyeong-cheol make salaries competitive with the highest-paid professional South Korean baseball players.⁸

The Costs of Virtual Learning

Few studies have looked closely at the costs of virtual learning. Most research involving virtual learning focuses on student or school performance, as evidenced by the more than 1,100 studies from 1996 to 2008 screened for the U.S. Department of Education's meta-analysis. No study has used empirical evidence from Michigan to estimate the associated costs of virtual learning.

Yet an understanding of the associated costs of online programs and virtual schools is important. States like Michigan are struggling to maintain their programs in the face of declining enrollment, depressed tax revenues and rising labor costs. Online learning may provide a cost-effective way to maintain or improve the quality and variety of school programs.

Early Cost Estimates

At first blush, compared to conventional brick-and-mortar districts that pay for athletics, food and transportation services, the operating and capital costs of running multiple facilities, and a host of other student support services, most virtual learning programs seem like they could save taxpayers a slew of money. Full-time online programs, for example, wouldn't require large buildings or extensive student support services. Based on these assumptions, it would be easy to conclude that most virtual learning programs would deliver the same level of instruction for a fraction of the cost.

6 Choe Sang-Hun, "Tech Company Helps South Korean Students Ace Entrance Tests," *The New York Times*, June 1, 2009, <http://www.nytimes.com/2009/06/02/business/global/02cram.html> (accessed Sept. 23, 2010).

7 Ibid.

8 Jon Herskovitz and Christine Kim, "Fame, Fortune for Web Tutors in Education-Crazy S.Korea," *Reuters*, July 2, 2009, <http://www.reuters.com/article/idUSTRES6111A20090702> (accessed Sept. 23, 2010).

Some early attempts to gauge the costs of virtual learning, however, suggested that the price for online learning would be fairly similar to that of brick-and-mortar education. In 2006, Augenblick, Palaich and Associates Inc., a private education research and consulting firm, put together a panel of school officials and experts to estimate the costs of virtual schools. A follow-up report, prepared for the BellSouth Foundation (now the AT&T Foundation), the charitable arm of the former telecommunications company, outlined the cost estimates identified by these experts, including those associated with instructional personnel, management, course development, technology personnel, equipment and networking, and facilities acquisition and maintenance. In the end, the study's experts estimated that a full-time virtual program's operating costs were likely to be between \$7,200 and \$8,300 per full-time student after initial start-up costs of \$1.6 million were met.⁹

The \$7,200 to \$8,300 estimated per-pupil operating cost for virtual programs was lower than the U.S. average per-pupil operating cost of \$9,145 in 2005-2006 for conventional public schools. Nevertheless, the \$8,300 upper estimate was higher than the average per-pupil operating expenditures in 18 states.¹⁰ APA ultimately concluded that excluding transportation and capital expenses, "The operating costs of online programs are about the same as the operating costs of a regular brick-and-mortar school."¹¹

In the same year, the Southern Regional Education Board, a nonprofit organization collectively led by governors from 16 Southern states, developed a cost-estimating formula for state virtual schools, such as Florida Virtual School, that offer supplemental courses to a school's existing curricula. The formula took into consideration the fact that these virtual schools do not need to invest in a large physical plant to host students and can forgo the costs of transportation, food services, libraries, athletic facilities and other items associated with conventional brick-and-mortar schools that grant diplomas. However, virtual schools do bear higher costs for such things as computers, software, telecommunication services, technical support and employee training. In the end, the SREB projected initial per-pupil costs for virtual schools similar to those of brick-and-mortar schools, although it did suggest that virtual schools could save taxpayers money over time.¹²

Early analyses of the costs of online programs in Michigan seemed to confirm the findings of these two 2006 studies. Dansville Schools, a small district just southeast of the Lansing, began offering students online courses in 1999 through a private company in Massachusetts named Virtual High School. At first, the fees for the virtual classes were entirely subsidized by a U.S. Department of Education Technology Innovation Challenge Grant, but once Virtual High School had to start charging Dansville Schools fees for the courses, the district realized no fiscal benefits from the program.¹³

9 Amy Berk Anderson, John Augenblick, and Dale DeCesare, "Costs and Funding of Virtual Schools" (APA Consulting, 2006), 12, <http://www.inacol.org/research/docs/Costs&Funding.pdf> (accessed Jan. 11, 2011).

10 "Table 184: Total and Current Expenditures Per Pupil in Fall Enrollment in Public Elementary and Secondary Education, by Function and State or Jurisdiction: 2005-06," (National Center for Education Statistics, 2009), http://nces.ed.gov/programs/digest/d09/tables/dt09_184.asp.

11 Anderson, Augenblick, and DeCesare, "Costs and Funding of Virtual Schools" (APA Consulting, 2006), 4-5, <http://www.inacol.org/research/docs/Costs&Funding.pdf> (accessed Jan. 11, 2011).

12 "Cost Guidelines for State Virtual Schools" (Southern Regional Education Board, 2006), 4-10, http://publications.sreb.org/2006/06T03_Virtual_School_Costs.pdf (accessed Jan. 24, 2011).

13 Brett Schaeffer, "Virtual savings? Online courses bring better access but little impact on the bottom line," *School Administrator* (2004) goo.gl/Bwa0c (accessed Jan. 9, 2011).

In 2002, Dansville signed up for the then-newly formed Michigan Virtual School. MVS, whose fees were subsidized by annual state appropriations, charged 50 percent less than Virtual High School in Massachusetts,¹⁴ but the district was still unable to save money with the courses. Mike Simeck, Dansville's superintendent at the time, stated, "Our experience with [online programs] is that there's no way to get it to scale for us that would make it a cost saver."¹⁵

Other case studies of different virtual learning programs produced findings similar to those in Dansville. The Consortium for School Networking, a professional association of school technology employees, conducted a case study in 2007 of a single-district virtual program in a Wisconsin school district of 5,000 students. The results showed that the district failed to realize any savings from this program.¹⁶

These failed initial attempts to reduce costs through virtual learning may have contributed to some school officials' skepticism about this proposition. In a survey conducted by the Sloan Consortium of school administrators, nearly 50 percent of the respondents cited course development costs and funding mechanisms as likely obstacles to providing more online opportunities to students.¹⁷

Recent Cost Estimates

Although early reports did not indicate that virtual learning would generate cost-savings, later research suggests that virtual schools can be more cost-effective over time. Even the Southern Regional Education Board, which projected similar per-pupil start-up costs for state-run virtual schools and conventional brick-and-mortar schools, predicted, "Economies of scale should benefit states in funding state virtual schools over time."¹⁸

Bill Tucker of Education Sector, a nonpartisan education policy think tank, came to a similar conclusion in his study of virtual learning. In analyzing state-run virtual schools, he noted that they have cost-structures different from conventional brick-and-mortar schools. Instead of spending resources on buildings, physical services, facility maintenance and transportation, virtual schools must pay more for other items, such as technology infrastructure, personnel development (specific to remote teacher online instruction) and computer software. However, much like the SREB, Tucker concludes, "[T]here is the potential for significant cost efficiencies" for state virtual schools, because the cost of infrastructure can be spread over many more students.¹⁹

Potential economies of scale are becoming apparent in colleges and universities. From 1999 to 2003, in response to grants financed by Pew Charitable Trusts, 30 institutions of higher education that created new online learning programs demonstrated improved student performance in two-thirds of the cases, with the remaining one-third showing no statistically significant improvement. Perhaps

14 "Report to the Michigan Department of Education on the Development and Growth of the Michigan Virtual High School, 1999-2005" (Michigan Virtual University, 2005), 6, goo.gl/ygGm9 (accessed Jan. 26, 2011).

15 Brett Schaeffer, "Virtual Savings? Online Courses Bring Better Access but Little Impact on the Bottom Line," *School Administrator* (2004): 1-2 goo.gl/3QliC (accessed Jan. 9, 2011).

16 Katie Ash, "Experts Debate Cost Savings of Virtual Ed.," *Education Week* 28, no. 25 (2009), http://www.edweek.org/ew/articles/2009/03/18/25online_h28.html (accessed Jan. 26, 2011).

17 Anthony G. Picciano and Jeff Seaman, "K-12 Online Learning: A 2008 Follow-up of the Survey of U.S. School District Administrators" (The Sloan Consortium, 2009), 13-14, http://www.sloanconsortium.org/publications/survey/pdf/k-12_online_learning_2008.pdf (accessed Jan. 24, 2011).

18 "Cost Guidelines for State Virtual Schools" (Southern Regional Education Board, 2006), 4, http://publications.sreb.org/2006/06T03_Virtual_School_Costs.pdf (accessed Jan. 24, 2011).

19 Bill Tucker, "Laboratories of Reform: Virtual High Schools and Innovation in Public Education" (Education Sector, 2007), 6, http://www.educationsector.org/usr_doc/Virtual_Schools.pdf (accessed Jan. 9, 2011).

even more striking was the finding that these programs reduced per-pupil operating costs by an average of 40 percent compared to conventional brick-and-mortar classes, saving a combined \$3.6 million annually.* A 40 percent reduction in costs is almost unheard of in education.

The effectiveness of online education is increasingly accepted at colleges and universities. In fact, according to a report published by the Babson Research Study Group of the Massachusetts-based Babson College, 25 percent of all students in degree-granting postsecondary institutions were enrolled in at least one online course in the fall of 2008.²⁰

Some studies find real savings from K-12 online programs, as well, though not quite as high as those in the Pew program.

A detailed study of FLVS may have been the first to conclude that state-run virtual schools can operate with lower per-pupil expenses. In 1997, FLVS became the nation's first statewide school to offer courses through the Internet. The school provides supplementary courses to Florida students; it does not grant diplomas. Initially the school only delivered high school content, and it had 77 course enrollments in 1997.²¹ By 2009-2010, FLVS had almost 214,000 annual course enrollments and served students in kindergarten through 12th grade.²²

In 2007, the Florida TaxWatch Center for Educational Performance and Accountability compared the per-pupil funding average for conventional school districts in Florida with that of the FLVS. It found that counting only local and state revenues for operating expenses, FLVS cost Florida taxpayers \$1,048 less per pupil (or 17 percent less) in the 2006-2007 school year than did conventional districts.† The authors concluded, "FLVS gets solid student achievement results at a reduced cost to the State."²³

The savings for FLVS have only increased since 2007. In 2009, the Florida Legislature, trying to balance the state budget, reduced FLVS' per-pupil funding allotment by 10 percent for the 2009-2010 school year. Still, enrollments were expected to increase by 50 percent. The enrollment spike was due to the program's becoming available to every school district in the state. Julie Young, president and chief executive officer of FLVS, projects that the increased enrollments and reductions in funding will combine to make FLVS cost about \$1,500 less per pupil in operating costs than the state's conventional schools.²⁴

Pennsylvania's virtual charter schools have shown even greater cost-savings potential than FLVS. These are taxpayer-funded public schools that are open to all students, grades K-12, from anywhere in the state.²⁵ They use nearly all forms of virtual learning, including computer-based, Internet-based, remote teacher online, blended learning and facilitated virtual learning. Unlike FLVS and other

* Carol A. Twigg, "Improving Learning and Reducing Costs: New Models for Online Learning," 30, (EDUCAUSE Review, 2003), goo.gl/swKEh (accessed Jan. 26, 2011). Additional information about the Program in Course Redesign can be found at <http://www.thencat.org/PCR.htm>.

† "Final Report: A Comprehensive Assessment of Florida Virtual School" (Florida TaxWatch, 2007), 24-25, goo.gl/dpXb3 (accessed Jan. 13, 2011). The Florida TaxWatch Center for Educational Performance and Accountability did not factor in federal funding, because FLVS does not receive federal funding. (Betty Cox, Florida TaxWatch Center for Educational Performance and Accountability, telephone correspondence with Michael Van Beek, Jan. 12, 2011.)

20 Elaine I. Allen and Jeff Seaman, "Learning on Demand: Online Education in the United States, 2009" (The Sloan Consortium, 2009), goo.gl/qmaJV (accessed Jan. 13, 2011).

21 "Final Report: A Comprehensive Assessment of Florida Virtual School" (Florida TaxWatch, 2007), 9, goo.gl/T1gHf (accessed Jan. 13, 2011).

22 John Watson et al., "Keeping Pace with K-12 Online Learning: An Annual Review of Policy and Practice" (Evergreen Education Group, 2010), 26, goo.gl/ppqii0 (accessed Jan. 9, 2011).

23 "Final Report: A Comprehensive Assessment of Florida Virtual School" (Florida TaxWatch, 2007), 25, goo.gl/eE9w7 (accessed Jan. 13, 2011).

24 Bill Kaczor, "Fla. Virtual School Doing More With Less," *The Miami Herald*, Sept. 10, 2009, goo.gl/CSjyy (accessed Jan. 11, 2011).

25 Nathan A. Benefield and Jessica K. Runk, "A Primer on Pennsylvania Cyber Schools" (Commonwealth Foundation for Public Policy Alternatives, 2008), 2, goo.gl/LqJvV (accessed Jan. 24, 2011).

supplemental state-run virtual schools, Pennsylvania's virtual charters may grant diplomas to students.²⁶

Pennsylvania funds its virtual charter schools on a per-pupil basis, with resources provided by each enrolled student's resident school district. These districts are required to make a payment from the local and state funds they receive to the virtual charter schools. This payment does not include the per-pupil portion of district funds that go to transportation; physical facilities construction; acquisition and improvement; debt services; or adult and community education programs.* This funding arrangement resulted in the virtual schools receiving on average 27 percent less per pupil than conventional schools. This amounted to virtual charter schools in Pennsylvania spending about \$3,000 less per pupil in the 2005-2006 school year.²⁷

Surveys of online schools in other states suggest that the cost-effectiveness of Pennsylvania's virtual charter schools may be the rule rather than the exception. In 2008, professor Cathy Cavanaugh surveyed 20 virtual schools in 14 states.† She found that the schools spent an average of only \$4,310 per pupil on operational costs. She estimates that virtual schools benefit from minimal costs for instructional facilities, transportation and support services staff. Additionally, she notes that online courses can handle larger class sizes without adding instructional personnel. This ability helps virtual schools create economies of scale.²⁸

Reconciling the Estimates

Does virtual schooling save money? As evidenced above, there's no straightforward answer to this question, especially when it's posed in broad terms. While some have estimated that virtual schools and online programs should cost roughly the same as conventional brick-and-mortar schools, and while some districts have reported that they failed to save money, recent research shows significant fiscal benefits. Nevertheless, it appears possible to reconcile these apparently conflicting results.

On the one hand, there are significant start-up costs in creating a new virtual school or program, especially if it's a full-time online program. Many schools would need to develop new virtual courses, hire and train instructional personnel

* Resident districts in Pennsylvania are also reimbursed by the state for about 30 percent of the payment that they make to the virtual charter school on behalf of one of their students. Benefield and Runk, "A Primer on Pennsylvania Cyber Schools" (Commonwealth Foundation for Public Policy Alternatives, 2008), 2, http://www.commonwealthfoundation.org/docLib/20090904_CyberSchoolPrimer.pdf (accessed Jan. 24, 2011).

† Cathy Cavanaugh, "Getting Students More Learning Time Online" (Center for American Progress, 2009), 12, <http://www.americanprogress.org/issues/2009/05/pdf/distancelearning.pdf> (accessed Jan. 9, 2011). The virtual schools she surveyed included state virtual schools, virtual charter schools, private virtual schools and virtual programs run by school districts (Cathy Cavanaugh, e-mail correspondence with Michael Van Beek, Oct. 6, 2010.)

²⁶ "Charter Annual Report" (Pennsylvania Department of Education, 2008), 1-3, <http://www.pacyber.org/about/files/CharterAnnualReport%202008.pdf> (accessed Jan. 14, 2011).

²⁷ Benefield and Runk, "A Primer on Pennsylvania Cyber Schools" (Commonwealth Foundation for Public Policy Alternatives, 2008), 4, http://www.commonwealthfoundation.org/docLib/20090904_CyberSchoolPrimer.pdf (accessed Jan. 24, 2011).

²⁸ Cathy Cavanaugh, "Getting Students More Learning Time Online" (Center for American Progress, 2009), 12, <http://www.americanprogress.org/issues/2009/05/pdf/distancelearning.pdf> (accessed Jan. 9, 2011).

to deliver or facilitate instruction in a new way, maintain a reliable and robust network, purchase computer hardware and software, provide office space for onsite personnel and obtain room to store and house equipment.²⁹ These initial expenses may drive the projected costs for virtual schools and programs up to the level of traditional face-to-face programs in conventional brick-and-mortar schools.

On the other hand, virtual learning also has potential to reduce costs over time, and evidence from Florida and Pennsylvania suggests that both state virtual schools and virtual charter schools can operate at a lower per-pupil cost than conventional schools. These schools probably benefit from forgoing many of the extracurricular and school support services that brick-and-mortar schools provide, and from economies of scale in pupil-instructor ratios and overhead expenses. Of course, estimated cost savings for virtual schools and programs shouldn't be assumed to apply to all students. Some children may not learn well in online environments, and the support services and extracurricular offerings that conventional schools provide may be of real value to them. Yet the research does suggest that many pupils can benefit from virtual learning, and that the savings in operating costs can be substantial over time.

Virtual Learning in Michigan

Michigan has a state virtual school, two virtual charter schools, several multi-district virtual programs, and a host of smaller, single-district online programs and schools. The state has traditionally been seen as a national leader in virtual learning. Michigan Virtual School was one of the first state virtual schools in the country. As recommended by former State Superintendent of Public Instruction Tom Watkins in 2005,³⁰ Gov. Jennifer Granholm in 2006 signed into law a requirement that high school students take at least “[one] course or learning experience that is presented online” in order to graduate.* Although several states now offer more online learning opportunities than Michigan, the Center for Digital Education ranked Michigan second in the nation in online learning in 2008.³¹

Michigan Virtual School

The centerpiece of Michigan's early efforts to offer online learning opportunities is the Michigan Virtual School (sometimes referred to by its original name, Michigan Virtual High School). It opened in 2000, when the state Legislature appropriated \$15 million to the private, nonprofit Michigan Virtual University to develop and operate the school.[†]

MVS offers courses to middle school and high school students through remote teacher online and Internet-based instruction, some of which involves an online MVS facilitator. MVS directly employs its own remote instructors and facilitators,

* MCL § 380.1278a(1)(b)(i). An “online learning experience” is defined by the Michigan Department of Education as 20 hours of activities in which students “practice using technology tools, explore the virtual learning environment, and develop a competency operating in this space.” See “Michigan Merit Curriculum Guidelines: Online Experience” (Michigan Department of Education), 7-8, goo.gl/LGEK0 (accessed Jan. 17, 2011).

† MVU is funded by state and federal grants. It also operates a number of “career development tools” for students, and it oversees “Michigan LearnPort,” an online professional development program for any employee of a conventional, charter or non-public school in Michigan. Michigan LearnPort is largely funded by federal grants. “Report to the Michigan Department of Education on the Development and Growth of the Michigan Virtual High School, 1999-2005” (Michigan Virtual University, 2005), 6, goo.gl/UEFUC; “A Report to the Legislature” (Michigan Virtual University, 2010), 1, 8, goo.gl/CKDOR (accessed Jan. 12, 2011).

29 Anderson, Augenblick, and DeCesare, “Costs and Funding of Virtual Schools” (APA Consulting, 2006), 10, goo.gl/VDbqv (accessed Jan. 11, 2011).

30 Tom Watkins, “Exploring E-Learning Reforms for Michigan: The New Education (R)Evolution” (Wayne State University, 2005), 50, goo.gl/aYS0d (accessed Jan. 17, 2011).

31 “Michigan Ranks Second in U.S. For Online Learning” (Michigan Department of Education, 2008), goo.gl/KP3iz (accessed Sept. 23, 2010); Watson et al., “Keeping Pace with K-12 Online Learning: An Annual Review of Policy and Practice” (Evergreen Education Group, 2010), 18-20, goo.gl/jDwts (accessed Jan. 9, 2011).

and it designs many of its own courses. The courses are aligned with varying instructional programs, including the state's curricular requirements, Advanced Placement coursework, remedial instruction and summer school.* Nevertheless, MVS provides only supplemental instruction, meaning that students cannot earn a diploma from the school.³² MVS is the fifth-largest state virtual school in the country in terms of course enrollments.³³

In the beginning, MVS experienced moderate growth, and in its first six years, it averaged about 3,400 course enrollments per year.³⁴ From 2005 to 2010, however, MVS grew rapidly, with the number of course enrollments more than doubling.[†] In the 2009-2010 school year, MVS had 12,709 enrollments in semester-long, remote teacher online courses.[‡] MVS offered other classes as well, including Internet-based courses, and the school had a total of 14,837 course registrations that year.³⁵

During the 2009-2010 school year, students from 423 charter, conventional public and private schools enrolled in at least one of the 288 different middle school and high school courses offered by MVS. About 1,530 home-school students enrolled in MVS courses as well.³⁶ Seventy-nine percent of the courses were high school courses,[§] and the five most popular in 2009-2010 were digital photography, forensic science, study skills, career planning and economics.³⁷

A significant portion of MVS' funding comes from appropriations to the Michigan Virtual University from the Michigan Legislature. From 2000 to 2005, the Legislature appropriated a total of \$24.75 million to MVU for the purposes of operating MVS, with the bulk of these funds coming from the initial \$15 million grant in 2000. The average legislative appropriation to MVU to operate MVS over the last five years works out to be about \$2.1 million. The state has also made a separate \$1 million federal grant available to MVU every year since 2007 to foster partnerships between school districts and MVS and to increase the availability of online MVS courses to students.³⁸

* "A Report to the Legislature" (Michigan Virtual University, 2010), 3-6, <http://www.mivu.org/LinkClick.aspx?fileticket=RYiJyLr6CSM%3d&tabid=373> (accessed Jan. 12, 2011); Senior Development and Policy Advisor Dan Schultz, Michigan Virtual University, telephone correspondence with Michael Van Beek, Feb. 18, 2010. The state's curriculum requirements are set forth in the Michigan Merit Curriculum, which is the set of courses that Michigan high school students need to complete in order to graduate. The newest set of required courses was signed into law in 2006.

† While some of this enrollment increase may have been due to the new online learning graduation requirement, it's unlikely that this mandate explains the entire trend. See "Expanding Virtual Learning Opportunities in Michigan" on Page 16 of this study.

‡ "A Report to the Legislature" (Michigan Virtual University, 2010), 4, goo.gl/i1JVK (accessed Jan. 12, 2011); "Report to the Michigan Department of Education on the Development and Growth of the Michigan Virtual High School, 1999-2005" (Michigan Virtual University, 2005), 2, goo.gl/Lrya5. MVS describes remote teacher online courses as "instructor-led."

§ "A Report to the Legislature" (Michigan Virtual University, 2010), 3, goo.gl/SDwPW (accessed Jan. 12, 2011). The remaining MVS courses are for middle school students.

32 "A Report to the Legislature" (Michigan Virtual University, 2009), 1, goo.gl/0KV1u (accessed April 10, 2010).

33 Watson et al., "Keeping Pace with K-12 Online Learning: An Annual Review of Policy and Practice" (Evergreen Education Group, 2010), 26, goo.gl/1FkIm (accessed Jan. 9, 2011).

34 "Report to the Michigan Department of Education on the Development and Growth of the Michigan Virtual High School, 1999-2005" (Michigan Virtual University, 2005), 2, goo.gl/b49Q9.

35 "A Report to the Legislature" (Michigan Virtual University, 2010), 1, goo.gl/SDwPW (accessed Jan. 12, 2011).

36 *Ibid.*, 2-3.

37 *Ibid.*, 14-16.

38 MCL § 388.1698(6).

Other revenues come from course fees paid by school districts whose pupils enroll in MVS classes. Course fees vary by level and type. Remote teacher online courses range from \$350 for Advanced Placement classes to \$235 for most others. MVS facilitated virtual learning courses — specifically, MVS classes in which teachers act more like tutors than instructors — cost between \$190 and \$210, and pure Internet-based courses, which students may complete at their own pace within a four-month period, cost \$89 per class.* Out-of-state students may enroll in MVS courses, and fees for these students range from \$449 for AP classes to \$370 for other instructor-led courses and \$89 for “instructor-less” ones.³⁹

Michigan Virtual School Costs

The initial \$15 million appropriation for MVS in 2000 makes it difficult to determine the school's operating costs in its first few years, since the operations were subsidized by initial appropriation. However, it is clear that MVS has gradually reduced its reliance on the appropriation, suggesting that the school has begun to create economies of scale.

The largest portion of MVS' start-up costs was course and content licensing fees, which consumed more than \$4.4 million — a total of almost 43 percent of MVS' budget — in its first two years of operation. Additionally, MVS spent a combined \$1.2 million on professional development, product development and website development during that period. MVS spent more than \$10.3 million in total in fiscal years 2001 and 2002.[†]

These expenditures, however, decreased over time. The total two-year cost of product development declined by 78 percent between fiscal years 2001-2002 and fiscal years 2004-2005.⁴⁰ During the same period, the total two-year cost of fees for course and content licensing fell by 63 percent.⁴¹ Website development costs nearly vanished.⁴²

As noted above, MVS' charges per semester range between \$89 for Internet-based courses and \$449 for remote teacher online Advanced Placement courses. These fees are partially subsidized by state appropriations. Altogether, including state subsidies, MVS says that the average operating cost per semester-long course in 2008-2009 was about \$390.⁴³ Based on this figure, a full year of six courses per semester would cost taxpayers \$4,680 per pupil. This annual estimate represents meaningful educational costs — not just those for elective courses like digital photography — since MVS offers nearly every course that high school students must take in order to graduate.[‡] For the 2009-2010 school year, Michigan's minimum foundation allowance — the minimum amount of per-pupil money

* “Pricing Information” (Michigan Virtual University, 2009), goo.gl/b86rH (accessed Jan. 13, 2011). MVS' terminology is different from that used in this study. MVS courses that are remote teacher online, facilitated virtual learning and Internet-based learning would be described by MVS as “instructor-led,” “instructor-supported” and “instructor-less,” respectively. For more information, see: “Learning Online Is Challenging and Fun” (Michigan Virtual School), goo.gl/K62YL (accessed Jan. 4, 2011).

† “Report to the Michigan Department of Education on the Development and Growth of the Michigan Virtual High School, 1999-2005” (Michigan Virtual University, 2005), 6, goo.gl/mibZT. In MVS' first two years, it completely subsidized the cost of its online courses for K-12 schools. *Ibid.*, 5.

‡ “Michigan Merit Curriculum High School Graduation Requirements” (Michigan Department of Education, 2010), 1, goo.gl/QkMXX (accessed Jan. 24, 2011); “MVS Course Catalog” (Michigan Virtual University, 2009), goo.gl/ndE7k (accessed Jan. 24, 2011). MVS' current course offerings appear to allow a student to complete all of the requirements of the Michigan Merit Curriculum except for the “physical education and health” and the “visual, performing and applied arts” requirements. The fee that MVS charges for its Michigan Merit Curriculum courses is \$275 per semester — mid-range for MVS course fees in general.

³⁹ “Pricing Information” (Michigan Virtual University, 2009), goo.gl/OkYh3 (accessed Jan. 13, 2011).

⁴⁰ “Report to the Michigan Department of Education on the Development and Growth of the Michigan Virtual High School, 1999-2005” (Michigan Virtual University, 2005), 6, goo.gl/6Qqhd.

⁴¹ *Ibid.*, 6-7.

⁴² *Ibid.*, 6.

⁴³ Dan Schultz, telephone correspondence with Michael Van Beek, Feb. 18, 2010.

that a Michigan school district could receive through the state — was \$7,162,⁴⁴ 53 percent more than what an estimated full course load would cost at MVS.

Single-District Virtual Programs

Although MVS provides more virtual courses than any other program in the state, virtual programs operated by individual school districts are growing at a fast pace. District-based virtual programs are maintained by individual school districts, which provide access to district-approved online courses. The programs are available only to students residing in that district. For this reason, they are called “single-district” virtual programs.⁴⁵

Single-district virtual programs use a variety of instructional approaches, including computer-based, Internet-based, remote teacher online, blended learning, facilitated virtual learning, or some combination of these. Since the programs are serving students already in the district, funding comes mainly from enrollment-based money the districts already receive.

Some district-based virtual programs are used to supplement the curriculum already offered in the district. These programs aid students who need remedial work or want to move more quickly through the district’s curriculum. Often, these programs operate outside of the normal school day or year. For instance, Grand Rapids, Jackson and Allendale have been purchasing services from MVS and for-profit education companies like Education 2020 and NovaNet (a subsidiary of Pearson Education) in an effort to help struggling students earn “recovery credits.”⁴⁶ These programs most often involve computer-based, Internet-based or facilitated virtual learning.

Other districts create and manage virtual programs that work more like a separate school within the districts. These programs essentially provide alternative education to students who have dropped out, been expelled or fallen significantly behind their grade level. The programs may also serve homebound students, exceptional athletes, performing artists and others whose circumstances make regular attendance in conventional classrooms difficult. Course schedules are flexible, and students may take the classes outside regular school hours.

In creating these single-district virtual schools, districts might use courses provided by MVS or another online learning providers, though some also use their own teachers and district resources to provide blended learning, facilitated virtual learning and other support services. Such programs are provided by a number of school districts in Michigan, including Hale, Swartz Creek, Highland Park and Chippewa Hills. These districts increase their enrollments (and their state revenues) by serving students they would have otherwise lost as dropouts. In the 2008-2009 school year, for instance, Highland Park’s Career Academy grew from 141 students to 229.⁴⁷

44 “Effective Foundation Allowance Changes since Proposal A” (Michigan Senate Fiscal Agency, 2010), goo.gl/wHV8k (accessed July 15, 2010).

45 John Watson et al., “Keeping Pace with K-12 Online Learning: An Annual Review of State-Level Policy and Practice” (Evergreen Education Group, 2009), 5, goo.gl/RIL6d (accessed Jan. 11, 2011).

46 Jon E. Carlisle, “Jackson-Area Students Get Second Try Via Internet,” Jackson Citizen Patriot, Feb. 22, 2009, goo.gl/DSmZC (accessed July 2, 2010). Kym Reinstadler, “Grand Rapids Students Can Make up Failed Credits,” Grand Rapids Press, Nov. 18, 2009, goo.gl/5A6ZF (accessed July 2, 2010); Matthew S. Russell, “New Program Helps Allendale Students with Credit ‘Recovery,’” Grand Valley Advance, May 12, 2009, goo.gl/AvrD4 (accessed July 2, 2010).

47 Marisa Schultz, “At-Risk Students Embrace Online Learning at Metro Detroit Cyber School,” The Detroit News, Jan. 20, 2010, <http://www.publicschooloptions.org/display/?id=95> (accessed Jan. 20, 2010).

Near Flint, the Clio Global Academy program also serves dropouts and students at risk of dropping out. Students are matched with certified teachers who act primarily as mentors, not as actual instructors. In this format of facilitated virtual learning, the program's teacher-mentors focus on providing the extra support students need in order to master the course material. The school's enrollment was originally limited to 60 students,⁴⁸ but has expanded to serve 240 students in the 2010-2011 school year.⁴⁹

Single-District Virtual Program Costs

The cost per student of single-district virtual programs, like the cost per student at MVS, is somewhat difficult to pinpoint. These programs are financed by general fund revenue already received by the district, and to a certain extent, they indirectly benefit from other district spending.

Based on information provided by Clio Area Schools, the average annual per-pupil cost for the Clio Global Academy in the 2010-2011 school year is \$6,774.⁵⁰ This cost includes all the online course content; equipment for students to use at home (Internet connection, computer and digital camera); and total compensation for mentors (one per 10 students) and a "team leader" (one per 60 students).⁵¹ This figure does not include overhead expenditures that may indirectly support the virtual school, but even if those were identified and included in the cost, the average per-pupil expense would likely be lower than Clio's average per-pupil cost for brick-and-mortar programs — the district's total expenditures per pupil were \$9,439 in the 2008-2009 school year.⁵² Additionally, Clio expects the cost of the Academy's courses to trend downward as more online providers compete to sell courses to schools.⁵³

Multi-District Virtual Programs

Multi-district virtual programs are developed and maintained by intermediate school districts to serve students from more than one local district. An example is St. Clair's Virtual Learning Academy for students who have dropped out or been expelled from alternative or conventional St. Clair County high schools.⁵⁴ Students can earn recovery credits in preparation for re-entering a conventional school, or they can earn their high school diploma directly through the Virtual Learning Academy. The St. Clair County Regional Educational Service Agency (an intermediate school district) authorized the academy as a charter school, and most of the school's funding comes from the state's per-pupil foundation allowance. Courses are provided by MVS.⁵⁵ The school enrolled 127 students in the 2009-2010 school year.⁵⁶

Westwood Community School District manages an online alternative education program that serves any student in Wayne County. The Westwood Cyber High School is modeled after the "Not School" program developed in the United Kingdom. Enrollment has ballooned: In the 2008-2009 school year, the school

48 Assistant Superintendent Bethany Rayl, Clio Area Schools, telephone correspondence with Michael Van Beek, Feb. 2, 2010; Jean Johnson, "Clio Global Academy Taking Applications," *The Flint Journal*, Jan. 10, 2010, goo.gl/MmDnl (accessed Jan. 11, 2011).

49 Khalil AlHajal, "Enrollment Quadruples in Clio School District's Countywide Online High School," *The Flint Journal*, Sept. 12, 2010, goo.gl/XZP20 (accessed Jan. 10, 2011).

50 Assistant Superintendent Bethany Rayl, Clio Area Schools, e-mail correspondence with Michael Van Beek, Jan. 5, 2011.

51 *Ibid.*

52 "Michigan School District Revenue and Expenditure Report: Clio Area School District, 2008-2009" (Mackinac Center for Public Policy), goo.gl/6C6Sv (accessed Jan. 10, 2011).

53 Assistant Superintendent Bethany Rayl, Clio Area Schools, telephone correspondence with Michael Van Beek, Feb. 2, 2010.

54 "Frequently Asked Questions" (St. Clair County Regional Educational Service Agency, 2011), goo.gl/M7rOI (accessed Jan. 11, 2011).

55 More information can be found at: "Virtual Learning Academy," (St. Clair County Regional Educational Service Agency, 2011), goo.gl/9OINT (accessed Jan. 11, 2011).

56 "Virtual Learning News" (Virtual Learning Academy of St. Clair County), goo.gl/AdMyM (accessed Sept. 1, 2010).

served 540 students — three times as many as it did the previous year. The school had a waiting list of 150.⁵⁷

Washtenaw, Livingston and Genesee intermediate school districts also have countywide multi-district programs. These ISDs all use a program developed by Widening Advancements for Youth, a newly formed nonprofit that specializes in “re-engaging” students who have dropped out or are at risk of dropping out. It uses virtual learning to enable these students to earn a high school diploma without needing to attend school on a daily basis.⁵⁸

Even though the coordination of these WAY programs is managed by the ISDs, the state aid for the students who enroll in the programs is received by the students’ local districts. This mitigates the concern that individual districts might have about “losing out” on potential state funding for students who enroll in the WAY program.⁵⁹

A major multi-district virtual program is the Genesee Network for Education Telecommunications, known as “GenNET.” GenNET, established in 2001, does not directly supply virtual instruction, but instead grants access to virtual courses from a host of other providers.⁶⁰ The courses were originally available only to students in the Genesee Intermediate School District, but due to a recent decision by Michigan Superintendent of Public Instruction Michael Flanagan, they are now available to students across the state.⁶¹

The courses are approved by GenNET and offered by institutions like Northwestern University, Brigham Young University and the University of Nebraska-Lincoln. Other course providers are private companies like Lincoln Interactive, Aventa Learning and K12 Inc.⁶² GenNET ensures that all of its providers are accredited, and it independently monitors the instructional quality of each course.⁶³ Although the instruction is delivered full-time online, students are often supervised by teachers at their own schools, and this supervision may include some facilitated learning.

GenNET’s model enables it to offer a wider array of programs than MVS. In the 2009-2010 school year, GenNET carried 900 different courses, whereas MVS provided only about 270.⁶⁴ Although GenNET had about one-third the course enrollments of MVS, the GenNET program is growing rapidly. Course enrollments more than doubled from the 2008-2009 to the 2009-2010 school year, surpassing 4,000.⁶⁵

64 “A Report to the Legislature” (Michigan Virtual University, 2009), 2, goo.gl/iTXT5 (accessed April 10, 2010); “Online Courses Catalog” (Genesee Intermediate School District, 2010), http://gennetonline.geneseeisd.org/course_catalog.asp (accessed Jan. 14, 2011).

65 Thomas Svitkovich, Lisa Hagel, and John Schantz, “A Seat Time Waiver for You: Genesee County’s Seat Time Waiver Goes Statewide” (paper presented at the Michigan Association of School Administrators, Detroit, Mich., <http://www.michiganedusource.org/Conferences/mw10/GenNet.ppt> (accessed April 1, 2010).

57 Schultz, “At-Risk Students Embrace Online Learning at Metro Detroit Cyber School,” *The Detroit News*, Jan. 20, 2010, goo.gl/awD4O (accessed Jan. 20, 2010); Lori Higgins, “Cyber High School Program Reaches at-Risk Wayne County Teens,” *Detroit Free Press*, April 2, 2010, goo.gl/XK28e (accessed April 12, 2010).

58 “Frequently Asked Questions” (Widening Advancements for Youth, 2011), http://www.wayprogram.net/way_faqs.php (accessed Jan. 11, 2011). 2011

59 Executive Director Beth Baker, Widening Advancement for Youths, telephone correspondence with Michael Van Beek, Jan. 10, 2011.

60 Thomas Svitkovich and Beverly Knox-Pipes, “GenNET — Academic Options for Schools: A Report to the House Education Committee” (Genesee Intermediate School District, 2009).

61 Thomas Svitkovich, Beverly Knox-Pipes, and Debra Hartman, “Genesee County’s Seat Time Waiver Briefing” (Genesee Intermediate School District, 2009), goo.gl/goQAY (accessed Jan. 14, 2011).

62 For a list of teacher-led online course providers through GenNET, see: “Teacher-Led Online Course Providers” (Genesee Intermediate School District, 2010), goo.gl/ncaaH (accessed Jan. 14, 2011).

63 Superintendent Thomas Svitkovich, Genesee Intermediate School District and Beverly Knox-Pipes, Assistant Superintendent, Genesee Intermediate School District, telephone correspondence with Michael Van Beek, Feb. 15, 2010.

Funding for GenNET's services comes primarily from the districts whose students enroll in the courses. These districts pay the course fees out of their per-pupil foundation allowances. GenNET also receives funds from the Genesee Intermediate School District and has received a \$165,000 grant from the Michigan Association of Intermediate School Administrators.⁶⁶

GenNET Costs

Like some of the single-district online programs, GenNET probably benefits from overhead expenditures made by the Genesee Intermediate School District for its traditional programs. Thus, the total cost of the GenNET program can only be estimated.

The GenNET courses cost students less on average than those provided by MVS, even though GenNET does not receive an annual state appropriation. Based on GenNET's 2010 catalog, the average cost for a semester- or trimester-long course was \$264.34.* This would make the average full-time cost of taking six courses per semester through GenNET only \$3,172 per year, or less than half of the 2008-2009 statewide average of \$6,571 per-pupil instructional costs.⁶⁷

One reason GenNET may be able to offer less expensive courses than MVS is that GenNET purchases its courses from large-scale providers who must compete with programs around the country to sell their services to schools. Since MVS designs and builds some of its own courses, it may need to charge more per course to cover its expenses. The GenNET approach — facilitating access and ensuring quality of courses provided by third parties — may promise the greatest cost-savings potential for districts and taxpayers.

Virtual Charter Schools

The state's two virtual charter schools[†] are the most recent type of virtual learning in Michigan. They opened for the first time in the 2010-2011 school year.

Michigan Connections Academy is authorized under a charter with Ferris State University and run by Baltimore-based Connections Academy, a for-profit virtual charter school management company.⁶⁸ Michigan Virtual Charter Academy is chartered by Grand Valley State University and managed by K12 Inc., a company similar to Connections Academy.⁶⁹

The schools have central buildings in Okemos and Grand Rapids, respectively. Students may attend special events there or use the equipment to access their coursework, but their regular attendance is not required. The two schools use a mixture of computer-based, Internet-based, remote teacher online, blended learning and facilitated virtual learning, and they generate the majority of their

* Author's calculations based on: "Online Courses Catalog" (Genesee Intermediate School District, 2010), goo.gl/pwsFJ (accessed Jan. 14, 2011). The difference between the semester and trimester courses offered through GenNET lies in how long the student chooses to take in completing the course; the number of course credits is the same for both.

† Charter schools are public schools that have their own board of directors and are authorized to receive state money by public universities, intermediate school districts, local school districts or community colleges. These "authorizers" hold the charter schools accountable through performance-based contracts. Charter schools must also meet state-defined criteria in order to receive public funds. They may not charge tuition or deny any student admission if space is available. MCL § 380.501 et seq.

66 Thomas Svitkovich and Beverly Knox-Pipes, "Genesee Intermediate School District Three-Year Technology Plan, July 2008 – June 2011" (Genesee Intermediate School District, 2008), goo.gl/Hcn1c (accessed Jan. 26, 2011); Thomas Svitkovich, telephone correspondence with Michael Van Beek, Feb. 15, 2010.

67 "Michigan School District Revenue and Expenditure Report: Statewide Total, 2008-2009" (Mackinac Center for Public Policy), goo.gl/OIDJ9 (accessed Jan. 5, 2011).

68 "Connections Academy Public Cyber School Comes to Michigan — Approved to Open for 2010-2011 School Year," eSchool News, June 1, 2010, goo.gl/qwhVy (accessed June 1, 2010).

69 Dave Murray, "GVSU Trustees Approve Michigan Virtual Charter Academy," Grand Rapids Press, April 30, 2010, goo.gl/g9Y0S (accessed April 30, 2010).

own online content.* Unlike MVS or most single-district virtual programs, virtual charter schools must offer courses to any student in the state, from kindergarten through 12th grade.⁷⁰ Each school's enrollment is limited by state law to no more than 400 pupils in the 2010-2011 school year. In subsequent years, each school is limited by law to enrolling no more than 1,000 pupils, with 1,000 students being permitted only if 300 of the enrollees are identified as "dropouts."⁷¹

Unlike 11 other states, including Ohio, Wisconsin and Minnesota, Michigan had no full-time virtual charter schools⁷² until the state Legislature passed a package of bills in late 2009 in an effort to solicit money from the U.S. Department of Education's "Race to the Top" program. Funding for Michigan's virtual charter schools is much simpler than the system used to fund MVS. As with any other charter school, they will receive the bulk of their operational funds through the state's foundation allowance — i.e., the state's standard per-pupil funding formula.⁷³ For the 2010-2011 school year, this will amount to \$7,162 per pupil, though this is subject to legislative change. The new virtual charter schools will also receive federal and state "categorical" funding, which is in part tied to the enrolling students' socio-economic status.

Expanding Virtual Learning Opportunities in Michigan

Michigan's national leadership in providing virtual learning opportunities for public school students is an underappreciated success story. The statewide increase in virtual learning activity — whether through MVS, single-district virtual programs, multi-district virtual programs or virtual charter schools — suggests that virtual learning can help meet the state's educational needs. And there are reasons to believe that virtual learning is, in general, providing a viable alternative to the longstanding conventional classroom model of face-to-face instruction. The U.S. Department of Education meta-analysis and the Cavanaugh research cited earlier suggest that virtual learning can produce results at least equal to, and perhaps greater than, those achieved in traditional classrooms. While ongoing studies are certainly called for, the positive results for virtual learning in higher education also suggest that K-12 schools may benefit, particularly with older students.

Of course, given the complex problems confronting K-12 public schools, it's unlikely that virtual learning will prove to be a "silver bullet." But if the experience with virtual learning to date holds true, it could accomplish two goals at once: boosting student achievement on average and reducing school operating costs over time. This is the potential of virtual learning, and one reason why Michigan policymakers should consider ways to expand it in this state.

* K12 Inc. produces all of its own content ("Curriculum" (Michigan Virtual Charter Academy, 2010), <http://www.k12.com/mvca/curriculum/> (accessed Jan. 11, 2011)). But Connections Academy partners with a number of different curriculum providers to produce its course content ("Content Partners" (Connections Academy, 2010), goo.gl/Y0wPE (accessed Jan. 11, 2011)).

70 MCL § 380.552(2)(a)-(b).

71 MCL § 380.552(2)(d)-(e).

72 Watson et al., "Keeping Pace with K-12 Online Learning: An Annual Review of Policy and Practice" (Evergreen Education Group, 2010), 32-33, http://www.kpk12.com/wp-content/uploads/KeepingPaceK12_2010.pdf (accessed Jan. 9, 2011).

73 Dave Murray, "Should Cyber Charter Schools Get the Same Per-Student State Aid as Traditional Schools?," Grand Rapids Press, June 8, 2010, goo.gl/DtTsV (accessed June 8, 2010).

Policymakers should also remember that when more educational choices have been made available to Michigan students, Michigan's families have seized on them. In the 1990s, the state enabled the existence of charter schools and made it easier for parents to enroll their children in schools outside the district they lived in. These options have been valued and demanded by parents: The number of students enrolled in a public school of their own choosing increased from 108,000 to 183,000 — 69 percent — from 2002 to 2008.⁷⁴

And as noted earlier, course enrollments at MVS and GenNET have grown quickly in recent years. Similarly, school districts have begun capitalizing on the state superintendent of public instruction's seat-time waivers and have expanded online learning opportunities in their districts.

True, some of this increase may have been due to the state requirement that students perform online work in order to graduate, but it seems unlikely that this mandate explains all of the growth. Students are not actually required to take an online course to graduate, since a shorter, 20-hour online "learning experience" — not an actual course — is sufficient.⁷⁵ Moreover, no student graduating from high school in Michigan has needed to meet this requirement so far; the first class of students subject to this mandate is the class of 2011.⁷⁶

Policymakers should also note that virtual learning is no ordinary "choice"; it has the ability to transcend geographical and teacher-time constraints in ways that building new brick-and-mortar schools cannot. Instead of being limited to the list of courses a local brick-and-mortar school can furnish, students can access thousands of different courses. Instead of being limited to the quality of instruction available from local teachers, students can learn from the best instructors in the country. Instead of being forced to learn at the average pace of 17 students in a classroom, students can learn at their own unique pace, no matter the course, no matter the lesson.

In fact, there may be something pathbreaking in the rise of single- and multi-district virtual learning programs serving dropouts, homeschoolers, homebound students, expelled students and other "fringe" students who might not otherwise use public schools. The emergence of these programs resembles a technologically driven market phenomenon identified by Clayton Christiansen of Harvard Business School. In studying business history, Christiansen has found that the technological breakthroughs that transform an entire market do not just burst onto the scene and starting gaining market share; rather, they begin with a small market of "nonconsumers" — i.e., people who are not currently buying the dominant marketplace products that

74 Andrew Saultz and Kathryn Summers, "Explaining School Choice" (Michigan Senate Fiscal Agency, 2009), 4, goo.gl/IRZEh (accessed Jan. 11, 2011).

75 "Michigan Merit Curriculum Guidelines: Online Experience" (Michigan Department of Education), 8, http://www.michigan.gov/documents/mde/Online10.06_final_175750_7.pdf (accessed Jan. 17, 2011).

76 MCL § 1278a(1).

will eventually be made obsolete by the new innovation.⁷⁷ The marketing of inexpensive transistor radios to teenagers in 1955, for instance, was the obscure beginning of the eventually overwhelming transistor revolution in radio and TV products.*

Christiansen now suggests that virtual learning is a similarly “disruptive innovation” that can revolutionize how schools operate.⁷⁸ As single- and multi-district virtual programs target nonconsumer students — those, in other words, who are not being served by the dominant brick-and-mortar schooling — they may be following the market-transforming route of the transistor.† In Christiansen’s view, such programs, targeted at small and often marginalized segments of the school-age population, will be the vanguard of a virtual learning revolution that will ultimately transform public education.

Michigan policymakers have numerous reasons to keep increasing virtual learning opportunities for Michigan students and to ensure we do not drop behind the leading virtual learning states. The recommendations that follow will assist state policymakers in that goal.

Eliminate the State’s “Seat-Time Requirement” for Online Courses

One large obstacle to expanding online learning opportunities in Michigan is an auditing procedure for counting students. Each local district’s operating costs are partially funded through the state’s foundation allowance, a state-guaranteed minimum allotment that ranges from \$7,162 to \$8,489 for each student enrolled in most districts.‡ Michigan law and administrative rules stipulate that a district must comply with a number of so-called “seat-time requirements” if the district wishes to collect the full state foundation allowance on behalf of a high school student taking six courses or more per semester — a “full” course load.§

§ MCL § 388.1621b(3); Michigan Administrative Rule 340.7(5). These requirements are used to determine the portion of state aid that school districts must pay on behalf of a high school student enrolling in a course at a postsecondary institution. The procedure for calculating the proration can be found at “SGA — Postsecondary (Dual) Enrollment and Career and Technical Preparation” (Michigan Department of Education, 2009), 4-6, goo.gl/DuK7p (accessed Jan. 15, 2011). Student membership in virtual learning courses is likewise calculated using the method employed for students enrolled in classes at postsecondary institutions. (“Pupil Accounting Manual: Section 5-O-A — Michigan Virtual Learning, Distance Learning, and Independent Study” (Michigan Department of Education, 2010), 2, goo.gl/8Q3YN (accessed Jan. 10, 2011).)

⁷⁷ Clayton Christiansen, *The Innovator’s Dilemma: The Revolutionary Book That Will Change the Way You Do Business* (New York: Harper Books, 2003).

⁷⁸ Clayton Christiansen, Curtis Johnson, and Michael B. Horn, *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns* (New York: McGraw-Hill, 2008).

* Clayton Christiansen and Michael B. Horn, “How Do We Transform Our Schools” (Education Next, 2008), 14-15, <http://educationnext.org/how-do-we-transform-our-schools/> (accessed April 5, 2010). Christiansen and Horn explain that initially, major market players, such as the Radio Corporation of America, failed to make transistor technology profitable. The companies’ chief mistake was trying to make the transistor work for the big radios and products they already made, instead of using it to sell new products to a different group of consumers.

Sony, on the other hand, took the approach of creating a brand-new battery-powered handheld radio and marketing it to teenagers — a group of consumers the established companies like RCA had all but ignored. Through incremental improvement, the transistor radio became a smashing success, and Sony eventually beat RCA at its own game, replacing vacuum tubes with transistors in large radios and televisions.

† The same may be true of MVS and the virtual charter schools, which have also been serving the needs of nonconsumer students, such as homeschoolers.

‡ Mary Ann Cleary, “School Aid” (Michigan House Fiscal Agency, 2010), 32, goo.gl/HxtNd. The statutory foundation allowance is \$7,316, but the Legislature reduced per-pupil state funding for schools by \$154 in fiscal 2010, which makes the effective foundation allowance \$7,162. For more information about the foundation allowance, see Ryan S. Olson and Michael D. LaFaive, *A Michigan School Money Primer for Policymakers, School Officials, Media and Residents* (Midland, Mich.: Mackinac Center for Public Policy, 2007), 55-78.

In particular, the manual lists provisions for “non-conventional pupils,” including those enrolled in online courses.⁷⁹ The pupil accounting rules outlined in the manual require that online courses “generate credit towards the pupil’s high school diploma,” “be academic in nature” and “be approved by the local school board.” A “teacher-of-record must be identified” for the course, and a certified school district teacher “must be assigned to the pupil” to serve as an “on-site-mentor.”⁸⁰

In addition, the state pupil accounting rules indicate that a district may collect the full state foundation allowance on behalf of a student only if the student takes no more than two online learning courses off-site. In other words, if an otherwise full-time student takes more than two online learning courses, the district will lose money if the student does not take these extra online courses in a district classroom under the supervision of one of the district’s certified teachers.⁸¹ This provision is a key part of the state’s seat-time requirements.*

Notice that the “seat-time requirement” does not create a problem for districts that simply convert a face-to-face course into an online one. Some single-district virtual learning programs work this way and are therefore unaffected by the state’s seat-time requirements, since students are taking the courses in district-provided school buildings with a state-certified teacher.

Similarly, districts may count students taking a virtual course offered by a postsecondary institution just as they would any other students “dual-enrolled” in a postsecondary institution. Pupils are not limited in the total number of courses that they may take online while dual-enrolled, but they must take at least one traditional course in their district where attendance is required at the same time that they are dual-enrolled in online courses.⁸² The district pays the student’s tuition and fees to the postsecondary institution for each virtual course the student takes.⁸³

Hence, seat-time requirements are not a real problem for dual-enrollment online learning and some single-district virtual programs. Nor do they matter for Michigan’s virtual charter schools, since state law frees them from seat-time requirements.⁸⁴

Seat-time requirements do pose a problem, however, for MVS, for multi-district programs and for single-district programs offering comprehensive alternative education virtual programs. These programs seek to enroll students outside their immediate locale or students who are unable or unwilling to be present regularly at a brick-and-mortar school site.

The state superintendent of public instruction has the legal authority to waive the two-class maximum for online learning and the required attendance in a schoolroom class for high school students in an approved “alternative education

* The seat-time requirements in the Michigan Department of Education Pupil Accounting Manual also stipulate that a district can earn a partial foundation allowance for a student taking two online courses off-site only if the student is also “enrolled in and attending at least one course offered by the district in which credit is earned and regular daily attendance is required.” “Pupil Accounting Manual: Section 5-O-A — Michigan Virtual Learning, Distance Learning, and Independent Study” (Michigan Department of Education, 2010), 1-2, go.gl/8Q3YN (accessed Jan. 10, 2011).

79 “Pupil Accounting Manual: Section 5” (Michigan Department of Education, 2008), http://www.michigan.gov/documents/Section-5_41428_7.pdf (accessed Jan. 15, 2011). For a full list of “non-conventional pupils,” see: “Pupil Accounting Manual” (Michigan Department of Education, 2009), go.gl/2xVaO (accessed Jan. 17, 2011).

80 “Pupil Accounting Manual: Section 5-O-A — Michigan Virtual Learning, Distance Learning, and Independent Study” (Michigan Department of Education, 2010), 2, go.gl/70Fuf (accessed Jan. 10, 2011).

81 *Ibid.*, 1.

82 *Ibid.*

83 *Ibid.*, 2.

84 MCL § 388.1606(4).

program or another innovative program.”⁸⁵ In 2007, Superintendent of Public Instruction Michael Flanagan invited schools to seek such waivers for innovative programs like virtual schooling.⁸⁶ Any full-time online courses still needed to meet other seat-time requirements, but the waiver allowed a district to receive a full foundation allowance for a student who took more than two online learning courses and did not regularly attend classes in a school building.⁸⁷ The Michigan Department of Education also created pupil accounting procedures to guard against districts’ attempting to use the waivers to collect state aid for students not genuinely enrolled.⁸⁸

Most of the seat-time waivers granted in the following school year were for single-district and multi-district programs aimed at serving “dropouts” or other students at risk of dropping out. The districts of Wyoming, Montrose, Jackson, Marquette, Avondale, Waterford, Chippewa Hills and Berrien Springs were all approved for seat-time waivers.⁸⁹

Some districts sought waivers to allow their general education secondary students to take district-approved online learning courses without seat-time requirements. Traverse City Area Public Schools was approved for a waiver that allows a maximum of 25 percent of its high school pupils to take more than two of their courses online and not be required to enter a classroom regularly.⁹⁰ TCAPS’ program connects students to courses offered through MVS and CyberEd Specialists, a private, for-profit company started by a group of Traverse City teachers.⁹¹

For the 2008-2009 school year, Genesee Intermediate School District successfully launched an even more expansive seat-time waiver program than Traverse City had. GISD applied for and received a seat-time waiver that could be used by every school district in Genesee County, as long as not more than 25 percent of a local district’s high school population uses the waiver. Districts would enroll their students through the GenNET program and gain access to a host of courses offered by a variety of providers. In the 2009-2010 school year, the superintendent of public instruction extended this GenNET seat-time waiver to every local school district in the state, though with an additional limitation. Not only could no more than 25 percent of a district’s high school students utilize the waiver for GenNET courses, but also no more than 10 percent of high school pupils in an intermediate school district could use the waiver for GenNET courses.⁹²

Despite these limitations regarding the seat-time waiver, the GenNET program appears headed for growth. All 57 intermediate school districts in the state have signed up for the waiver, and 512 of Michigan’s 551 school districts have signed up as well.⁹³ In the first four months of the statewide waiver’s availability in 2009, students registered for nearly 2,000 courses.⁹⁴

85 MCL § 388.1701(9).

86 Michael Flanagan, “Seat Time Waiver Request Letter” (Michigan Department of Education, 2007), goo.gl/YVZyJ (accessed Jan. 14, 2011).

87 “Pupil Accounting Manual: Section 5-O-A — Michigan Virtual Learning, Distance Learning, and Independent Study” (Michigan Department of Education, 2010), 4, http://www.michigan.gov/documents/5O-VirtualHS-DistLearning_41466_7.pdf (accessed Jan. 10, 2011).

88 “Pupil Accounting Manual: Section 5-O-B — Seat Time Waiver” (Michigan Department of Education, 2010), http://www.michigan.gov/documents/mde/5-O-B_SeatTimeWaivers_329678_7.pdf (accessed Dec. 27, 2010).

89 “Summary of Seat Time Waivers” (Michigan Department of Education, 2009), http://www.michigan.gov/documents/mde/Item_VI_278814_7.doc (accessed Jan. 11, 2011).

90 Ibid.

91 For more about CyberEd Specialists, see: “Who We Are” (CyberEd Specialists, LLC), <http://www.cyberedschools.com/who-we-are.html> (accessed Jan. 12, 2011).

92 Svitkovich, Hagel, and Schantz, “A Seat Time Waiver for You: Genesee County’s Seat Time Waiver Goes Statewide” (paper presented at the Michigan Association of School Administrators, Detroit, Michigan, <http://www.michiganedusource.org/Conferences/mw10/GenNet.ppt> (accessed April 1, 2010).

93 Thomas Svitkovich, telephone correspondence with Michael Van Beek, Feb. 15, 2010.

94 “STW Totals for ISD-RESDS 7/1/2009 - 11/12/2009” (Genesee Intermediate School District, 2009), goo.gl/annBy (accessed Jan. 17, 2011).

The demand for programs like GenNET and MVS and the demand for seat-time waivers sends a clear signal that students desire access to more online learning opportunities. To expand the availability of online learning programs, the Legislature should make the seat-time waiver permanent for any virtual learning programs meeting legislatively defined standards. Without explicit legislative approval, seat-time waivers throughout the state could be eliminated instantly by a subsequent superintendent of public instruction.⁹⁵

Such a legislative codification of the seat-time waiver would bolster the Michigan Department of Education's "Project ReImagine." In 2009, the department created the program to challenge school districts to find new ways to deliver instruction and establish a "new normal."⁹⁶ The department was hoping to "implement systemic change" and encourage districts to "be bold."⁹⁷ If districts were allowed to boldly expand their use of online learning without fear of losing their share of state aid due to seat-time requirements, and if students were allowed to participate in more virtual learning opportunities, the result could be a boost to student achievement and even a reduction in costs for schools.

Lift Caps on Virtual Charter Schools

Another way in which Michigan is failing to realize the benefits of online learning is by arbitrarily restricting the number of students who may enroll in virtual charter schools. The current law that limits the number of virtual charters schools to two and enrollment to 2,000 is one of the most stringent policies in states where virtual charters operate.⁹⁸

These restrictions will do little to ensure quality. They limit parental options and prevent fiscal savings that would benefit taxpayers or other government programs. Lawmakers should eliminate the two-school, 2,000-student caps on the number of, and enrollment in, virtual charter schools.

Michigan would not be alone in allowing more virtual charter schooling. Parents, students and taxpayers in states like Ohio and Pennsylvania, where policies on virtual charter schools are less restrictive, are benefitting from this educational option.

Ohio has 27 full-time virtual charter schools, some of which are available only to students residing in particular districts and some of which can serve students from across the state.⁹⁹ More than 27,000 students enrolled in Ohio's virtual charter schools in the 2008-2009 school year. Funding comes directly from the state, and it amounted to only about \$5,700 per pupil in the 2009-2010 school year, more than \$1,400 less than Michigan's current minimum foundation allowance.* Yet studies comparing the year-to-year value-added academic outcomes of students in Ohio virtual charters and those from districts that serve a similar student demographic suggest virtual charters

* Watson et al., "Keeping Pace with K-12 Online Learning: An Annual Review of Policy and Practice" (Evergreen Education Group, 2010), 121, http://www.kpk12.com/wp-content/uploads/KeepingPaceK12_2010.pdf (accessed Jan. 9, 2011). Calculation based on the 2009-2010 effective minimum foundation allowance of \$7,162 in Michigan and the average of \$5,718 per pupil received by Ohio virtual charter schools in the 2009-2010 school year.

95 "Pupil Accounting Manual: Section 5-O-B — Seat Time Waiver" (Michigan Department of Education, 2010), 1, go.gl/yEFsQ (accessed Dec. 27, 2010).

96 "Re-Imagining Education in Michigan" (Michigan Department of Education, 2009), go.gl/1uBu5 (accessed Jan. 15, 2011).

97 "Memorandum: Project ReImagine Proposal Guidelines" (Michigan Department of Education, 2009), go.gl/4d5qy (accessed Jan. 15, 2011).

98 Watson et al., "Keeping Pace with K-12 Online Learning: An Annual Review of Policy and Practice" (Evergreen Education Group, 2010), 29-33, go.gl/jDwts (accessed Jan. 9, 2011).

99 Watson et al., "Keeping Pace with K-12 Online Learning: An Annual Review of Policy and Practice" (Evergreen Education Group, 2010), 120, go.gl/k1XG5 (accessed Jan. 9, 2011).

are helping improve student test scores more quickly than their conventional brick-and-mortar counterparts.¹⁰⁰

Similar studies of value-added academic progress do not exist for Pennsylvania's virtual charter schools.¹⁰¹ This is unfortunate. These schools serve larger proportions of low-income students than conventional districts, and according to the nonprofit Commonwealth Foundation for Public Policy, about 30 percent of the students enrolled in the schools come from conventional school districts that are failing the federal government's "adequate yearly progress" requirements.¹⁰² Not surprisingly, then, student test scores in Pennsylvania's virtual charters tend to be lower than the state average, and without value-added studies, it is difficult to determine whether the virtual charters are doing a better job with disadvantaged students than conventional school districts are.

Clearly, however, virtual charter schools in Pennsylvania are meeting a perceived need. The state now has 12 virtual charter schools with a total enrollment of more than 24,600, more than 13 times the enrollment in 2001 (Pennsylvania's full-time virtual charter schools have been operating for more than a decade).¹⁰³ The schools are generally operating at less cost to taxpayers, as well, receiving on average about 73 percent of the per-pupil funding that conventional brick-and-mortar school districts do (the rest of the funding stays with the student's host district).¹⁰⁴

The experience of Ohio and Pennsylvania suggests that virtual charter schools can provide a lower-cost option for taxpayers and an important alternative for parents who are dissatisfied with their local schooling options. Michigan should take the proper steps to expand the educational opportunities that virtual charter schools can provide for parents, especially those trapped in failing school systems. Michigan can equal or exceed Ohio and Pennsylvania's success; our state has experienced, high-quality authorizing agents in its public universities who would help ensure the quality of these programs.

Furthermore, the state should explore whether these virtual charter schools can operate with a lower per-pupil funding allotment than conventional brick-and-mortar schools, especially if enrollment caps are lifted and these schools are enabled to generate economies of scale. Michigan's charter schools already spend about 25 percent less than conventional district schools, so taxpayers save on the whole when charter school enrollment grows.¹⁰⁵ The state's current minimum foundation allowance for charter schools is \$1,400 more per pupil than what Ohio virtual charter schools receive.* Substantial savings could be had for Michigan taxpayers if the state supported virtual charter schools at the same level Ohio does.

* Calculation based on the 2009-2010 minimum foundation allowance of \$7,162 in Michigan and the \$5,718 that Ohio virtual charters received on average per pupil in 2009-2010.

100 "Analysis Shows Ohio's 8 Large Urban Districts and Charter Schools Rank Higher on Educational Progress Than on Absolute Test Scores" (KidsOhio.org, 2009); "E-Schools Show Superior Results: Analysis of State Value-Added Data Confirms E-Schools Students' Progress" (Ohio Alliance for Public Charter Schools, 2009), goo.gl/08tZH (accessed Jan. 11, 2011).

101 "Pa. Virtual Schools Struggle to Meet State Standards," *Education Week* 30, no. 02 (2010) goo.gl/pnFX8 (accessed Sept. 1, 2010).

102 Benefield and Runk, "A Primer on Pennsylvania Cyber Schools" (Commonwealth Foundation for Public Policy Alternatives, 2008), 3, goo.gl/jjy2M (accessed Jan. 24, 2011).

103 Ibid., 2; Watson et al., "Keeping Pace with K-12 Online Learning: An Annual Review of Policy and Practice" (Evergreen Education Group, 2010), 127, goo.gl/jDwts (accessed Jan. 9, 2011).

104 Benefield and Runk, "A Primer on Pennsylvania Cyber Schools" (Commonwealth Foundation for Public Policy Alternatives, 2008), 2, goo.gl/jjy2M (accessed Jan. 24, 2011); Watson et al., "Keeping Pace with K-12 Online Learning: An Annual Review of Policy and Practice" (Evergreen Education Group, 2010), 128, goo.gl/jDwts (accessed Jan. 9, 2011).

105 Andrew Coulson, "How Michigan Could Save \$3.5 Billion a Year" (Mackinac Center for Public Policy, 2009), <http://www.mackinac.org/11462> (accessed Jan. 11, 2011).

Conclusion

K-12 virtual learning has a promising future. It has been shown already to match or exceed average student outcome expectations, and parents and students are signing up for virtual courses at an increasing rate.

From a policy perspective, online learning also promises something relatively rare in the long history of taxpayer-funded K-12 public instruction: providing the same or better service at a lower cost. Universities have demonstrated the ability to achieve this, and recent analyses of several states that have expanded online opportunities show that these systems save money.

Indeed, under the right circumstances, school districts could immediately start saving using virtual learning. If districts need to create a new class, they are often left with only two options: hire a new teacher (part-time or full-time), or reassign one of their current teachers (who must be properly certified and below the contractual maximum work load). Both these options will add significant costs. Reassigning a current teacher — probably the least expensive option — could cost about \$10,000, based on the average Michigan teacher salary and common labor contract rules. Hiring a new, full-time teacher would cost most districts at least \$50,000.*

If, on the other hand, the districts can avoid creating a new class by enrolling students in virtual learning courses, they could conceivably save thousands of dollars. Based on the average course fees charged by MVS and GenNET, for instance, districts could enroll 10 students in year-long Michigan Merit Curriculum courses for \$5,500 or less. Districts might have to shift some personnel around if they plan to facilitate this virtual learning in school district-owned buildings, but it is likely the districts would still save money compared to the cost of hiring or reassigning instructors to teach these courses.

The demand for additional educational opportunities in this state has consistently grown. Virtual learning appears to be a flexible, affordable and effective way of helping satisfy this demand.

* The Michigan Association of School Boards reports that the average starting teacher salary in Michigan was \$36,798 in 2009-2010, and the average teacher salary in Michigan in 2008-2009 was \$62,237, according to the Michigan Department of Education. "Teacher Facts and Figures" (Michigan Association of School Boards, 2009), <http://erin.masb.org/index.cfm?mod=teacherfacts> (accessed Jan. 24, 2011); "2008-09 Bulletin 1014" (Michigan Department of Education, 2009), http://www.michigan.gov/documents/mde/b1014-09_319752_7.pdf (accessed Jan. 24, 2011). In addition to the teacher's salary, the school district would need to pay medical benefits, retirement benefits and various federal taxes.

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