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A Primer on Virtual Charter Schools: Mapping the Electronic Frontier

About this Issue Brief

As charter school authorizers have made significant strides in advancing new models of accountability and oversight, the emergence of virtual charter schools has presented new challenges and dilemmas to their work. The question arises: do virtual charter schools warrant only tweaks to workable authorization regimes—or a wholesale reinvention of the authorizing function? In some places, they are sending authorizers back to the drawing board to reconceptualize how best to approve and oversee schools when web-based lessons and distance between teacher and learner are thrown into the mix. One thing is clear: authorizers can't conduct their responsibilities effectively in the absence of a clear picture of what virtual schools are and do—and how they differ from their brick-and-mortar, “non-virtual” counterparts.

This Issue Brief is the first of a two-part series on virtual charter schools and their authorizers. With this first installment, we start at the beginning and map the electronic frontier of virtual schools (of which virtual *charter* schools are only a subset – albeit an important and dynamic one). A subsequent Brief will address the question of how authorizers should approach approving and overseeing virtual charter schools.

Mapping the Electronic Frontier

No doubt the Internet has had a profound effect on our lives and work, our politics and commerce—and increasingly on our schools. Virtual schools have arrived—and, with them, a host of challenges to our notions about schooling. Will the new educational landscape be one without class periods, grade levels, six-hour school days and 180-day school years? Will it discard school buildings, classrooms and district boundaries—or upgrade them somehow to “version 2.0”?

These are no longer the questions of science fiction. And it looks like virtual charter schools are on the cutting—some would say “bleeding”—edge in grappling with them. But before turning our sights to virtual charter schools, it is necessary to go up one level and take a look at all virtual schools—both of the charter and non-charter variety.

Virtual schools challenge some of our most basic assumptions about schooling. Placing groups of children of the same age in an assigned grade with a teacher and chalkboard in a square room for fifty-some minutes at a time in 180 six-hour days may no longer be the optimal way to pro-

mote learning. With virtual schools, we move from a classroom of dozens to a classroom of one, from assigned schools to chosen ones, from pre-determined class periods to flexible learning

“What’s next?” Next generation education emerges from the growth of virtual schools, wireless connectivity, flexible schedules, alternative programs... facilitative teaching, multimedia courses, virtual reality, and digital curriculum measured by competency and, yes, student-centered learning. Say goodbye to the factory bell system.”

– Susan Patrick, President and CEO, North American Council of Online Learning (NACOL)

time, and from square rooms with chalkboards to cyberspace—liberating education systems from the confines of rigid blocks of time and uninspired configurations of space.



There is no shortage of grandiose predictions about the implications (a long-standing tradition, as shown below).

PREDICTIONS FOR EDUCATIONAL TECHNOLOGY

“I believe the motion picture is destined to revolutionize our educational system and that in a few years it will supplant largely, if not entirely, the use of textbooks.”

– Thomas Edison, 1922

“A few years ago it was widely predicted that technology was on the verge of fostering a learning revolution that would remake the face of education. It didn’t happen.”

– U.S. Commissioner of Education Sidney P. Marland, Jr., August 1972

“Virtual education—online courses, resources and services—is just the beginning of what promises to be a full-scale transformation of education practice.”

– *The California Virtual School Report*, 2002

According to the U.S. Department of Education’s 2004 National Education Technology Plan, with the “explosive growth in the availability of online instruction and virtual schools... we may well be on our way to a new golden age in American education.” *U.S. News and World Report* editor Mortimer Zuckerman asserts that “We are on the threshold of the most radical change in American education in over a century as schools leave the industrial age to join the information age.” The excitement is palpable, but as a reform engine virtual schooling is woefully underestimated, misjudged and misunderstood.

Definitions and Critical Distinctions

The confusion starts with even the most basic terminology—a problem on at least three fronts. Put simply, a “virtual school” is *an educational organi-*

zation that offers K–12 courses through Internet-based methods, with time and/or distance separating the teacher and learner. Students enroll to earn credit towards grade-level advancement and/or graduation.

The first problem is that virtual schooling is often conflated with two related but distinct terms: “e-learning” and “distance education.” (See Glossary page 9.) What’s important to bear in mind is this: in virtual schools, education is both *online* (Internet-based) and *remote* (with distance between student and teacher, and often outside the classroom). By contrast, e-learning can be classroom-based or remote—and can be online or offline (software-based but not Internet-based). And distance education can be electronic or non-electronic (e.g., correspondence programs or independent study) but is always remote. So, virtual schools are a subset of e-learning, which is a subset of distance education. (See Figure 1.)

The second problem is that we have grown accustomed to hearing about newfangled programs that are “virtual,” “cyber,” “online,” or “electronic” (or “e-”). It helps to recognize that these terms are essentially synonymous when used to modify the word “school:” virtual = cyber = online = e-school. It all depends on where you live. Alaska and Pennsylvania call them “cyber schools” but Minnesota and Colorado prefer “online,” while Ohio prefers “e-schools.” Another related term—used internationally—is “ICT” (information and communication technologies), which refers to the use of electronic technology in various fields (e.g., education, business, government, daily life).

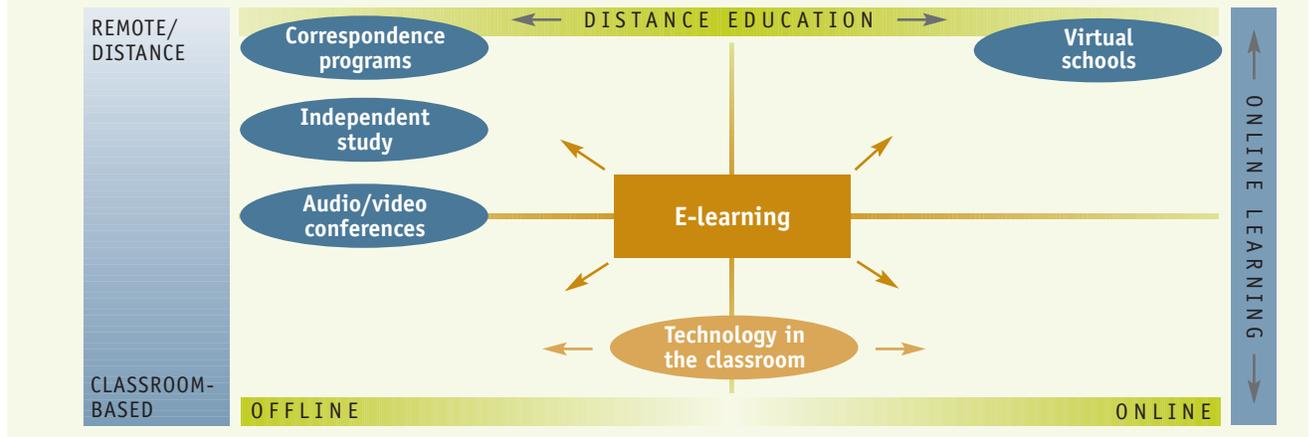
Some people confuse virtual schools with home schooling, or with charter schools. The truth is that virtual schooling is more like a hybrid of public, charter and home schooling, with ample dashes of tutoring and independent study thrown in, all turbocharged by Internet technology. Many virtual schools are charter schools, while others have a different governance structure.

This brings us to our third problem: most attempts to define virtual schools sort them into categories based on their operating entity or legal status; for example: public, charter public, district-sponsored, state, university-sponsored, consortium, private and home school virtual programs. While logical, this approach misses the full array of important elements. As shown below, virtual schools can be identified by six defining dimensions: comprehen-

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Additional printed copies are available by request.

FIGURE 1. A FRAMEWORK FOR UNDERSTANDING VIRTUAL SCHOOLS



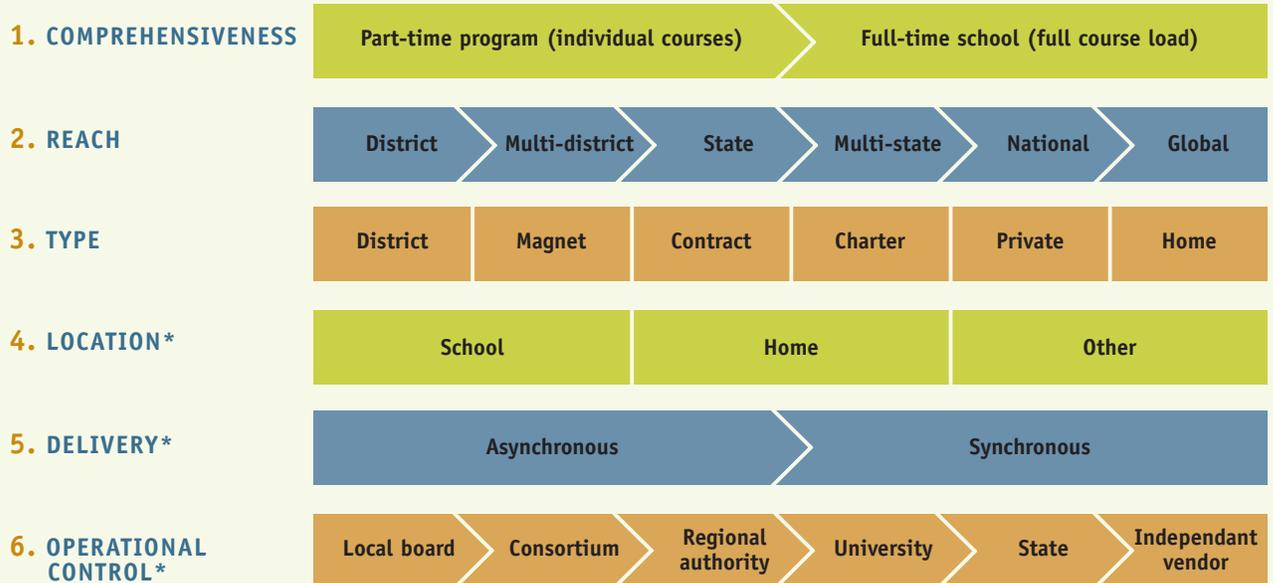
siveness, reach, type, location, delivery, and operational control. It is important for those who authorize and oversee these sometimes baffling schools to appreciate these complexities so they can monitor and evaluate them properly without missing or compromising their essence.

Beyond these six dimensions, there are additional ways to break them down: funding (some are publicly funded via revenue formulae while others are tuition- or fee-based); curriculum (some are constructivist, others traditional); grade level (elemen-

tary vs. middle vs. high school or K–12 or ungraded schools); hybrid programs (blending elements of classroom-based and virtual learning); and more. The flavors are as interesting as they are numerous.

As with ice cream, though, there are two dominant flavors: first, virtual *schools* that are comprehensive and full-time; and second, online learning *programs* that provide individual courses. (Note that the latter are often called “schools” even though students rarely enroll full-time; truth be told, they are often acting as course providers to schools or districts,

FIGURE 2. THE SIX DEFINING DIMENSIONS OF VIRTUAL SCHOOLING



*Indicates that a combination of factors is possible. Source: Adapted from Randal Greenway & Gregg Vanourek, “The Virtual Revolution,” Education Next, Spring 2006.

Most virtual *charter* schools are full-time, statewide, and asynchronous, with students learning from home and teachers working out of a school building or home office.

though it's important to distinguish them from commercial online course providers such as Apex Learning and K12 Inc.)

The way to think about a virtual school (including a virtual *charter* school) is simply to think of a regular school and remove the building: swap in a computer instead and the Internet connection becomes the “bus” transporting students to school. As with other schools, most virtual schools have an office, administrators, teachers, professional development, curriculum, attendance, grades, report cards, parent conferences, special education services, field trips, school events, state testing, school board meetings and even disgruntled parents.

However, there are important differences between schools comprised of electrons and those fashioned of bricks: more individualized and self-paced instruction; greater dependence on technology; complicated logistical issues due to the dispersion of students; different kinds of socialization (some face-to-face, some virtual); no snow days; and more.

One of the key differences relates to time and learning. In a traditional classroom, time is fixed and learning is variable (i.e., classes are held for a set period of time each day and when the bell rings the amount of actual learning that has occurred will vary, sometimes dramatically, by student). In a virtual environment, learning is fixed and time is variable (i.e., the lesson continues until the student achieves mastery).

By the Numbers

Mapping the electronic schooling frontier is difficult because the territory is changing rapidly, and nebulous and overlapping definitions and program designs cloud the map. Here is what we know: According to *Education Week* (2005), 22 states have a *state-established* virtual school, at least one virtual *charter* school, or both—up from 21 states in 2004. Eduventures, an information services company for the education market, estimated 500,000 enrollments in online learning in 2005-06. According to Susan Patrick, President of the North American Council of Online Learning (NACOL), online learning and virtual schools are expanding at a rate of 30 percent per year, and more than 30 states have policies and programs addressing K–12 online learning. Still, their overall “market share” is small. A 2005 North Central Regional Educational Laboratory (NCREL) report estimated that “perhaps 1 percent of K–12

students have taken an online course, versus about 12 percent of postsecondary students. (Nearly 2 million university students took an online course in fall 2003.) Most K–12 students engaged in online learning are doing so on a part-time basis, taking only a course or two.

What about virtual *charter* schools? According to the Center for Education Reform, there are now 147 virtual charter schools with 65,354 students in 18 states, up from 86 such schools with 31,000 students in 13 states in 2004-05 and 60 such schools in 13 states in 2002-03. It is now clear that charter schools have been “early adopters” of virtual schooling. While charter schools presently comprise only about 4 percent of all U.S. public schools (and enroll about 2 percent of public school students), they currently constitute about 20 percent of all unique online learning programs (a number that is surprisingly difficult to pin down). Virtual charter schools comprise about 4 percent of all charter schools and enroll about 6 percent of all charter school students. From these early returns we can confidently wager that charter schools are much more likely than district public schools to be virtual.

What's happening in the states? Ohio has more than 40 e-schools enrolling about 17,000 students, comprising about a third of all virtual charter schools nationwide, but most of the schools are very small (owing from a quirk in their regulations that provided large financial incentives for districts to create new digital academies). Pennsylvania has 12 cyber

FIGURE 3. GROWTH IN VIRTUAL CHARTER SCHOOLS, 2003 TO PRESENT



Source: Center for Education Reform, 2006

charter schools (three of which are managed by educational management organizations or “EMOs”) with more than 13,000 students—about 10 percent of all charter schools in the state and a quarter of all charter school students. Wisconsin has 13 virtual schools, many of which are charter schools. Idaho has four virtual charter schools and a state-sponsored virtual school called the Idaho Digital Learning Academy. In Arizona, more than 10,000 students took at least one class through virtual schools in 2004-05, many of them through virtual charter schools. In Colorado, 5,730 students took courses over the Internet this year, and some of the largest programs are online charter schools.

What Happens in a Virtual Charter School

Though describing how virtual charter schools work is tricky due to their diversity, we can provide a rough (if fuzzy) snapshot. It is important to note that the preponderance of virtual charter schools are full-time schools, not part-time online programs. Families begin with the enrollment process—often completing online forms and submitting residency documentation. Upon enrollment, students often receive a computer on loan from the school and reimbursement for Internet access—as well as books, supplies, and other instructional materials—some virtual charter schools are completely online while others rely heavily on books and classroom materials.

Students generally log in from home, though they can do so anywhere with Internet access. In a “typical” day, a student might take English, math, history, science and art, and be logged on to the computer for one to three hours (depending on their grade level, generally with more time online for older students), clicking through interactive lessons with text, audio or video clips, animated graphics and links to related web sites. They may be completing an online math quiz, reading chapters, drafting an essay, conducting an experiment, studying for an exam, emailing the teacher, logging on to a threaded discussion group and “chatting” with classmates online. A parent or other responsible adult is asked to supervise—and sometimes to assist with instruction, motivation or guidance.

Virtual charter school teachers work out of a school office building or from their homes (with school-supplied computers, Internet access and training). Teachers may develop lessons or courses; assign

lessons and homework; monitor student attendance and progress; provide feedback through phone conferences, e-mail, instant messaging, or Web conferencing; grade assignments; collect student portfolios; attend field trips and events; proctor state exams at official testing sites; and much more. Sometimes teachers meet face to face with students. Teachers often design individual learning plans for their students based on placement tests, standardized test results, parental input and student interests. Administrators generally work at the school office and attend to all the same tasks of their non-virtual counterparts except those related to facilities, transportation, and lunch rooms.

For Whom the Mouse Clicks

One of the most common questions about virtual schools and virtual charters is who they are meant to serve: which students should (or shouldn't) enroll in them? As it turns out (yet again), the answer is highly variable. They appeal to a wide array of students, attracting children from both ends of the achievement spectrum. Self-paced study allows struggling students to catch up without a classroom full of distractions and enables advanced students to accelerate their work without delay. Families choose virtual schools for many reasons: curricular focus, individualized instruction, mastery-based learning, flexible scheduling, interest in technology, safer learning environments, concerns about negative peer pressure or bullying, and more.

Most students in virtual schools and virtual charters transfer into them from district public schools, but many home school students have also shown great interest in these new school options, often to connect with other learners and the support of professional staff. Students with high-focus extracurricular activities such as acting or athletics and high-mobility students (for example, those in military families) are served well by the flexibility. Urban parents may be fleeing overcrowded schools, while rural parents may seek advanced academic offerings not available locally. (According to the College Board, about 43 percent of U.S. high schools—many of them rural—do not offer Advanced Placement courses.)

Benefits

After over a decade of experience with virtual schooling, we have learned about many of their benefits, both at the school level and the “system” level. (See the table on page 6)

SCHOOL-LEVEL BENEFITS:

- New education options for students not currently thriving
- New professional opportunities for teachers & administrators
- Self-paced, individualized instruction & mastery-based learning programs
- Daily assessments & continuous feedback
- Ability of teachers to focus their time and expertise on individual student progress, challenges and learning styles, instead of playing to the “middle” of the classroom
- Opportunities for deep parent involvement in the educational process
- Curricular richness with expert instructional design
- Technology can enhance student attention and engagement
- Instruction can be delivered when students are attentive and ready to learn
- Good virtual schools “push” out information about what facilitates and inhibits student learning to teachers, administrators and parents, providing transparency and continuous feedback

SYSTEM-LEVEL BENEFITS:

- Opportunity to disseminate best-in-class teaching & lessons from around the globe
- Equal access to a high-quality curriculum regardless of location
- Flexibility in delivering different programs to different students
- Opportunity to relieve overcrowding
- Opportunity to serve districts and states in a crisis (e.g., a consortium of virtual schools and related organizations launched vSKOOL to serve victims of Hurricane Katrina with e-learning and other programs).

Challenges

Of course, virtual schools and virtual charter schools also have their challenges. For starters, they are not for everybody. They sometimes face difficulties in serving students with limited English proficiency, visual impairments, severe or multiple disabilities, or motivation problems. (Many practitioners believe that virtual schools can effectively serve many students with unique learning challenges, in large part due to their flexibility—for example, variable pacing, opportunities for repeating lessons seamlessly, multiple pedagogical approaches, opportunities for instant feedback, engaging presentation of concepts, etc.) They can also present challenges to teachers, who must learn new technologies and approaches to be successful. According to NCREL (2005), “It is likely that less than 1 percent of all teachers nationwide are trained as online teachers. The intensity, duration, and quality of staff development for online teachers appear to vary significantly.” According to *Education Week*, only 11 states require at least some of their online teachers to receive training in online instruction, 12 states have incentives for teachers to use technology, 14 states require teachers to complete technology coursework, and only 9 states require technology testing for teachers.

There are also major down-sides to not having daily face-to-face interactions between students and teachers. Even though many virtual schools provide social opportunities, there is no denying the amenities of the comprehensive school: from jazz band, sports, and school plays to cheerleading, student councils, and proms—all with a “captive audience.” At virtual schools, we have seen examples of sports teams, academic olympiads, spelling bees, dances, skating and pizza parties, and chess, newspaper, Latin, computer, science and book clubs, but they are often vexed by logistical challenges. Virtual schooling requires an increased reliance on partnerships with the home and community.

Administrators face a multiplicity of challenges: build a school culture; balancing online and offline components appropriately; monitoring each student’s progress from a distance; supervising and evaluating teachers working remotely; delivering, tracking, and reclaiming textbooks and computer hardware; providing special education services to students far and wide; and coordinating statewide testing programs across vast regions.

Additionally, developing a high-quality virtual-learning program can be costly, requiring sizable capital expenditures on computers and servers, sophisticated instructional design, content and course management systems, course-authoring platforms, and beta and usability testing. (See Glossary on page 9 for definitions of these terms.) Too many programs simply load lessons developed for the traditional

The question about the comparative effectiveness of virtual schooling, though, may be too blunt. We should also ask which *types* of virtual schools work, under what *conditions*, with which *students*, with which *teachers* and with what *training*.

classroom directly onto the Web without making adjustments for the new delivery methods—not likely to advance the “state of the art.” We cannot assume that excellent teaching translates directly into excellent online lesson development. Slapping today’s lessons onto the Web won’t work for tomorrow’s needs.

Evidence of Effectiveness

While there are throngs of reports on distance education, the research on virtual schooling (again, a subset of distance education) is newer and slimmer. There is a large base of research on postsecondary distance learning and a growing base of research on virtual high schools, but very little research on K–8 virtual schools. Unfortunately, there are no major, methodologically rigorous studies comparing the academic performance of virtual charter school students to that of an applicable comparison group in traditional public (or charter) schools. Clearly, we need more data and better methodological approaches (e.g., adequate sample size, appropriate disaggregation, randomized experimental field trials with control groups, etc.).

According to a 2005 NCREL report, “The effectiveness of online learning, distance education, and e-learning has been the subject of hundreds of studies, but few provide the best kinds of evidence on academic, satisfaction, or other student outcomes.... only a small percent meet established standards as experimental or quasi-experimental research and also adequately report methods and results.” However, the U.S. Department of Education is now conducting a national study on educational technology.

We do have some evidence, though. An overwhelming majority of comparative studies suggests that the distance learning model can be as effective as the classroom model. A 2004 meta-analysis (or study of studies)—the only one to date designed to answer whether K–12 online learning is effective in boosting academic achievement—found that “in almost every comparison, students in distance education programs performed as well as students in classroom-based programs” (Cavanaugh et al., 2004). The 2005 NCREL report summarizes five meta-analyses related to online learning and reports that “On average, students seem to perform equally well or better academically in online learning.”

The question about the comparative effectiveness of virtual schooling, though, may be too blunt. We should also ask which *types* of virtual schools work, under what *conditions*, with which *students*, with which *teachers* and with what *training*. Note also that most virtual schools, including virtual charter schools, receive significantly less funding than conventional schools—often 20 to 30 percent less (though there are no systematic and reliable funding comparisons nationally)—leading to important questions about equity and productivity. It is also worth noting that the funding discount for many virtual charter schools is equivalent to the funding disparity that brick-and-mortar charter schools face when compared to district public schools. That is to say, in most places virtual charter schools are funded in exactly the same manner as non-virtual charter schools.

Virtual Reactions, Virtual Politics

Virtual schools are often enmeshed in mine-fields of controversy. Not surprisingly, the rapid growth of virtual schooling has generated mixed reactions. In the public school community, part-time virtual high school programs are widely accepted but full-time virtual schools are eyed with raised brows. Excitement about the possibilities is tempered by concerns about the competition for students (and talent) that is generated.

Within the policy community, there is no clear consensus on how to “do” virtual schools. The schools (and providers) are often far ahead of the policymakers. This is not without problems. Misconceptions abound, and debates over virtual schools are often rife with inaccuracies. (See “Common Myths about Virtual Schools” on page 10.) In many cases, policies are being established after

virtual schools are already up and running and by people without a good working understanding of how they operate. There is a seductive urge to regulate these schools using conventional bureaucratic protocols designed for physical schools. According to a NCREL report, “Online education practices are being developed in the absence of state-level guidance, and the window for proactively developing such guidance ahead of practice is closing. States are attempting to apply to online programs policies created for physical schools, and these policies often do not fit well.”

For example, four states require that students enrolled in online courses meet face-to-face with their teacher(s). Several states have limited which students can enroll in virtual charter schools—for example, restricting eligibility to students previously enrolled in public schools (i.e., not home or private schoolers)—often to minimize their financial impact on state coffers (Arizona and Minnesota have recently relaxed or removed those restrictions). California dictates how money can be spent in what it calls “nonclassroom-based” programs according to bureaucratically set funding thresholds. Other states seek to give a state agency a monopoly on offering online courses, shutting out other (potentially more effective) providers entirely.

Not much is yet known about levels of support for virtual schools among the general public. In a 2005 national Gallup poll, nearly 40 percent of adults surveyed indicated that an online course should be required by public high schools (the first-of-its-kind such program was recently enacted in Michigan). However, there are some common concerns among the general public: about age-appropriate computer time/use for younger students and about high-profile meltdowns—including scandals, conflicts of interest, poor programs, inflated enrollment figures and insufficient financial controls at some virtual schools. Opponents predictably capitalize on these and make the case that a few bad apples spoil the entire virtual barrel.

These concerns notwithstanding, there are three lightning rod issues that attract the voltage of opponents: First, virtual charter schools are not spared the political heat facing charter schools in some states. Second, virtual schools that contract with for-profit providers (such as Connections Academy and K12 Inc.) for school management services also face the same battles over the merits of education management organizations (EMOs). Third, virtual schools that generate interdistrict competition for students (since students can enroll in virtual schools far away from their home districts) tend to aggravate

THE ELUSIVE “COST” OF VIRTUAL SCHOOLING

Today, there is a cacophony of voices seeking to calculate the “cost of virtual schooling.” It’s a logical inclination, but the problem is that it may be an equation with too many variables, none more important than *quality*: well-placed expenditures on design, maintenance, upgrades, and evaluations will to a great degree determine program quality. A 2004 Colorado Department of Education report by virtual school expert John Watson mused: “Attempting to address the question of how much online education costs requires making numerous assumptions that greatly influence the answer. An analogous question is ‘How much does a car cost?’... [A] car that provides basic transportation can cost a few thousand dollars or more than \$30,000.” Education researchers Bryan C. Hassel and Michelle Godard Terrell have observed that “The cost structure of virtual schooling would depend on the particular model in use.” Most assumptions about lower costs are anecdotal and fail to account for countervailing cost increases in critical areas of virtual school operations. For example, while most virtual schools can save on facility and transportation expenses, their hardware, software, and logistical costs are often much higher than those in traditional schools.

Various studies have tackled this question of cost and, not surprisingly, generated a wide range of answers: from \$300 per course per semester for online *courses* to \$7,485 per pupil for comprehensive virtual *schools*, with many estimates in between. Many have asked whether it is reasonable and fair—or in fact inequitable and discriminatory—to provide less funding to certain students simply because they are enrolled in a high-tech program. According to *Education Week*, “the funding models for these virtual schools vary as much as the states themselves.” In the end, the “cost” of virtual schools may be determined not by some magic formula but by the price-setting mechanism by which government entities determine per-pupil revenue levels for all public school students (i.e., schools budget based on the available resources allocated). Meanwhile, most full-time virtual schools are dramatically underfunded compared to other schools, and most part-time online programs are forced to rely on tuition or grants. In the end, policymakers will have to balance these competing claims and determine whether virtual schools should be funded any differently than other public schools.

superintendents and school board members strapped for cash due to declining enrollment or other factors.

This confluence of virtual schooling with other controversial issues has led not just to interesting debates in district offices and state capitals but also several lawsuits (including cases in Ohio, Pennsylvania, Minnesota and Wisconsin, none of which has been successful)—including one instance of a teachers union filing suit against a virtual charter school employing union teachers (as of April 2006, the virtual charter school won that case, though further appeals may be possible). Note that this opposition rages regardless of whether the students affected are receiving a high-quality education. According to an April 2006 op-ed by education expert Andrew Rotherham in the *New York Times*, “This debate, like the ones over many other education issues, is fundamentally about who gets to have power.... An industry cannot survive by rushing to court every time a new idea threatens even a small slice of its market share.”

Conclusion

Though the landscape is shifting rapidly (and sometimes dramatically), we can point to five observations about virtual charter schools (see also “Five Trends on the Horizon” on page 11):

1. The laws of education still hold. Just putting the word “virtual” in front of the word “school” doesn’t make it good (or bad, or even innovative anymore). What matters is the school’s ability to educate children. The point of virtual learning is of course *learning*, not technology. Without good content, curriculum, instruction, training, resources, support and leadership, virtual schools will flounder. In good virtual schools, the technology is so powerful, well-designed and intuitive that it becomes an afterthought.

2. The politics of education also still hold. While virtual charter schools are not creatures of the left or right, they do run into the same roadblocks from special interest groups that other innovations encounter, usually centering around power, competition and money.

3. Computers are no replacement for genuine human interaction—or for teachers and tutors. Though we now have computer-based tutoring programs equipped with artificial intelligence and offshore tutors, these are not credible threats to the teaching profession. In the words of Katherine Endacott, CEO of Class.com, “This is another model. It won’t replace a classroom, and it won’t replace a teacher.”

4. Virtual charter schools are not for everybody (nor are they meant to be). According to Tom Scullen, superintendent in Appleton, Wisconsin (which has a virtual charter school), “This type of school is not for everyone, but for the kids who need it, this may be their best—or even only—opportunity to succeed.”

5. This is just the beginning. Over a century, we have witnessed the gradual evolution of distance learning—from “snail mail” correspondence courses to radio, television, videoconferencing, satellite and Internet applications. We don’t know what’s next, but we can predict with confidence that the educational benefits will increase over time as the technology advances—along with our understanding of how best to use it.

Now that we have mapped the electronic frontier of virtual schooling broadly, we can turn our attention to the specific challenges encountered when holding such schools accountable for their performance. In our next Issue Brief, we will address the unique issues that authorizers face in approving, overseeing, and evaluating virtual charter schools.

GLOSSARY OF KEY VIRTUAL SCHOOL TERMS

“virtual” = “online” = “cyber” = “e-” school

- **Asynchronous:** Not occurring at the same time (not in “real time”). In asynchronous learning programs, the learner controls the time, place and content encountered (examples: threaded discussion boards, web-based training courses, searchable databases, knowledge portals, testing tools, help systems, recordings of synchronous courses).
- **Beta and usability testing:** Publishing test versions of new programs to eliminate the “bugs” and ensure ease of use.
- **Correspondence program:** A learning program that offers instruction by mail or email, sending lessons and examinations to a student.
- **Course-authoring platform:** A computer framework that allow educators to “post” their courses onto the Internet.

- **Course Management System (CMS):** The technology platform through which online courses are offered. A CMS includes software for the creation and editing of course content, communication tools, assessment tools, and other features designed to enhance access and ease of use. [Note: Closely related to Learning Management Systems (LMS).]
- **Distance learning/education:** Educational activity in which the participants are separated by location, time, or both (e.g., correspondence courses, online learning, videoconferencing).
- **e-learning:** An electronic instructional approach that covers a wide set of applications and processes such as web-based learning, computer-based learning, virtual classrooms and digital collaboration. Content can be delivered by the Internet, Intranet, Extranet, audio-tape, video-tape, satellite broadcast, interactive TV or CD-ROM.
- **Instructional design:** The orchestration of different media—such as online, offline, images, sound—into compelling and effective instructional units.
- **Online learning:** Education in which instruction and content are delivered primarily via the Internet.
- **Synchronous:** Occurring at the same time (i.e., in “real time”). Synchronous learning programs involve real-time interaction between a facilitator and participants (examples: Webcasts, Webinars, Compressed Interactive Video (CIV) and live online chats).
- **Virtual charter school:** An independent public school of choice governed by its own nonprofit board that offers K–12 courses through Internet-based methods, with time and/or distance separating the teacher and learner.
- **Virtual school:** An educational organization that offers K–12 courses through Internet-based methods, with time and/or distance separating the teacher and learner. Students enroll to earn credit towards grade-level advancement and/or graduation.

COMMON MYTHS ABOUT VIRTUAL SCHOOLS

M Y T H	R E A L I T Y
1. Students spend all day online.	1. Varies by school. Most limit online time to up to a few hours (and less for younger students).
2. Students lack social skills and socialization opportunities.	2. Varies by school. Good programs go the extra mile to build a sense of community and provide opportunities for students, parents, teachers and administrators to interact regularly.
3. Only technology whizzes need apply.	3. Nearly all programs are designed for “point and click” users and provide training opportunities for students, parents, teachers and administrators.
4. Students with special needs cannot be accommodated.	4. Varies by school. Public virtual schools (including virtual charter schools) are required to provide services. Good virtual schools offer excellent services, often via contracting with specialized providers.
5. Only high schoolers need apply.	5. Currently, 80 percent of elementary students use computers. Good virtual schools account for differences between younger and older learners, potentially including levels of autonomy, locus of control, intrinsic motivation, cognitive development, etc. (NCREL, 2005).
6. Accountability is a lost cause in the virtual environment.	6. Varies by school. Public virtual schools (including virtual charter schools) fall under state attendance, performance and testing regimens. Good virtual schools “push” out lots of data about student performance. Some argue that instant access to data on student learning makes virtual schools more accountable.
7. Virtual schooling can be done at a fraction of the cost of traditional schooling.	7. Varies by model. There are conflicting studies on this and no definitive conclusions, though many of these claims are unsubstantiated.

FIVE TRENDS ON THE HORIZON

- 1. Students are being asked to become more active participants in their own education.** Susan Patrick of NACOL calls today's students "young, tech-savvy, ultra-communicators." Teens already spend more time using the Internet than watching television. Self-paced learning requires dollops of self-direction, discipline, and motivation as learning evolves from rigid blocks to flexible "bursts" of time.
- 2. We are seeing a convergence between virtual and classroom-based schooling: hybrid or "blended" models will become the coin of the realm.** Nick Trombetta, superintendent of Midland, Pennsylvania (home of a statewide cyber charter school), predicts that "The future is schools that are bricks and cyber." As school personnel become more familiar with the tools and features of virtual schools, they will employ them in their buildings. In 2004, 77 percent of teachers used the Internet for instruction, and the ratio of students to Internet-connected computer was down to 4:1. We are already seeing web-enabled classrooms that use interactive whiteboards, discarding old-fashioned chalkboards for giant Internet screens. One leading company, SMART Technologies Inc., has equipped more than 250,000 classrooms worldwide with such whiteboards, reaching 7 million students in all 50 U.S. states and more than 75 countries. By engaging an entire class with interactive functionality, teachers may be able to transcend the problem of classroom PC's serving as glorified typewriters collecting dust.
- 3. Our current curriculum development processes will borrow heavily from the online playbook.** Because online curricula are documented so meticulously and scaled so widely—with opportunities for efficient, expert development based on the latest research—they have much to offer physical schools. They can free up teachers' time so they can focus on teaching, instead of writing and re-writing (or designing) lessons—a more efficient division of labor between curriculum developers and instructors. What's more, teaching itself may begin to change among educators who have experienced the richness of online instruction. According to *Education Week*, "The possibilities of online learning for educators have been dazzling." Education scholar Frederick Hess notes, "Technology is not a miracle cure. It is a tool. Used wisely, it can help professionals to take full advantage of their skills, slash the time spent on rote tasks, and concentrate resources and effort where they are needed most."
- 4. Virtual schools foreshadow the increasing (but perhaps not total) irrelevance of school district boundaries,** with their open enrollment, dual/concurrent enrollment, and interdistrict transfers and exchanges. Closed school systems are being asked to open.
- 5. We will see the rise of "smart" and "adaptive" schools and systems:** "smart" educational programs that "learn" how best to teach individual students based on their accumulated knowledge, content and skills gaps, learning styles and interests—and that adapt their approach based on this information.

[Source: Randall Greenway and Gregg Vanourek]

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