



## Searching for the Reality of Virtual Schools

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Americans currently consume 3.6 zettabytes of digital information per day. Put another way, that's 3.6<sup>21</sup> or 3,600,000,000,000,000,000,000 bytes. For the visual learners, picture the equivalent in paper stacked seven feet high across the U.S. including Alaska.<sup>1</sup>

The place of digital content in public education is therefore not a matter of debate; it is inevitable. But school leaders and education policymakers do need to consider how to manage the influx of online learning opportunities in order to make sure students get their full benefit and not end up lost in cyberspace.

In this report, the Center for Public Education describes various ways digital learning is offered to students, from individual online courses to full-time virtual schools. In addition, we examine current state and district policies that govern its administration, including funding and accountability; and we discuss what is known -- and more importantly, what is *not* known -- about the effect of online learning on student outcomes. We conclude with a list of questions for state and local policymakers to ask when considering policies to expand online learning.

The timing of this report is key. K-12 online learning is growing rapidly. Close to two million online courses are taken by public school students annually (Queen et al., 2011). The number of students in full-time online schools is four times what it was a decade ago, and grew by 50,000 to the current 250,000 in the last year alone (Watson et al., 2011).

Many players see opportunities in this burgeoning market and are pushing states and districts to expand their offerings of virtual courses and schools. For its part, the ed tech community, represented by advocacy groups like the International Association for K-12 Online Learning (iNACOL), promotes the many advantages of digital learning. Among these are its capacity to provide customized instruction more efficiently to accommodate different student needs, increase access to high-level courses, and deliver subject matter in ways not possible with traditional classroom instruction.

Some of the major education think tanks have recently made online learning a school improvement priority, too, citing its cost benefits as well as its instructional advantages. The non-partisan Alliance for Excellent Education, for example, has joined forces with the Foundation for Excellence in Education to launch the campaign, Digital Learning Now, co-led by former governors Bob Wise (D-WV) and Jeb Bush (R-FL). In addition, school choice and home school advocates -- notably the Fordham Foundation, the

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<sup>1</sup> Bohn & Short, HMI? How much information?, University of California, San Diego, December 2009

## **Main findings:**

- **Online courses and schools enroll a small fraction of the 52 million public school students, but they are rapidly gaining ground.** *P-12 students take nearly 2 million courses online annually. In addition, about 250,000 students were enrolled full-time in virtual schools in 2010-11, up from 200,000 the year before.*
- **The development, management and staffing of online courses and schools is supported by both public and private providers.** *For-profit companies K-12, Inc., and Connections Academy together enrolled nearly half of all full-time online students in 2010-11.*
- **Funding for online learning varies by state, and ranges from 70 to 100 percent of state and local per pupil rates.** *The impact on district funds also varies by state. In some states, districts are billed for each student enrolled online. In addition, accounting for the actual cost of virtual courses and schools is often lacking.*
- **The jury is still out on the effect of online courses on P-12 student achievement.** *The U.S. Department of Education reviewed existing research and found a modest positive impact of online courses, but cautioned that the findings were based mostly on results for post-secondary students.*
- **Emerging reports show a troubling overall picture of poor performance and low graduation rates for full-time online students.** *Two small-scale studies found positive effects for elementary students, however, suggesting that parental supervision could be an important factor.*
- **There needs to be a clearer accountability path for online learning, especially in regard to monitoring student progress and performance as well as accounting for the cost of virtual schooling.**

Center for Education Reform, and the American Legislative Exchange Council -- are actively promoting the expansion of online schools as an another alternative to the neighborhood public school.

The online learning providers, including several major software companies and both for-profit and not-for-profit online schools, complete the list of players advocating for a larger presence for digital courses and schools on the education policy agenda, and presumably a larger role for themselves.

State legislatures are responding. Forty states have passed what iNACOL calls “significant” state online learning policies, and 30 states and D.C. have created state virtual schools. Yet as NSBA executive director Anne Bryant recently wrote: “Virtual schools ... are a messy, emerging field with little data to analyze so far.” Indeed, we found little solid research on the impact of online courses or schools in writing this paper. Interestingly, news organizations, rather than education researchers, seem to be taking the lead in investigating and reporting their effects. While we found a few examples of online learning having a positive effect, most of what we were able to uncover is not encouraging.

The lack of information will not stand in the way of it moving forward, however. Online learning when done well can transform instruction and provide the 21<sup>st</sup> century education our students need, and some visionary educators are showing the way. But policymakers and school leaders will need to make smart choices so that online learning adds value to the quality of instruction and students have the support they need to be successful. States will need to establish straightforward funding policies based on a clearer understanding of true costs, how the money is distributed, and the impact on local school districts. There must be transparency in the administration of online learning and clear accountability for student results.

Finally, as with every major reform, we need to monitor online learning closely in order to understand how public education overall is being challenged and transformed in order to fulfill its promise. We hope that this paper will be a useful beginning for that process.

## PROVIDERS

One of the reasons it's hard to get a handle on online learning is that it comes from so many different sources. There are a wide range of providers in the online learning market. Individual school districts, state boards of education, non-profit foundations, and for-profit companies have all developed digital content and services, including the operation of fully online schools.

The National Association of Charter School Authorizers developed a map of all the different ways online learning can be provided:

## The Defining Dimensions of Online Programs

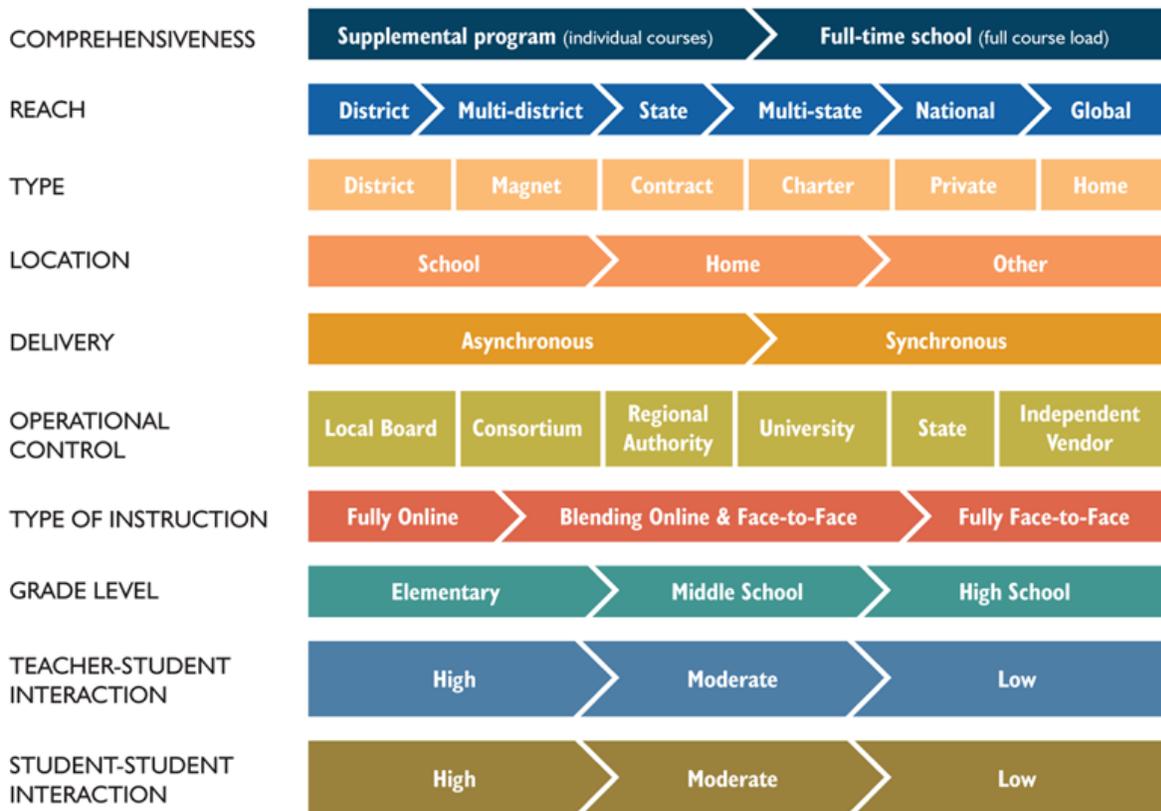


Figure adapted from Gregg Vanourek, A Primer on Virtual Charter Schools: Mapping the Electronic Frontier, Issue Brief for National Association of Charter School Authorizers, August 2006.

© Keeping Pace with K-12 Online Learning, 2011, kpk12.com

With that many different configurations possible, how can school leaders get a handle on the subject? We'll look at the more common providers and offerings below.

## For-profit companies

For-profit companies are part of the larger educational software market. Their business model depends on everything from out-of-the-box courseware to a full, planned curriculum, with teachers, tutors, proctored exams – literally, a “virtual school.” Some of the for-profit companies started out catering to the homeschooling market.

*Example:* K12 Inc. and Connections Learning (recently acquired by Pearson) are two of the largest players in this market. K12 Inc., for instance, offers “individual courses for sale” as well as “online public schools” and “online private schools” on its home page. Connections Learning addresses itself to schools, offering everything from credit recovery courses and “online summer school” (both of which provide students a chance to retake failed courses) to “your own virtual school.”

## Non-profit companies

Some non-profit organizations also offer online learning. As with all non-profits, different organizations are created for different purposes. Most depend on private donors or grant funding in order to operate.

*Examples:* Diploma Plus is a non-profit intended to partner with alternative high schools to help at-risk students graduate. KIPP LA is part of the larger non-profit charter school chain, and it has decided to use online learning in order to keep class size small and provide close evaluation of students and remediation when needed. The 16-year-old Virtual High School Global Consortium provides member districts access to high-level online high school courses and professional development for teachers.

## State Departments of Education

Some states have established and offer their own online learning courses. There are benefits to this approach: they can oversee and standardize what gets offered to their students, as well as gather data about student performance.

*Example:* Florida Virtual School, established in 1997, says that it was the first state-wide Internet-based public high school in the country. It now offers courses to both Florida students (who do not have to pay) and others outside the state (who do pay tuition). The coursework ranges from remedial courses to Advanced Placement.

In fact, many other states use Florida’s coursework and structure for their own online programs (see the CPE report “[Defining credit recovery](#)”). This option illustrates just how much variation there can be even with one provider: Florida Virtual Global School offers a full-service option, where other districts use Florida courses, a “learning management system” and teachers; a “hosted” option, where schools or

### **Who delivers online content?**

*Districts report that 75 percent of the distance education they offer is delivered by an entity outside of the school district. The major providers are as follows:*

<i>U.S. postsecondary institution</i>	<i>50%</i>
<i>For profit vendor</i>	<i>47%</i>
<i>State virtual school</i>	<i>33%</i>
<i>Another district in state</i>	<i>21%</i>
<i>Their own district</i>	<i>18%</i>

*Other providers include virtual schools from outside the state, other education service agencies within their state, or online charter schools administered by their own district (Queen et al., 2011).*

districts can use their staff but keep Florida’s courses and management system; or locally-hosted, where schools or districts just use Florida’s courses. Finally, Florida itself does not develop all of the content itself; some comes from outside providers.

### Individual districts

Obviously, what state departments of education can do, many individual districts can do also. Individual districts may buy online software and create their own blended-learning approaches; they may also develop online coursework of their own. Individual districts often have specific requirements for online learning and how credit may be earned; therefore, it makes sense for them to develop their own options.

*Example:* The *New York Times* article “A Classroom Software Boom, but Mixed Results Despite the Hype” lists Augusta County, Georgia, as one of the districts that adopted Carnegie Learning’s Cognitive Tutor software to help students at risk of failing math. Virginia’s Fairfax County school board recently heard a proposal to develop its own online high school for county students.

If you’re overwhelmed by the possibilities, you’re not alone. Much of the work any school board needs to do is to simply define what is being offered or considered in the district. Below is a helpful graphic from iNACOL that may help you organize your thinking about online learning providers:

Categories of online programs					
Category	Organization type / governance	Full-time / supplemental	Funding source	Geographic reach	Examples
State virtual school	State education agency	Supplemental	State appropriation, course fees, funding formula	Statewide	Florida Virtual School, Michigan Virtual School, Idaho Digital Learning Academy
Multi-district	Charter or district-run	Full-time	Public education funding formula	Statewide	Oregon Connections Academy, Insight School of Washington, Georgia Virtual Academy, Minnesota Virtual High School
Single-district	District	Either or both	District funds	Single-district	Riverside (CA), Broward (FL), Plano (TX), Los Angeles, JeffCo (CO), WOLF (NV)
Consortium	Variable	Supplemental	Course fees, consortium member fees	Statewide, national, or global	Virtual High School Global Consortium, Wisconsin eSchool Network
Post-secondary	University or college	Either or both	Course fees	National	University of Nebraska Independent Study HS, Brigham Young University-Independent Study

## **FORMATS**

Combined with the variation in providers is a variation of formats. As we just saw, Florida's Virtual Global School is a good example; it offers everything from a virtual classroom equipped with teachers, tests, and progress analysis, to strictly coursework alone. The two most common formats of online learning are referred to as "fully online" and as "blended learning" – but even those definitions can be fuzzy. Here are two short descriptions to show what's involved in providing these formats, and to highlight what kind of oversight might be necessary.

### **Fully online**

Sometimes "fully online" is a term that indicates a "virtual school," which intends to provide every part of the school academic experience. In virtual schools, students sign up for a full class load and interact with teachers, often through e-mails, instant messages, or chat rooms, and occasionally over the telephone. They can be part of a larger class or work through material at their own pace. An example of an online virtual school would be one set up by K-12 Inc.

Alternatively, "fully online" can mean that students can take single courses online, but all interaction is done through the computer, whether in conjunction with other students in other places, or as self-paced learning reviewed later by a teacher, who sends online feedback.

Complicating the subject are providers like Rocketship Education, which offers what is considered "fully online" learning because lectures and background are given online. But classroom time is spent in a brick-and-mortar classroom applying that knowledge to various projects. Courses like these are often included in the "fully online" data, even though we may think of online learning as unsupervised, solitary, computer-based education.

### **Blended learning**

"Blended learning" is a term used to indicate a mixture of in-person and online instruction. Most of these courses take place in an actual brick-and-mortar building. Sometimes they are supervised by a proctor and sometimes by a teacher. Blended learning can happen as a supplement to regular coursework (say, as an advanced math class when there isn't enough staffing or students to hold a regular day class) or as credit recovery (for instance, for students who failed sophomore history). Depending on the level of staffing and number of students at the school building, as before, the level of interaction with a teacher or with other students can vary. Blended learning can look like a student working, on her own, through English content she had previously failed with a proctor to watch her take the end-of-course assessment tests; or it could look like three or four students working after school to take AP Chemistry with a teacher in the room to present the initial lecture.

KIPP LA is an example of a school that uses blended learning. That instance of the non-profit charter school chain uses educational software to reduce class size and enable small-group instruction. The school uses software that provides a lot of data to teachers about individual student's progress, so they can target their instruction more effectively. Another example is Mooresville (North Carolina) School District, which was featured In the *New York Times* for its rich online program.

## **ENROLLMENTS**

Online learning is rapidly growing at all levels, but particularly among high school students. The following data offers some insight into the number and type of online opportunities offered across the country, and of students taking them.

### **Participation in online courses**

As the previous section showed, online learning covers a large territory. The most common way students participate is through individual online courses that can either be taken in a blended learning environment or offsite on the student's own time.

- Total K-12 course enrollments were approximately 1.8 million in 2009-10 (Watson et al., 2011).
- 55 percent of public school districts have some students enrolled in distance education courses; of these, the vast majority (96 percent) are high school students. Distance education is more prevalent in the southeast (78 percent) and central states (62 percent) and less common in the northeast (39 percent), and more common in rural districts (59 percent) than city (37 percent). (Queen, 2011)
- At 55 percent, female students outnumber males in online programs, although researchers don't speculate why. While there are variations by race and ethnicity, the gaps aren't large. White, Asian and Native American students are somewhat more likely to participate in online programs than their Black and Latino peers. However, the participation of special needs students and students from low-income families lags significantly behind their classmates, suggesting there are issues related to access for these student groups that need to be addressed (Watson et al., 2011).

### **Participation in full-time online schools**

Full-time online enrollments represent a small percentage of the total public school student population, but are rapidly growing.

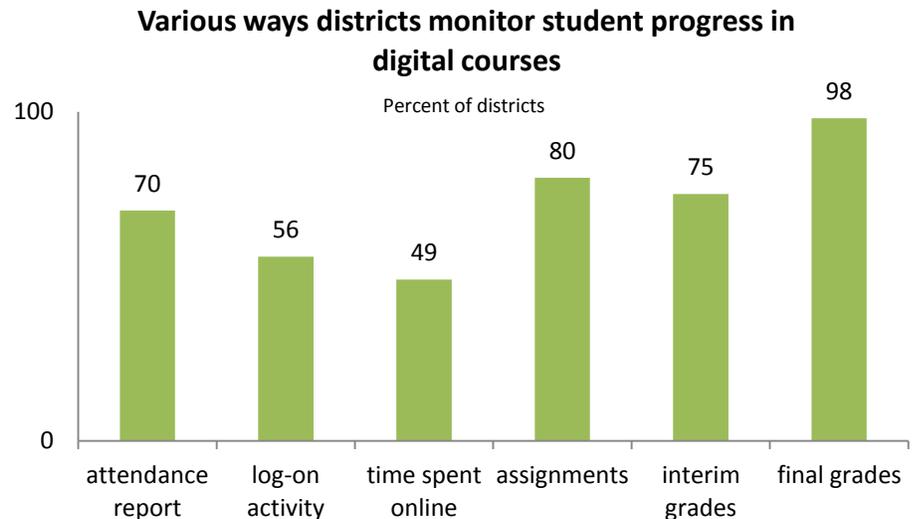
- Approximately 250,000 students were enrolled full-time in multi-district online schools in 2010-11, up from 200,000 the previous year but still represent less than 2 percent of total public school enrollments. These virtual schools are often organized as charter schools and affiliated with national for-profit providers such as Connections Academy, K-12 Inc, or Advanced Academics (Watson et al., 2011).
- Ohio reports the highest number of full-time online enrollment in 2010-11 at 31,142, followed by Pennsylvania (28,578) and Colorado (15,214) (Watson et al., 2011).
- Thirty states and DC have state-wide online schools. Florida is the largest and among the oldest. The Florida Virtual School enrolled 259,928 course-takers in 2010-11. Second was North Carolina Virtual Public School, with 88,716 course enrollments (Watson et al., 2011).
- K-12 Inc. is the largest outside provider of online schools enrolling 82,670 students in 29 states and Washington, D.C.; Connections Academy is second with 35,000 students in 20 states ((Watson et al., 2011).

## POLICIES

States and districts have different policies regarding students in online learning courses and schools. A handful of states require students to take one or two online courses in order to graduate. One argument for such requirements is that the ability to work independently in an online environment is a necessary 21<sup>st</sup> century skill that new graduates will likely need to practice in the workplace as well as to negotiate their day-to-day lives. And as discussed earlier, districts often look to online courses as a way to provide opportunities for students beyond the offerings in the regular school schedule, in particular electives like AP courses, dual enrollment and credit recovery.

However, the degree to which districts monitor the participation and progress of online students varies considerably and in many cases is much less than what is required in traditional schools. The lax oversight of students is a likely contributor to low completion rates.

- Alabama, Florida, Idaho and Michigan require online learning as a requirement for high school graduation. (Watson et al., 2011)



SOURCE: Queen, Lewis & Coopersmith, NCES, 2011

- 22 percent of districts offering distance education allow students to take a full load of digital courses. City districts are more likely to allow full enrollment (32 percent) and rural districts are least likely (17 percent) (Queen et al., 2011).
- 62 percent of digital courses taken were for credit recovery followed by dual enrollment (47 percent), and advanced placement (29 percent). Most courses taken (65 percent) were core courses or electives (Queen et al., 2011).
- A large majority of districts track online completions in some way: 87 percent track the number of course completions with a passing grade; 79 percent track completions with a failing grade; but only 65 percent monitor course withdrawals. Smaller districts were more likely to track completions than large (Queen et al., 2011).
- 98 percent of districts keep track of students' final grades in distance education courses, yet only about half monitor students' log in activity or time spent online. This is in stark contrast to most brick-and-mortar schools which have strict attendance policies and oversight (Queen et al., 2011).

- Few districts have policies specifying consequences for not completing digital courses successfully. Only 12 percent will not allow the student to take any other digital courses, and 6 percent impose a waiting period (Queen et al, 2011).

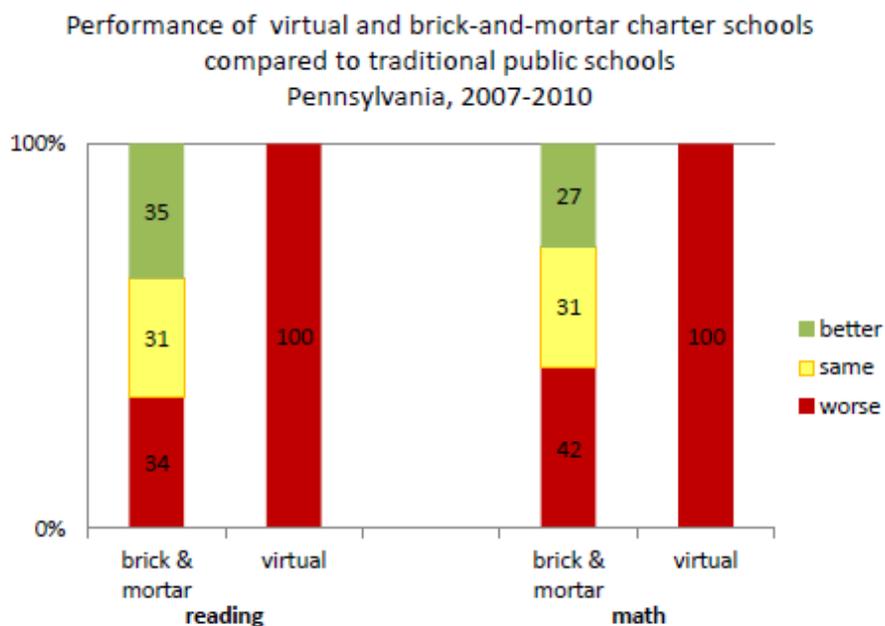
## STUDENT OUTCOMES

The one aspect of online learning that stands out among all others is how little is known about its effect on student outcomes, especially at the K-12 level. Several attempts to document student performance have been thwarted by missing or incomplete data, weak monitoring rules, and a vague picture of students dropping in and out of the online environment and subsequently the accountability system.

Nonetheless, a few studies document online students outperforming their non-digital peers, showing that online learning can be a vehicle for high performance under the right conditions. Most of the studies we found, however, tell a story of students worse off than their classmates in brick-and-mortar schools. Reports of high school completion rates at or under 25 percent, lower test scores, and high dropout rates in many virtual schools should raise serious concerns for school districts, students and parents.

- An analysis of prior research conducted by the U.S. Department of Education found a modest positive impact for *post-secondary* students in online environments over their peers exposed to traditional face-to-face instruction. However, Department researchers found a mere handful of comparable studies of *K-12* students that met rigorous research standards. Of the seven K-12 studies they examined, three showed significant effects in blended learning environments, one showed negative effects of online learning, and the remaining three had no statistically significant results. The authors caution, however, that the sample sizes were too small to generalize any conclusions about impact (Means et al, 2010).

- A Stanford University study of Pennsylvania charter schools found that all eight virtual charters in the study performed significantly worse in reading and math than their traditional school counterparts in terms of student gains. The study covered the period 2007-2010 (CREDO, 2011).



*How to read this graph: 35% of brick & mortar charter schools performed significantly better than their traditional public school counterparts. SOURCE: CREDO, 2011*

- A recent study examined the proportion of charter schools operated by for-profit Education Management Organizations (EMO) that made AYP in 2010-11. The analysts found that only 27.4 percent of virtual schools run by for-profit EMOs met AYP that year, compared to 51.8 percent of the brick-and-mortar EMO-run charter schools (Miron et al., 2012).
- A 2011 Minnesota state evaluation found that their students' completion rates in online courses were decreasing. They also found that full-time online students were more likely to drop out than their peers. Full-time online students in grades four through eight made half the progress on the state math test as their traditional counterparts: 39 percent of full-time online students showed low growth compared to 26 percent of their peers in traditional schools. Reading results, however, were mixed (Minnesota Office of the Legislative Evaluator, 2011).
- Following a ten-month long investigation, a Colorado news organization reported that the state's virtual charter schools experience high student turnover, and produce significantly higher dropout rates and lower test scores than brick-and-mortar schools. Half of Colorado's online students end up leaving within a year to return to their neighborhood schools and post lower scores when they do. In 2010, online schools produced three times more dropouts than graduates. Over a four-year period, online students' scores averaged 14 to 26 percentage points below the state average in reading, writing and math (Hubbard and Mitchell, 2011).
- Between 2006-07 and 2010-11, 66 percent of students who enrolled in Florida Virtual School courses withdrew in the first month. However, of the students who stayed enrolled, 81 percent completed the course successfully (passing grade of 60 or above) (Catalanello and Sokol, 2012).
- Of Ohio's 27 virtual schools, only three were rated "effective" or "excellent" on the state's accountability scale in 2010. The two largest virtual schools enrolled over half the approximate number of 30,000 online students statewide, and were rated as "continuous improvement." Moreover, their on-time graduation rates were well under 50 percent (Tucker et al., 2011, OH Department of Education, 2011).

Two studies found some positive results for elementary students in online schools, which suggests that the presence of parental supervision could be a key factor.

- A University of Arkansas study matched students in the state-run Arkansas Virtual Academy School with traditional school peers in grades three through six. The researchers found that the AVAS students improved significantly over their traditional peers: an average 9.6 percentile points in math more and 3.6 points in literacy over a two-year period (Rittner, 2012).
- An independent evaluation of Rocketship Education, the national "hybrid" or blended learning charter school network described earlier, showed sizable math gains among participating students at kindergarten and grade one compared to their peers. The average gains were impressive -- equivalent to a 5.5 increase in percentile rankings over a 16-week period (Wand and Woodworth, 2011).

## FUNDING

Online schools are funded in different ways in different states. In some, online schools are funded entirely by the state, while in others, funding comes directly out of school districts' budgets. When it comes specifically to virtual charter schools, states typically fund them the same way as they fund brick-and-mortar charters.

In some states, virtual charter schools receive the per-pupil funding amount the student would have received if he or she had remained in the local school district. Different per-pupil funds lead to the distinct possibility of funding more than the cost of providing the instruction because the virtual school's actual per-pupil costs would be the same regardless of which district the student comes from.

In other states, the virtual charter school receives the per-pupil funding amount based on the per-pupil funding of the district where the virtual charter school is headquartered. This also raises the possibility of over-funding. In states like these, virtual charter schools have an incentive to set up their headquarters in the school districts that receive the highest per-pupil funding amounts in the state even if their students previously attended school districts with much lower funding levels.

In either case, funding for virtual charter schools is not based on how much it actually costs to operate a virtual school. No matter if a virtual school is publicly or privately run, or run by a for-profit or not-for-profit organization, funding should be based on how much it actually costs to adequately educate the students. Unfortunately, in many states this does not appear to be the case. Here are some examples of how online schools are funded in virtual charter-heavy states.

### Pennsylvania

In Pennsylvania, nearly 28,000 students attend one of the state's 12 virtual charter schools. These students come from all over the state, and at least one student from each of Pennsylvania's 500 districts attends one (Abraham & Benefield, 2010). Virtual charters receive state and local per-pupil funds based on the student's resident district. As such, virtual charter schools receive more money if they enroll students from districts that have higher per-pupil funding (state and local funding only). Therefore, a virtual charter school may receive \$5,103 for a student from one district and receive \$18,522 from another district even though the students cost the same to educate (PA Auditor General, 2010).

Pennsylvania does adjust how virtual charters are funded by subtracting out the cost for certain activities local districts provide but virtual charters do not. Specifically, for each student attending a virtual charter school, the district pays a per-pupil payment *minus* all per-pupil expenditures for adult education programs, community/junior college programs, student transportation, facilities acquisition, construction and improvement services, other financing uses (i.e., debt payments), and all federal funds received. As such, virtual charter schools, on average, receive about 76 percent of the per pupil funding local school districts receive (Abraham & Benefield, 2010).

However, the Pennsylvania pro free-market think tank Commonwealth Foundation argues such virtual charter schools should receive 100 percent of the per pupil funding (Abraham & Benefield, 2010). They base their argument on a 2006 BellSouth Foundation report that found that even though virtual charter schools do not offer the same breadth of services as districts, the costs of operating a virtual school are about the same as operating a brick-and-mortar school. According to the report, the cost of providing a full-time virtual program is between \$7,200 and \$8,300 per pupil compared to the national average of \$7,727 (excluding capital and transportation costs) for traditional brick-and-mortar schools (Anderson et al., 2006). The study's authors arrived at this figure by conducting panels of experts of online learning (both from private and public sector) as well as state policymakers from around the nation with direct knowledge of online learning to elicit their professional judgment on what resources are needed to run a virtual school and how much those resources would cost.

Not everyone agrees. When examining the actual costs associated with providing a virtual education in the state, a report by the Pennsylvania Auditor General concluded that it actually costs virtual schools about \$2,000 per student less than brick-and-mortar charter schools to educate students. The report also said that many virtual charter schools hold large fund balances, which are not designated for any educational purpose, that are on average twice as large as balances held by school districts (PA Auditor General, 2010). So in Pennsylvania, a number of virtual charter schools are simply putting a percentage of their per-pupil funding in the bank instead of using it to educate the students they have.

## Ohio

In Ohio, over 31,000 students attend one of 32 virtual schools, although just eight are statewide, meaning any Ohio student can attend no matter where they live. As in Pennsylvania, virtual schools receive the average per pupil funding of the district where the student resides. Therefore, virtual schools receive more funds if they enroll students from districts that have higher per-pupil funding. On average, per-pupil funding for virtual charter schools is about \$5,600, although schools receive additional funds for special education students (OH Department of Education, 2012). Unlike Pennsylvania, virtual charter schools receive funds directly from the state, not the district. Furthermore, funding is based on average monthly attendance so if a student leaves a virtual charter school during the school year, the school stops receiving funds for that student.

### Per Pupil Expenditures Pennsylvania

#### Total expenditures:

- **Cyber schools: \$10,935**
- **PA districts: \$14,315**

#### Instructional costs

- **Cyber schools: \$7,540**
- **PA districts: \$8,301**

#### Support Services

- **Cyber schools: \$2,976**
- **PA districts: \$4,152**

Source: The Learning Revolution (2010). The Commonwealth Foundation

## **Colorado**

Colorado has over 18,000 students enrolled in 22 virtual schools that serve students across district lines. However, many districts in the state operate their own virtual schools, too, which are only open to students in that district (Hubbard & Mitchell, 2011).

As for funding, virtual charter schools receive at least 95 percent of the average per pupil funding: a flat \$6,500 no matter what district the students reside in or where the charter school is located. However, charters can negotiate for more funds with their district. Furthermore, funding is based on enrollment as of October 1<sup>st</sup> of each year. So virtual charter schools keep all funds, even for students who transfer back to their school district after October 1<sup>st</sup>. As a matter of fact, reports have found that between 30 to 50 percent of students in virtual charter schools leave those schools after October 1<sup>st</sup> and many return to their school in their school district (Hubbard & Mitchell, 2011). In that case, the local school had the cost of educating the student, but not the funding, while the virtual schools had the funding but not the cost. More fiscal oversight could ensure that the institution educating the student also receives the funding.

How virtual charters receive their funds differs by whether they are authorized by the local district or state charter institute. For virtual charters authorized by school districts, the funds pass through the district. For virtual charters authorized by the Charter Institute, funds are provided directly from the state (ECS, 2011).

## **Florida**

Unlike Pennsylvania, Ohio, and Colorado, Florida's Virtual School is run by the state, not by a private organization. However, local school districts can be "franchisees," where they provide online education to the students in their districts. Over 122,000 students enrolled in at least one online course in 2010, but most of these students were not enrolled in the virtual school full-time (Florida Virtual School, 2012). Florida Virtual School is funded directly by the state through its state funding formula. But the Florida Virtual School funding is not guaranteed. Funding is based on performance; the school only receives funds if students pass a course. Full funding equates to six courses by a high school student. So if a high school student passes six courses in a year, Florida Virtual School receives full per pupil funding for that student. If the student only passes one course, the school receives 1/6<sup>th</sup> of the per-pupil funding -- \$1064 per course in 2008-09 or \$6384 for a full six courses per pupil (Tucker, 2009).

## **Cost of a Virtual Education**

As the previous discussion just showed, how much funding virtual schools receive does not necessarily correspond to how much it actually costs to run a virtual school. So the question needs to be asked: how much does it cost to run a virtual school?

Unfortunately, there is no clear answer. Even virtual school advocates have not been able to give a definite answer to what the actual costs are. Some advocates even promote virtual schools as a cost saving measure while also arguing that they require as much taxpayer funds as traditional brick-and-mortar schools. But computing the true cost of a virtual education is as much guesswork as math.

The Fordham Institute, which advocates for virtual schools, stated in its report “The Cost of Online Learning” that there is limited availability of reliable and consistent costs data when it comes to virtual learning. However, they estimate that the per-pupil cost of a virtual school runs between \$5,100 and \$7,700 while estimating that a blended learning model runs between \$7,600 and \$10,200 compared to the \$10,000 Fordham says traditional public schools spend per-pupil. Keep in mind, Fordham based these estimates on interviews with those who run virtual schools and not based on any actual accounting of virtual schools’ expenditures (Fordham, 2012).

The absence of accounting for the true cost of virtual education leads to a lack of accountability for many virtual schools. While budgets for traditional public schools are publicly released, and many times voted on by the public, such budgets are not publicly available for many virtual schools. So it is quite difficult, if not impossible, for taxpayers to know how their taxes are being spent in virtual schools.

To make it even more difficult, determining how many students are enrolled in virtual schools can be a problem as well. For example, as stated earlier, in Colorado funds are distributed to virtual schools based on their enrollment on October 1<sup>st</sup> of each year. However, between 30 and 50 percent of those students do not remain in the virtual school throughout the year. So virtual charters in Colorado are receiving funds for students they are not educating. Therefore, their actual per-pupil costs could be much higher if they were based on only those students enrolled in the virtual school throughout the year. On the other hand, Ohio funding for virtual schools is based on average monthly attendance so virtual schools stop receiving funds for those students who stop attending, which provides a more accurate thus more transparent per-pupil cost. Because of startup costs, the cost of educating 500 students is much different from the costs of educating 1000 students, even in a virtual school.

There needs to be greater oversight and accountability to ensure virtual charter schools receive funding for those students they are actually educating. This means receiving funds only for those students they can verify log into and participate in their virtual school, just as traditional brick-and-mortar schools have to verify their students actually come to school. With proper oversight, both brick-and-mortar and virtual schools can be appropriately funded.

But more research needs to be done before that can happen. Despite the many different models and reports, the bottom line is that we do not know how much it actually costs to provide a virtual education. In many cases taxpayers do not exactly know how their tax dollars are being spent. This should concern anyone involved with education.

<b>Estimated Costs Per Pupil for Virtual Schools</b>			
<b>Category</b>	<b>Cost Estimate</b>	<b>Fluctuation</b>	<b>Cost Levers</b>
<b>Labor (Teachers and Administrators)</b>	\$2,600	+/- 15%	Student-teacher ratio
			Teacher salary
			Professional-development (virtual or in-person)
<b>Content Acquisition</b>	\$800	+/- 50%	Content quality (level of personalization)
			Inclusion of content-management system
<b>Technology and Infrastructure</b>	\$1,200	+/- 25%	Computer purchases or internet subsidies for students
			Additional instructional hardware (i.e. webcams)
<b>School Operations</b>	\$1,000	+/- 20%	Facility size (determined by whether teachers work remotely)
			Transportation (field trips and state testing)
<b>Student Supports</b>	\$800	+/- 0%	May potentially change depending on student mix, but critical component of all schools
<b>Total</b>	<b>\$6,400</b>	<b>\$5,100 to \$7,700</b>	
<b>Estimated Costs Per Pupil for Blended Learning Schools</b>			
<b>Category</b>	<b>Cost Estimate</b>	<b>Fluctuation</b>	<b>Cost Levers</b>
<b>Labor (Teachers &amp; Administrators)</b>	\$5,500	+/- 15%	Time spent in computer facilitated learning
			Human capital during computer-facilitating learning
			Human capital for the remainder of the day
<b>Content Acquisition</b>	\$400	+/- 50%	Content quality (level of personalization)
			Inclusion of content-management system
<b>Technology/Infrastructure</b>	\$500	+/- 25%	Student-laptop ratio
			Wireless needs
<b>School Operations</b>	\$1,700	+/- 20%	Potential small cost savings around facilities and transportation from staggering student schedules
<b>Student Supports</b>	\$800	+/- 0%	May potentially change depending on student mix, but critical component of all schools
<b>Total</b>	<b>\$8,900</b>	<b>\$7,600 to \$10,200</b>	
Source: Fordham Institute (2012). <i>The Costs of Online Learning</i> .			Reprinted with permission

## **MOVING FORWARD**

It should be clear to school leaders that the field of online learning is moving forward quickly and that they need to be involved in several ways. First, state and local education policymakers should demand more information when considering online learning options for their students. The wide variety of purposes, providers and formats, combined with the lack of data on outcomes, accountability, and funding, means that we don't really know what is going on overall in the field.

Second, some of the outcome studies that have been published have shown troubling results in some forms of online learning. It is possible for students – especially struggling ones – to drop in and out of the online world, putting them ultimately farther behind. In contrast, targeted use of online learning does seem to have the potential to improve student outcomes. Blended learning environments in which students get the advantages of rich online experiences along with teacher supervision seem to combine the best of both worlds. Regardless of how the online content is delivered, districts need to carefully track what actually happens to students in online learning, and what conditions create success.

Lastly, follow the money. Funding for online students should reflect the true costs of providing the instruction, but as we have shown, coming up with that number is hardly straightforward. The growing presence of outside providers of online services -- especially for-profit entities -- further obscures the lines to who is accountable for student progress in virtual programs. Untangling this knot won't be easy, but parents, students and taxpayers need to know that the dollars are well-spent and producing results.

The final sections of this paper offer some starting questions and resources that we hope will help.

## **QUESTIONS TO CONSIDER**

Policymakers and school leaders considering online learning have many questions to consider. Here are some suggested ones to start exploring the issues:

### **Enrollment**

- Who is enrolling for online learning? What are the different populations? What different needs do they have?
- What student populations use online learning the most?
- How will we track who is enrolled and who has dropped out? What happens to students who stop attending a virtual school? Will funding change as a consequence if this happens during the year?

### **Providers**

- Who are the different providers of online learning in our state or district?
- Who authorizes different providers?

### **Program quality**

- How do we make sure the online curriculum is aligned with state and district standards?
- Who teaches the courses? How are teachers selected and assigned? Do they have adequate preparation to teach in an online environment?
- Does the district provide professional development to help teachers use online learning to the greatest advantage?

### **Outcomes**

- What outcomes will we track for virtual schools or online courses? What will define success?
- Who is accountable for students' progress in online courses? What alignment do these courses have with district or state curricula?
- How will student progress be monitored? Is there sufficient infrastructure to track student log ins and participation?
- Who uses online learning the most?
- If we are using online learning to help at-risk students or for credit recovery, do they improve or continue to struggle?

### **Funding**

- What is the true cost of operating a virtual school in our district or state? What about blended learning or online courses?
- Who determines funding for online courses or virtual schools? How and when is this funding awarded? How is it reported to the public?

### **Accountability**

- Who authorizes an online learning course or enrollment?
- How are test scores or other accountability measures for online learners reported? Are they broken out or included with the district? Is this the same for online learning run by outside companies?
- What gains are students making compared to similar students who do not have online instruction?

**State**

- How do gain scores compare statewide compared to those not taking online courses?
- How does the state policy for funding virtual schools impact the funding for brick-and-mortar public schools? What happens if students enroll in a virtual school and then return to the neighborhood school during school year? Is there a better approach toward funding?
- Who does the state authorize to provide online learning? What criteria are used to authorize or evaluate their work?
- To what extent is the design for providers structured to complement school districts or to compete against local school systems?

## RESOURCES FOR SCHOOL BOARDS

Following are some helpful reports and resources for school board members looking to explore the topic of online learning or to discover what is being done in different states:

### Data

**Digital Learning Now.** A Web site co-hosted by the Foundation for Excellence in Education and the Alliance for Excellent Education, two organizations that promote the expansion of online learning. The site features many resources related to virtual learning policies and practices, and includes a State Report Card and a “Bill Tracker.” [www.digitallearningnow.com](http://www.digitallearningnow.com)

**ECS’s Virtual High Schools Section.** This database offers primary-source data on what is going on in different states.

[http://www.ecs.org/html/educationissues/HighSchool/highschooldb1\\_intro.asp?topic=vhs](http://www.ecs.org/html/educationissues/HighSchool/highschooldb1_intro.asp?topic=vhs)

**Keeping Pace** Supported by those involved in virtual learning, this annual report (started in 2005 and archived on this Web site) has good factual state-by-state information on what is actually happening in each state, including types of programs and policies. <http://kpk12.com>

**National Alliance for Public Charter Schools.** NAPCS maintains a data dashboard on virtual charter schools by state. <http://dashboard.publiccharters.org/dashboard/schools/page/virtual/year/2010>

**OnlineSchools.com.** A national repository for information about individual online schools, including public and private schools, kindergarten through graduate programs. The site is searchable by location, school type and grade level, and information includes school performance data as available. Online Schools is operated by QuinStreet, a California-based marketing company. [www.onlineschools.com](http://www.onlineschools.com)

### Research and Reports

**Center for Research on Education Outcomes (CREDO)** at Stanford University. Possibly the most reliable research on charter schools, including virtual charters. [www.credo.stanford.edu](http://www.credo.stanford.edu)

**Evaluation of Education-Based Practices in Online Learning.** This 2010 report by the Department of Education found that very few rigorous studies have been done on K-12 education. While it did find that blended learning was often more effective than face-to-face learning, it found that for **postsecondary** education. It only found 5 rigorous studies on K-12 education, and was clear to state that more research was needed for K-12 education. <http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>

**Pennsylvania government report on virtual charter school costs/expenditures.** This special report recommended that Pennsylvania revise its funding mechanisms for cyber charter schools. <http://www.auditorgen.state.pa.us/reports/performance/special/speCharterFundingReport100510.pdf>

**What Works Clearinghouse** The What Works Clearinghouse has done many reviews and evaluations of particular educational software. <http://ies.ed.gov/ncee/wwc/topic.aspx?sid=5>

## Examples

**Florida Virtual School.** Here is an example of one of the oldest, state-run virtual schools.

<http://flvs.net/Pages/default.aspx>

## Investigations and Advocacy

**Fordham reports on Digital Learning.** These reports should outline arguments made by some proponents of virtual charter schools, including those who want to “shift control away from the local district.” Another report offers one of the few estimates of the cost of online learning.

<http://www.edexcellence.net/publications/?issuestopics=digital-learning>

**Colorado articles on virtual schools.** These articles offer excellent reporting on student outcomes for virtual schools and the impact on bricks-and-mortar schools. <http://www.gazette.com/articles/online-126009-students-schools.html>

<http://www.ednewscolorado.org/2011/10/06/25989-data-behind-the-online-education-series>

## REFERENCES

Abraham, P. & Benefield, N., [The Learning Revolution: How cyber schools and blended learning transform students lives](#), The Commonwealth Foundation, October 2010.

Anderson, Augenblick, DeCesore & Conrad, [20/20 Costs and Funding of Virtual Schools](#). BellSouth Foundation, October 2006

Catalanello & Sokol, *Success of Florida Virtual School is difficult to measure*, Tampa Bay Times, January 6, 2012

Center for Research on Education Outcomes (CREDO), April 2011, *Charter school performance in Pennsylvania*, Stanford University.

Education Commission of the States. [Per-Pupil Funding](#). 2011

Florida Virtual School. [Quick Facts](#). May 2012

Burt Hubbard & Mitchell, October 4, 2011, *Troubling questions about online education*, three-part series, Education News Colorado

Lin, M, Melder, Callegari, & Ernst. [Building Charter School Quality in Ohio](#). February 2010. Building Charter School Quality

Barbara Means, Toyama, Murphy, Bakia & Jones, September 2010, *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies*, U.S. Department of Education, Office of Planning, Evaluation and Policy Development

Minnesota Office of the Legislative Auditor, September 2011, *K-12 Online Learning Evaluation Report Summary*

Gary Miron, Urschel, Aguilar & Dailey, January 2012, *Profiles of For-Profit and Nonprofit Education Management Organizations*, National Education Policy Center, University of Colorado, Boulder, January 2012

Ohio Department of Education school report cards, 2011.

Ohio Department of Education, Finance. [Community School Funding Information](#). May 2012

Pennsylvania Auditor General. [The Commonwealth Should Revise Its Charter And Cyber Charter School Funding Mechanism](#). Bureau of School Audits. September 2010.

Barbara Queen, Lewis & Coopersmith, November 2011, *Distance Education Courses for Public Elementary and Secondary School Students: 2009-10*, National Center for Education Statistics, U.S. Department of Education.

Gary W. Rittner, January 2012, *Internal Evaluation of the Arkansas Virtual Academy School*, University of Arkansas

Tucker, B. [Florida's Online Option](#). Summer 2009. Education Next.

Bill Tucker, Dillon & Jambulapati, May 2011, *Ohio E-Schools: Learning from their experience*, Education Sector.

Wang & Woodworth, August 2011, *Evaluation of Rocketship Education's Use of DreamBox Learning's Online Mathematics Program*, SRI International.

John Watson, Murin, Vashaw, Gemin and Rapp, November 2011, *Keeping Pace with K-12 Online Learning*, iNACOL, [www.KPK12.com](http://www.KPK12.com).