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Education in the Digital Age: Policy Reforms to Improve Learning Options in Oklahoma



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About OCPA

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Summary

Across the nation, a growing number of students are benefiting from innovative online learning options. These options range from full-time online schools to part-time virtual course offerings and classroom-based blended-learning programs. According to the International Association for K-12 Online Learning, at least 1.5 million K-12 students participated in online and blended-learning programs during the 2009-10 school year.¹

Online learning has the potential to revolutionize the way that children learn. Traditionally, students' opportunity to learn has been constrained by a number of practical factors, including the relative quality of the public school in their neighborhood, their teachers' effectiveness, and whether their teacher's lessons (which are planned for the typical classroom of 16 students) are tailored to their specific learning style, knowledge level, and interests.

Online learning and the use of computers and information technology can remove these practical barriers by providing students with a customized and flexible learning setting. Students can learn in a manner that is tailored to their knowledge levels and learning styles from teachers who can be located anywhere in the world. Online learning can offer a better approach to tracking students' progress: rather than basing students' progress on seat time, children can progress to higher levels of learning as they master subjects. This approach will benefit children at all levels of the knowledge spectrum—allowing fast learners to proceed at their own pace while allowing slower learners to take more time and repeat lessons as necessary.

In these and other ways, online learning has the potential to revolutionize the way children learn. In 2011, a growing number of Oklahoma students are participating in online learning. Oklahoma currently

has two full-time virtual schools—the Oklahoma Virtual High School and Oklahoma Virtual School—which are eligible to admit students in participating school districts. According to the Evergreen Education Group, more than 2,500 students attended either of these full-time virtual schools in 2009-10, an increase of 163 percent over the previous year.² Oklahoma's university system also offers students some supplemental, distance-based learning programs that include online classes.³ The state's first virtual charter school, Epic One on One Charter School, is planned to open in the fall of 2011 and expected to serve as many as 2,000 students.⁴

But many more Oklahoma children stand to benefit from the option to learn online. This report offers Oklahoma policymakers a blueprint for policy reforms that will make the state a national leader in offering families the option to use online learning.

First, the paper presents an introduction to online learning. Second, it examines the current evidence about how online learning programs affect students and education systems. Third, it presents case studies and examples of online learning programs that are benefiting students around the country. Fourth, it concludes with policy recommendations for Oklahoma. This final section of policy recommendations focuses on two types of reforms—*supply-side reforms* to increase online learning options and *demand-side reforms* to ensure that all Oklahoma students can access learning programs that best serve their specific needs. Specifically, it recommends that policymakers enact a state-funded education savings account program to give families the power to choose the best learning options for their children, including online or virtual education programs.

Part I—Introduction to Online Learning

For too long, K-12 education has been one of the few areas of American life that has not been fundamentally transformed and improved by technical innovation. Consider the large difference between children's experiences inside and outside of school. Most children attend schools that are basically the same as the schools that their parents and grandparents attended. Fifteen to twenty students sit in rows of desks. A teacher stands at the front of the class and presents the lesson. While some computers may be present in the classroom, most instruction occurs the old-fashioned way. At home, most children have access to technologies and unprecedented amounts of information, including the Internet, where the answers to most questions can be found by the click of a mouse.

This is beginning to change. Across the country, states, school districts, and schools are beginning to harness the power of technology to offer students the ability to learn online or with virtual learning programs that supplement or replace traditional instruction. Already, approximately 1.5 million American students are participating in online or virtual learning programs.⁵ This number is expected to grow dramatically in the years ahead. Harvard University Professor Clayton M. Christensen and coauthors Michael B. Horn and Curtis W. Johnson, in *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns*, predict that 50 percent of all courses for students in grades 9 through 12 will be taken online by the end of the decade.⁶

A majority of states and school districts and many schools are beginning to introduce policies and programs that create new online learning options for students. As of October 2010, the International Association for K-12 Online Learning reported that students in 48 states and Washington, D.C., can take advantage of supplemental or full-time online learning programs.⁷ Thirty-eight states have virtual schools or state online learning initiatives.⁸ Twenty-seven states and the District offer full-time online schools serving students statewide, and 20 states provide both supple-

mental and full-time virtual learning options to students statewide.⁹ In addition to these statewide programs, a majority of school districts now have one or more students participating in some form of online learning.¹⁰

Online learning is also proliferating across the world. The International Association for K-12 Online Learning reports that other countries are also implementing online learning programs, and in some cases far surpassing the options that are currently available in the United States.¹¹ In Singapore, for example, 100 percent of all secondary schools use online learning and all teachers are trained to teach online. Turkey recently created an online learning initiative that aims to serve 15 million children within 3 years. India is planning a national online learning system to help ensure universal access to education to all children by the end of the decade. China is similarly creating a national online learning curriculum that aims to dramatically increase the number of children who are educated.¹²

How Does Online or Virtual Learning Work in Practice?

Most people who have not yet experienced online learning have questions about how it works in practice. The following is a basic overview of some of the practical matters of how online learning programs are designed and work in practice:

The Scope of Online Learning Programs: Online learning programs can be either comprehensive or supplemental to a child's education. Some students attend full-time online or virtual schools. These students learn almost entirely online and do not attend traditional brick-and-mortar schools. Supplemental programs offer students the chance to take individual courses in an online setting to complement their traditional coursework. For example, a high school student that wants to take a class that is not offered at his or her school could enroll in an online learning program in that subject. Some online learning programs are called hybrid or "blended-learning" programs that

use technology to provide a significant amount of instruction within the traditional school setting. In a blended-learning program, a student may, for example, spend three hours per day learning by sitting at a computer (with a teacher supervising the children and providing instruction when needed) and the other three hours in a traditional classroom with traditional teacher instruction.

Learning Pace and Teacher Interaction: Students can receive online learning instruction from teachers in multiple ways. In general, in distance-based virtual learning programs, students can participate in online learning through either synchronous or asynchronous instruction. In the former, students receive instruction and interact with their teacher in real time. In asynchronous instruction, students learn at their own pace and on their own schedule, while teachers provide regular feedback by grading their assignments and answering questions. In both settings, online learning programs generally require regular communication between students and teachers via e-mail, phone, instant messaging, and video conferencing. In blended learning, students learn using a computer while a teacher serves as a coach or advisor, physically present in the room and monitoring their children's progress.

Location, Reach, and Jurisdiction: Online learning programs can be based entirely at home, partially at home, or in a traditional brick-and-mortar school, as in the case of a blended-learning school setting. Similarly, online learning programs vary in their geographic reach—ranging from school-based programs that are unique to an individual school to state-wide (or even national or global) learning programs

that allow students across wide distances to learn in the same setting. The potential vast reach of online learning programs raises interesting jurisdictional questions. While American schools are traditionally governed primarily by localities or school districts, and secondarily by state governments, online learning programs have the potential to supersede these traditional jurisdictional lines.

The Range of Students Served: Online learning programs can serve students of all ages and backgrounds. Most full-time online learning programs focus on serving older students and high schoolers. A 2008 survey of school district administrators reported that an estimated 64 percent of students participating in full-time online learning programs were in high school, compared to 21 percent in elementary school and 15 percent in middle school (grades 6-8).¹³ However, as will be discussed throughout this paper, online learning programs—including blended-learning programs—can be tailored to serve specific student populations of all ages. Besides serving students of all ages, online learning programs can be tailored to students of all levels, from excelling students seeking advanced coursework to students who are at risk of dropping out and use online learning programs to recover missed credits. This diversity was evident in the 2008 survey of school district administrators that found that each of the following reasons for offering online learning was important for their school system: "Offering courses not otherwise available at the school"; "Meeting the needs of specific groups of students"; "Offering Advanced Placement or college-level courses"; and "Permitting students who failed a course to take it again."¹⁴

Part II—The Benefits of Online Learning

Improving Academic Achievement: The existing empirical evidence suggests that students can benefit academically from learning online. In 2009, the U.S. Department of Education published a meta-analysis of evidence-based studies of online learning programs. The meta-analysis included a review of 44 studies evaluating post-secondary students and 7 studies of K-12 students. The Department of Education report concluded that, “students who took all or part of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction.”¹⁵

While these findings should be interpreted with some caution, particularly since most of the studies evaluated higher education programs, policymakers should have confidence in creating new online learning options, given that the initial empirical evidence suggests that these programs can benefit students academically. (This confidence should be increased by the successful experience of a number of online learning programs, which are reviewed in detail in Part III of this report.)

Benefits for Students: Online learning offers many potential practical benefits to students. These include the chance to learn in a more flexible, customized setting. They also include the chance to learn from better teachers, take new subjects (that may not otherwise be offered in their school), or take courses that students may have missed or failed to recover credits. The opportunity to learn online may also provide a lifeline for students who face safety or social challenges at school, allowing them to learn from home without the worries that otherwise may affect their regular school experience.

Online learning also holds the potential to change the basic structure of how students proceed to higher levels—shifting the focus from “seat time” to a competency- or mastery-based approach. Customized, online learning programs can allow students to proceed to higher levels as they master subjects, potentially learning far more than they otherwise would

have had they been required to learn at the same pace as their classmates. Similarly, customized learning programs can allow for real-time monitoring and tracking of a student’s progress, ensuring that students who are not mastering subjects repeat lessons or coursework, and, if necessary, receive additional instruction.

Besides these important practical benefits, online learning has the potential to change education in perhaps the most important way of all from a student’s perspective—by making it a fun and fulfilling experience. The authors of *Disrupting Class* make this point in an interesting white paper: “Rethinking Student Motivation: Why Understanding the Job is Crucial for Improving Education.”¹⁶ They argue that, while adults may view the mission of education as to teach students, children are motivated by different goals—feeling successful and having fun with their friends. The authors suggest that digital learning is a promising model for accomplishing the important goal of helping children feel successful: “...by the very nature of software, achievement can be integrated with the delivery of content in ways that help students feel successful while they learn, every day. Often this comes in the form of reviews or examinations that are built into the software, which require students to demonstrate mastery before they can move to the next body of material. Feedback can be delivered frequently and in bite-sized pieces, as necessary, to help each student feel successful.”¹⁷

Benefits for Teachers: Online learning programs can be structured to yield significant benefits for teachers, creating a more flexible and potentially rewarding career. As Terry Moe and John Chubb write in their valuable book *Liberating Learning*, online learning can allow teachers to “be freed from their tradition-bound classroom roles, employed in more differentiated paths and productive ways, and offered new career paths.”¹⁸ In important ways, online learning has the potential to significantly improve teacher quality—which research shows is a critical influence

on students' achievement. For example, schools that harness technology and virtual learning programs to supplement or replace some traditional instruction can reduce the number of teachers who are needed, and pay remaining teachers, presumably the most effective ones, significantly more than they otherwise could. Moreover, online learning programs can attract new highly talented teachers into the workforce who may otherwise not choose teaching, whether due to the potential flexibility of an online learning setting or higher pay.

Improving Efficiency and Lowering Government

Costs: Increasing the use of information technology to support or provide instruction can significantly improve efficiency and lower governments' costs spent on teaching students. Terry M. Moe and John E. Chubb examine the fiscal benefits of online learning in *Liberating Learning*. By harnessing the power of technology, they write, "schools can be operated at lower cost, relying more on technology (which is relatively cheap) and less on labor (which is relatively expensive)."¹⁹ Moe and Chubb provide general estimates for the efficiencies that could be realized by replacing

some traditional instruction with technologies like online learning: "If elementary students spend but one hour a day learning electronically, certified staff could be reduced by a sixth. At the middle school level, two hours a day with computers would reduce staff requirements by a third. High schools, with three hours of usage, could reduce staff by up to a half."²⁰ These savings, Moe and Chubb explain, could be used to improve teacher effectiveness by raising salaries or providing additional training for the smaller instructional workforce.

Aside from these theoretical estimates of the potential efficiencies created by online learning, there are already real-world examples of how online learning reduces costs on public education. A fiscal analysis of the Florida Virtual School, a model statewide virtual school program (that is discussed in detail below), found that a student enrolled in the Florida Virtual School receives \$1,048 less in government funding than a student attending a traditional school. Importantly, this savings does not include the additional costs for school facilities and maintenance had the child enrolled in a brick-and-mortar public school.²¹

Part III—Examples of Innovative and Successful Online Learning Programs

Oklahoma families and policymakers should consider some of the innovative online learning programs that are currently operating in the United States to better appreciate the potential benefits for students. The following is a presentation of innovative online learning programs, including statewide virtual schools, full-time online schools, blended-learning or hybrid virtual schools, tuition-based online learning programs, and online open education instructional resources.

Statewide Virtual Schools

Statewide virtual schools currently exist in 39 states.²² These programs are in general supplementary, serving students by offering additional coursework to that offered in traditional schools. The Evergreen Educa-

tion Group reports that statewide virtual schools served 450,000 course enrollments during the 2009-10 school year.²³ The Florida Virtual School, widely considered the national model for state virtual schools, served nearly half of these courses, with a total of 214,000 course enrollments and 97,000 students enrolled in at least one course.²⁴ The Florida Virtual School should serve as a model for Oklahoma if it wishes to create a statewide, supplementary virtual school.

Florida Virtual School: Launched in 1997, the Florida Virtual School (FLVS) is the nation's largest statewide virtual school. FLVS's motto is "any time, any place, any path, any pace."²⁵ During the 2009-10 school year, 97,000 students took courses from FLVS.²⁶

The school's mission is largely supplementary—filling gaps and expanding curriculum options for Florida students. The school currently offers more than 100 courses, including 14 advanced placement courses. The school has 1,200 staff members located in Florida and beyond. It is open to all Florida public, private, and home school children, and tuition-paying students outside of the state (charging approximately \$400 per course). The FLVS is designed to provide students with a flexible and customized learning experience, while maintaining regular interaction with teachers.²⁷ Though instruction occurs online (and students have little to no face-to-face interaction with teachers), teachers are required to regularly engage students and facilitate interactions. Teachers are also required to be on call from 8 a.m. to 8 p.m. on weekdays and weekends to provide feedback to students working at their own pace.

FLVS is funded by state appropriations. When a student takes an FLVS course, the state provides one-sixth of the general state appropriation for a child's education (or roughly \$1,000 as of 2008) to the FLVS. However, the FLVS only receives this payment when the child completes the course. This is a remarkable shift in education finance strategy, since schools traditionally receive funding based on "seat time" rather than student mastery. The FLVS also partners with school districts, allowing schools to "franchise" their course for a small fee to obtain rights to the curriculum and ongoing advice and support from FLVS staff.

The FLVS serves a diverse range of students and appears to work. A 2008 student survey found that the most common reasons cited for taking an FLVS class were "to take a course to graduate on time," "to raise a course grade/grade forgiveness," and "to accelerate graduation/get ahead." While no control-group study has been conducted, a comparison of average test scores on advanced placement exams found that FLVS students outperformed the Florida average.²⁸ As mentioned above, these results are being achieved at a lower cost to the state.

Full-Time Online Schools

Another growing form of virtual education is full-

time online schools, where students learn nearly entirely from home without attending a traditional brick-and-mortar school. According to the Evergreen Education Group, 27 states, including Oklahoma, and Washington, D.C. offer full-time online schools.²⁹ Approximately 200,000 students are now enrolled in these full-time virtual schools.³⁰ The following are examples of high-quality, full-time online schools.

The Pennsylvania Cyber Charter School: In November 2010, the number of students attending the Pennsylvania Cyber Charter School (PACyber) reached 10,000.³¹ A decade earlier, the school had opened in Midland, PA, a steel town that had closed its high school decades earlier, and served just 50 students. PACyber now serves students in grades kindergarten through 12 from all across the state. The school is a public charter school. Students pay no fees and receive free technology supplies (including a computer and high-speed Internet connection) to attend. Students can take both synchronous and asynchronous classes, learning from a teacher in real time or at their own pace. The teacher-to-student ratio at PACyber is 1 to 30. However, students are required to maintain regular communication with both teachers and an assigned academic advisor.

By reducing the traditional labor costs that most schools face, PACyber has been able to invest more resources in developing its technology-based curriculum. The school now offers more than 250 courses. Each is audited for instructional quality by an affiliate of the University of Pittsburgh.³² PACyber is achieving positive results in terms of academic achievement of the students it serves. The school boasts that PACyber students who took the SAT and ACT tests scored higher than their peers in Pennsylvania and across the nation.³³ The school also has achieved federal and state benchmarks on the Pennsylvania state exam.³⁴

Alpine Online School (Alpine District, Utah): The Alpine Online School is an example of a full-time online school that caters primarily to homeschooling families.³⁵ The Alpine school district uses a \$2,500 per-student subsidy from the state of Utah to create

the online school that uses instructional content purchased from K12.com to provide most of the instruction. Teachers from the Alpine school oversee the child's progress on the K12.com coursework, maintaining regular communication with the student and his or her parents. The school is responding to students' unique needs, adding coursework to meet demands (recently expanding to include Saxon math and language instruction from Rosetta Stone) and allowing some students to participate in a blended-learning model by allowing them to enroll in traditional schools part time while continuing their online studies.³⁶ Alpine Online School shows an innovative way that online learning options can be used to benefit homeschooling families and open new and affordable options for families that would like to have their children learn from home.

Blended-Learning or Hybrid Virtual School Models

According to the Innosight Institute, a non-profit think tank that examines disruptive innovations, most of the growth that is occurring in the online learning sector is through blended learning.³⁷ The Innosight Institute defines blended learning as "any time a student learns at least in part at a supervised brick-and-mortar location away from home *and* at least in part through online delivery with some element of student control over time, place, path, and/or pace."³⁸ This analysis will focus on the type of blended-learning schools that combine regular learning at a brick-and-mortar school with a significant amount of technology-based instruction. Some of the most innovative charter schools in the country use a blended-learning approach to providing instruction:

Carpe Diem Collegiate High School and Middle School (Yuma, Arizona)³⁹: Carpe Diem is a public charter school that serves approximately 280 students from grades 6 through 12 and uses a "rotational" approach to blended-learning instruction.⁴⁰ Students rotate from spending a class period at a computer desk receiving virtual instruction to working in a classroom with a teacher to receive traditional instruction. The school hires only one master teacher for each subject and relies on technology and teaching assistants to

support the main instructor. The school's students are primarily low-income. Yet Carpe Diem's students earned the top reading and math test scores on Arizona's state examination.⁴¹ In 2011, Carpe Diem Academy is listed as one of *U.S. News and World Report's* best high schools in Arizona and the nation.⁴² The Innosight Institute reports that Carpe Diem operates at a significantly lower cost than similar schools that do not use blended learning, thanks to both reduced labor and school building costs.⁴³

Rocketship Education: Rocketship (<http://www.rsed.org/schools/>) is an education management company that manages charter schools in San Jose, California. Rocketship schools employ Teach for America teachers. Students assemble each morning for the daily "launch," providing a positive energy throughout the schools.⁴⁴ Like Carpe Diem, the Rocketship schools use a rotational system, with students receiving blocks of traditional teacher-based instruction, supplemented by blocks of instruction in a learning lab where the students receive computer-based instruction. The blended-learning approach allows the school to hire fewer teachers and dedicate those resources to improving teacher instruction.⁴⁵ Like Carpe Diem, the Rocketship schools are attracting attention for their ability to achieve superior academic results at a lower cost.⁴⁶ The schools' student population is composed almost entirely of low-income and English language learner students. Rocketship's schools are among the highest-performing low-income elementary schools in the state.⁴⁷ Rocketship Education is now attracting significant philanthropic support to open new schools around the country.⁴⁸

Wichita Public Schools Learning Centers: In 1999, the Wichita, Kansas, school district created a Learning Center program that aimed to use computer-based instruction to help students recover credits in order to earn their high school degrees.⁴⁹ The Learning Centers serve students primarily from ages 18 to 21, but allow even significantly older students to enroll. The Learning Centers use a blended-learning approach, relying primarily on digital instruction that is supported by teacher supervision. Students can

take classes on their own paces and schedules. As of 2009, the program was serving 946 students and had a waiting list of 300.⁵⁰ The Wichita school district reports that its high school graduation rate has climbed by 8 percentage points since the program began in 1999.⁵¹

Private or Tuition-Based Online Learning Programs

In addition to public online learning programs, parents also have the opportunity to purchase virtual learning programs for their children. A prominent example of private K-12 online learning programs is K12.com. This virtual school program allows families to purchase access to online courses for their children. In addition, K12.com has partnered with governments and school districts in states across the country to manage or provide the services for online or virtual school programs.

K12.com: Launched in 1999, K12.com has become a leading provider of virtual learning programs. The for-profit company partners with states and school districts to operate free online schools or learning programs. In addition, they offer private online learning programs—including a private, accredited K12.com International Academy as well as per-course offerings to provide supplementary instruction. K12.com's high school program includes 130 course offerings, including many electives. The company also provides a K-8 or elementary education program, including an advanced learner option, allowing students to learn at their own pace in a customized program. Access to the instruction of an individual course costs as little as \$22 month or \$94 per month for a full six-course schedule. However, the annual cost of a full-year, teacher-supported course is \$450 for grades K-8 and \$750 for grades 9 through 12.

Free Online Instructional Resources

In addition to these formal online learning programs, the Internet also offers a wide range of free online instructional resources. Never has it been easier for a student to learn on his or her own. These resources can be valuable for all kinds of students: from homeschool families looking for core curriculum to advanced students looking to get ahead to younger or struggling students who need basic instruction.

Consider some of the valuable free online instructional resources that are available today. For example, thanks to free online instructional resources, a youngster can learn from the same teacher (Sal Khan) who tutors Bill Gates's children and later audit four years worth of college lectures at the prestigious Massachusetts Institute of Technology, all for free, thanks to the *MIT OpenCourseWare* initiative.

Khan Academy (www.KhanAcademy.org): Sal Khan may be the most influential instructor in the United States. The Harvard MBA and former hedge fund manager began creating brief online video tutorials in various subjects after tutoring his 7th-grade cousin and other relatives. Khan began posting his short tutorials on YouTube for his students to watch at their own pace, and he soon attracted a following. This hobby blossomed into Khan Academy—a website that offers more than 1,600 tutorials on a wide range of subjects, including higher education subjects.⁵² Khan's tutorials receive an average viewership of 70,000 per day (as of August 2010). Since launching his site in 2006, Khan Academy has received more than 18 million views from around the world. Khan has been described as "Bill Gates's favorite teacher." Gates told an audience that he and his children have been using Khan's tutorials in a range of studies. Gates's strong endorsement has brought greater attention to Khan Academy and the overall movement to provide educational instruction online for free: "I see Sal Khan as a pioneer in an overall movement to use technology to let more and more people learn things, know where they stand; it's the start of a revolution," Gates explained.⁵³

MIT "OpenCourseWare" Initiative: In 2007, the Massachusetts Institute of Technology (MIT) launched its long-planned "OpenCourseWare" initiative, providing free online access to free videos of lectures, course notes, and instructional materials. MIT describes the OpenCourseWare (OCW) program as the "web-based publication of virtually all course content."⁵⁴ MIT reports that the OCW program is having a worldwide impact. As of July 2010, more than 100 million web visitors had accessed OCW content.⁵⁵ The

university reported that 78 percent of MIT tenure-track faculty members were participating in the program and that 2,003 courses were now published online, including 791 translated courses.⁵⁶ One self-learner living in the Philippines provides the following feedback about his/her experience with the OCW program: “I just wanna (sic) say thank you for sharing wonderful resources to people. I dropped out of class due to financial incapacity. OCW helped me learn things about computing without any cost. Though it’s best to have a degree but in my situation knowledge is more valuable... I hope someday I can give back to MIT

even in a simple way.”⁵⁷

Besides free instructional content and lectures, a myriad of other educational materials are also becoming available online for free. For example, a partnership of universities including Stanford University have created the Public Knowledge Project, an initiative to make academic journal articles available online for free, expanding access to research and scholarship.⁵⁸ In addition, the Internet has now become the largest library in the world. Google now offers free access to its collection of 3 million public domain e-books.

Part IV—Policy Recommendations for Oklahoma

Oklahoma is currently in the beginning stages of offering students the opportunity to benefit from online learning. Oklahoma currently has two full-time virtual schools—the Oklahoma Virtual High School and Oklahoma Virtual Academy—for which students in participating school districts are eligible. According to the Evergreen Education Group, more than 2,500 students attended either of these full-time virtual schools in 2009-10, an increase of 163 percent over the previous year.⁵⁹ Oklahoma’s university system also offers students some supplemental, distance-based learning programs that include online classes.⁶⁰ The state’s first virtual charter school, Epic One on One Charter School, is planned to open in the fall of 2011 and is expected to serve as many as 2,000 students.⁶¹

Yet many more children across the state stand to benefit from online or virtual learning programs. To give more Oklahoma students the chance to benefit from virtual education, the state can enact a series of policy reforms to increase the number of high-quality online learning options and give families the power to choose the right learning environment for their children. These policy reforms include both supply-side reforms (to increase the available options) and demand-side reforms to transfer control of education spending to families.

Supply-Side Reforms: Increase the Availability of High-Quality Online Learning

1. Expand Access to the Oklahoma Virtual High School and Oklahoma Virtual Academy by Offering Part-Time Participation, or Create a New Statewide Supplemental Online Program

Oklahoma policymakers should expand access to the Oklahoma Virtual Academy and Oklahoma Virtual High School by enabling part-time enrollment. Currently, any child in the state can enroll in either the Oklahoma Virtual High School or the Oklahoma Virtual Academy. However, students must do so as a full-time student. It is likely that many students would benefit from the opportunity to take advantage of course offerings that would supplement their traditional learning program in public school.

As an alternative, Oklahoma policymakers could create another statewide virtual school offering supplementary instruction, similar to the Florida Virtual School. This school could offer a wide range of courses and allow all students, including public, private, and homeschool students, to access its supplementary instruction. By expanding the existing programs or by creating a new statewide supplemental program, Oklahoma could dramatically increase the number of students who will be able to participate in online learning.

2. Allow More Virtual Charter Schools to Open

Following the opening of Epic One on One Charter School in 2011, Oklahoma should continue forward in expanding options for charter schools to open. This can be done both by charter school authorizers approving virtual charter school applications, and by strengthening the state's charter school law to create more growth in the charter school sector, including virtual charter schools. The Center for Education Reform, a non-profit organization that supports charter schools, reports that Oklahoma currently has the 16th weakest of the nation's 41 charter laws.⁶² Oklahoma can strengthen its charter school law by increasing authorizing options, lifting charter school caps to allow more charter schools to open, and expanding enrollment access.

Encouraging more growth in the charter school sector will open up new quality learning options for families, including new virtual charter schools. For example, Oklahoma leaders could invite innovative charter school management organizations, like Rocketship Education, to open new hybrid virtual schools in the state. State leaders could also consider promising new virtual or hybrid school models that would have the potential to provide a high-quality education to underserved student populations, such as children in foster care, students in juvenile delinquent programs, and children living on Indian reservations.

3. Implement and Expand School- and District-Based Online Learning Options

In addition to creating new virtual learning options, Oklahoma's school districts and public schools should pursue opportunities to enhance their traditional school programs by creating or expanding school- and district-based online learning programs. This can be done in many ways. For example, schools and districts should study the effective school models of schools like Rocketship and Carpe Diem Academy to introduce blended-learning options. School districts could introduce virtual learning partnerships to make new online or

virtual learning options available to students within school districts.

Teachers and public school principals themselves should pursue opportunities to use virtual learning in innovative ways. For example, a growing number of schools are beginning to utilize Khan Academy's free instructional resources to supplement traditional classroom learning. Khan Academy is promoting partnerships with schools that essentially allow teachers to "flip" the traditional lecture and homework model.⁶³ Rather than having a teacher provide instruction to a class, and then assign homework to students to do on their own at night, teachers are reversing the instructional process. Teachers require students to watch Khan Academy's lectures on a given course topic at home, and then use in-class time for hands-on and teacher-facilitated learning. This allows a teacher to provide more one-on-one instruction, more efficiently utilizing the teacher's time to improve students' learning.

4. Expand Access to Oklahoma's Higher Education Course Offerings

Building on the state's current supplemental, distance-based learning program, Oklahoma's publicly funded higher education institutions should follow the lead of the Massachusetts Institute of Technology and other schools and place higher education course content online, making it available to all Oklahoma citizens for free. Doing this would provide important benefits to Oklahoma students and taxpayers without significantly increasing spending on education:

First, making Oklahoma's publicly subsidized higher education content available to all students would enable high school students to learn from postsecondary education instructors, enabling many students to learn subjects that are not available at most high schools. This would enable motivated students to pursue self-instruction opportunities, such as by learning subjects and earning college credits through programs like Advanced Placement (AP) and College Level Examination

Program (CLEP) tests. This would enable students to learn at their own pace and pursue opportunities to earn college credits prior to entering college, yielding savings for their families and potentially reducing subsidized costs that taxpayers may shoulder if these students enroll in publicly funded universities.

Second, making higher education content available online to all citizens and taxpayers would make Oklahoma's higher education system transparent and accessible to people who do not have the opportunity to formally enroll in subsidized higher education. This could help adults who wish to go back to school, or those who simply wish to learn, to benefit from the educational institutions that their tax dollars have been funding for years.

5. Reform Teacher Training Programs to Enhance Virtual Learning

Oklahoma and other states are beginning to reform teacher preparation and credentialing systems. There is good reason to believe that the past approach—using traditional teacher preparation, certification, and licensing systems—has been counter-productive to the objective of strengthening the quality of teachers in the classroom. Evidence suggests that reducing the licensing barriers to enable more qualified and talented professionals to become teachers can yield benefits in improving student learning.⁶⁴ Oklahoma policymakers recently enacted a new alternative teacher certification program, a valuable step in this direction.⁶⁵

Moving forward, Oklahoma policymakers should continue to evaluate the state's teacher training and certification systems to enhance teacher quality and effectiveness. In this process, the state should recognize the changing landscape of American education and anticipate the likely increase in virtual learning. Teacher training and certification systems should be appropriately reformed to recognize the need to attract talented teachers to support current and future virtual learning programs. Beyond reforming Oklahoma's teacher training programs to support virtual learning, the state should also explore reforms that will enable

teachers from around the nation to participate in virtual learning programs that serve Oklahoma's students.

Demand-Side Reforms: Give Parents the Power to Choose the Best Learning Options for Their Children

In addition to these reforms to expand the supply of high-quality online learning options available to Oklahoma families, the state should also implement "demand-side" reforms that will give parents the power to choose the best learning environment for their children, including virtual or online learning programs.

Over the past three decades, policymakers across the country have implemented parent-centered reforms that are aimed to allow families to have greater control over how the public funding spent on their child's schooling is best used to benefit his or her education. These initiatives have included open enrollment or public school choice, charter schools, and scholarships and various forms of education tax credits. These various school choice policies have been proven to improve parental satisfaction, boost students' academic achievement, and strengthen the overall performance of the traditional public school system by creating competition between schools to attract students.⁶⁶ Choice-based reforms could be implemented in the following ways to give families greater flexibility to choose the best learning environment for their children, including virtual education:

Student-Centered Funding: One reform strategy to facilitate greater choice within the traditional public education system is to implement student-centered funding systems, which essentially reform school-based funding system to allow dollars to follow students to a school of choice. To apply this reform idea to facilitate greater access to virtual education, Oklahoma should reform its school funding formula to provide funding on a course-by-course basis to give families the power to choose online education options as part of a child's traditional public school attendance.

In March 2011, Utah Governor Gary Herbert signed into law SB65—legislation that creates a "follow the child" funding system to support virtual learning.⁶⁷ This policy should provide a model for Oklahoma

policymakers. Utah's legislation allows students across the state to enroll in any school district or online charter schools. State funding will then be paid directly to the district or school offering the online course, rather than first going to the child's home school district.

Oklahoma policymakers should look at Utah's example to create a similar funding system to enable all students across the state to access online learning classes with their share of state funding following them to the digital learning provider of choice.

Scholarships or Education Tax Credits: Another popular student-centered education reform strategy is to offer scholarships, vouchers, or tuition tax credits to enable families to choose the best learning environment for their children. These mechanisms for expanding parental choice in education could be implemented (or expanded) in Oklahoma in a manner that would allow families to choose from a wide array of learning options, including virtual education.

According to the Alliance for School Choice, seven states (including Oklahoma) and Washington, D.C., currently have school voucher or scholarship programs that provide parents with state-funded education grants to choose a public or private school for their children.⁶⁸ In addition, seven states have tax credit programs that allow either people or businesses (or both) to receive state tax credits for donations that are made to non-profit groups that provide scholarships to students to attend a school of choice.⁶⁹ In addition, four states provide state tax credits or deductions to relieve parents for some of the cost of purchasing education services for their children, including school tuition.⁷⁰ Implementing or expanding these policies in Oklahoma would let families have greater ability to choose the right learning environment for their children, including virtual schooling options

Education Savings Accounts—A Vehicle for Customizing Education and Expanding Choice: Besides these traditional strategies to give families greater power to choose the right schooling option for their children, Oklahoma policymakers should consider new strategies to provide families with the flexibility to

give their children a quality education in changing landscape of K-12 education. Some states are now considering education savings accounts as a new vehicle to allow families to customize their children's education.⁷¹

For decades, federal policymakers have advocated establishing tax-free savings vehicles to give families more control over funds spent on their children's education and to save for college costs. The federal government currently allows two forms of education savings accounts (ESAs)—so-called 529 College Savings Plan accounts that allow families to save tax free for college and Coverdell ESAs that allow families to save for both K-12 and higher education expenses. Some states, including Oklahoma, provide state tax deductions to encourage families to save for their child's education. For example, parents in Oklahoma can claim a tax deduction of up to \$10,000 (or \$20,000 for joint-filers) for contributions made into 529 College Savings Plan Accounts.⁷² As of July 2010, the Oklahoma 529 College Savings Plan had more than 42,000 accounts with a total savings of almost \$360 million.⁷³

Building on the popularity of the current ESA programs, Oklahoma could enact a program to provide state-funded K-12 education savings accounts that would give parents the flexibility to create a customized learning experience to best suit their children's needs. In 2011, the Goldwater Institute, a Phoenix-based think tank, published a report that could provide a model for a state-funded ESA plan for Oklahoma.⁷⁴ Under the Goldwater Institute's plan, parents could receive a portion of their children's share of state public education funding in a state-authorized ESA if they agree to forgo enrolling their child in a traditional public school. Parents could use that funding to purchase the best education services for their children, such as private school tuition, online or virtual education programs, homeschooling curricula, and tutoring services.

State-funded ESAs would offer some significant improvements over traditional student-centered education initiatives like public school choice and scholarships or education tax credits. For example, ESAs

would give families greater flexibility to use education dollars to best suit their children's needs, spurring innovation among education service providers, including virtual and online learning programs.⁷⁵

A state-funded education savings account program would require that the state implement an appropriate oversight and accountability mechanism, to be established to ensure that funds were spent appropriately to benefit children's education. But existing programs like Oklahoma's 529 College Savings Plan would provide practical models for policymakers designing a transparent and accountable state-funded ESA program.

In 2011, Arizona enacted a new state-funded education savings account (ESA) program. Specifically, Gov. Jan Brewer signed into law SB1553, legislation that will require the state to deposit 90 percent of the state aid that would be spent on a child's education in an "Arizona Empowerment Account."⁷⁶ To be eligible, students must be eligible for special education services and, to receive an account, families must agree not to enroll their child in public school and therefore take control over the responsibility for their child's education. Beginning in the fall of 2011, as many as 17,000 children will be eligible to participate in the program.

Other states are also considering state-funded ESA programs similar to the Arizona program. In 2010, in Florida, Governor Rick Scott's transition team announced the incoming governor's support for the idea of providing universal state-funded education savings accounts for all children.⁷⁷ Conservative writer and editor of National Review Online Reihan Salam called Scott's proposal "the most significant, transformative ideas I've ever seen advanced by an actual elected official with any real power."⁷⁸ In April 2011, a Florida State Senate education committee approved SB 1550, an education savings account proposal that would allow parents to receive 40 percent of a child's share of public school funding in an ESA to be used for private school tuition, tutoring, or for savings for college.⁷⁹ In Ohio, 38 state representatives are sponsoring a bill that would expand Governor John Kasich's proposed

school voucher program to incorporate an education savings account mechanism, allowing families to save funds not spent on private school tuition for other educational purposes.⁸⁰

Addressing the Constitutionality of Giving Parents Control of Education Funding

In 2002, the U.S. Supreme Court ruled in the landmark case, *Zelman v. Simmons-Harris*, that a private school voucher program was constitutional under the First Amendment of the U.S. Constitution. However, opponents of school choice, led by the public school teachers unions, have continued to mount legal challenges against newly enacted private school choice programs, asserting that they violate state constitutions. Some of these challenges have been successful, since some state constitutions have more restrictive religious aid clauses than the federal constitution.

Many states, including Oklahoma, have what is commonly referred to as a "Blaine Amendment," which restricts the state from providing public funding to religious organizations. Oklahoma's "Blaine Amendment" states: "No public money or property shall ever be appropriated, applied, donated, or used, directly or indirectly, for the use, benefit, or support of any sect, church, denomination, or system of religion, or for the use, benefit, or support of any priest, preacher, minister, or other religious teacher or dignitary, or sectarian institution as such."⁸¹

States enacted Blaine Amendments during the latter half of the 19th century during a time of considerable anti-immigrant fever.⁸² James G. Blaine, a Congressman and Senator from Maine, led an effort to create a constitutional amendment restricting public aid to religious schools. While the federal amendment drive failed, it resulted in 37 states enacting so-called Blaine Amendments. At the time, most public schools were generally Protestant in character. The Catholic community and other minorities resisted the Protestant teachings and aspects of these schools and called for public funding to form their own schools. The Protestant position generally was to oppose this view and call to prevent support for "sectarian" education, which would prevent public support for Catho-

lic schools while allowing “nonsectarian” education to continue, which would include Bible readings and Protestant observances.⁸³

Despite this “shameful pedigree,”⁸⁴ to borrow a phrase from a U.S. Supreme Court opinion, the Blaine Amendment creates a legal hurdle for legislators seeking to create policies to allow families to use public funds to choose private and religious schools in Oklahoma. The Institute for Justice, a non-profit public interest law firm that supports school choice, analyzed Oklahoma’s state constitution and the relevant jurisprudence and concluded:

“Tax credit programs are the best school choice option for Oklahoma. Its Constitution contains a Blaine Amendment on which the Oklahoma Supreme Court premised its decision to strike down a private school transportation bill after the U.S. Supreme Court’s decision in *Everson* upholding a transportation program in New Jersey under the Establishment Clause. This failure to distinguish between aiding students and aiding the schools they attend would probably foreclose voucher legislation.”⁸⁵

It remains to be seen whether Oklahoma’s new special education voucher program will face a legal challenge and, if so, how the Oklahoma State Supreme Court will rule. However, a system of state-funded education savings accounts (ESAs) would be more likely to pass state constitutional muster than a traditional voucher program.

In Arizona, the state Supreme Court ruled that the state’s voucher programs for foster children and children with disabilities violated the state’s Blaine Amendment. However, Dr. Matthew Ladner and Nick

Dranias of the Goldwater Institute analyzed the Arizona court’s ruling and oral arguments and suggest that the court’s decision indicates that a choice program that was designed to provide families with a wide variety of choices (such as an ESA) would be upheld as constitutional.⁸⁶

In its decision, the Arizona court acknowledged the “well-intentioned effort” to assist these at-risk student populations and wrote: “There may well be ways of providing aid to these student populations without violating the constitution... But, absent a constitutional amendment,... the Aid Clause does not permit appropriations of public money to private and sectarian schools.”⁸⁷ Ladner and Dranias believe that the court’s decision does acknowledge that a program can be designed constitutionally and argue that a program that would provide public funds for multiple uses that do not necessarily involve private or sectarian schooling, as an ESA would, would not violate the state constitution.⁸⁸

As the Goldwater Institute’s ESA blueprint recommends, Oklahoma policymakers considering policies to expand parental choice like a state-funded education savings account program should consult with legal experts like those at the non-profit Institute for Justice or law professor Andrew Spiropoulos, the Milton Friedman Distinguished Fellow at OCPA, to design legislation that would not violate the state’s constitution. Nevertheless, there is reason to believe that an education savings account program that gives families control of education funding for a wide range of uses, including virtual education, could be ruled constitutional even in a state with a Blaine Amendment.

Conclusion

Online or virtual learning has the potential to fundamentally change the way that children learn. As highlighted in this paper, a growing number of virtual learning options are yielding benefits for students. Beyond the practical evidence of the innovative online learning programs, initial empirical evidence suggests that learning online is an effective medium for instruction that, importantly, can be delivered at a lower cost than traditional schooling.

As online or virtual learning programs become increasingly available across the nation, Oklahoma policymakers have an opportunity to become a leader in offering high-quality online learning options. Policymakers at all levels of state government and school governance have an opportunity to support reforms to expand access to high-quality virtual learning options to ensure that all children have access to a high-quality education that suits their needs and learning styles.

To accomplish this, Oklahoma should pursue both supply- and demand-side reforms to increase access to high-quality online learning. Supply-side reforms include expanding access to the Oklahoma Virtual School, opening up new virtual charter schools, increasing in-school or district-wide virtual learning, and making subsidized higher education instruction available online. Demand-side reforms include reforming school funding formulas to provide funding on a per-student, per-credit basis and enacting school choice policies that give families greater authority to determine how their children's share of education funding is spent. Given the changing landscape of virtual education, a system of state-funded education savings accounts would provide the strongest authority to choose by allowing parents to customize their children's education, including innovative virtual learning programs.

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