VIRTUAL SCHOOLS IN THE U.S. 2014:

POLITICS, PERFORMANCE, POLICY, AND RESEARCH EVIDENCE

Section I
Key Policy Issues in Virtual Schools:
Finance and Governance, Instructional Quality and Teacher Quality

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Executive Summary

This section draws from a comprehensive analysis of all proposed and enacted virtual school legislation in 50 states during the 2012 and 2013 legislative sessions. The legislative analysis provides a baseline representation of how legislators are promoting, revising and curbing evolving virtual school models. This baseline data enables us to begin tracking whether legislative trends reflect a legislative focus on the important challenges of

strengthening accountability and oversight of virtual schools, specifically with respect to finance and governance, instructional quality, and teacher quality. Our analysis looks at whether legislatures are moving closer to or further from core recommendations advanced in this NECP report series.

Recommendations arising from Section I:

- Develop new funding formulas based on the actual costs of operating virtual schools.

- Develop new accountability structures for virtual schools, calculate the revenue needed to sustain such structures, and provide adequate support for them.

- Establish geographic boundaries and manageable enrollment zones for virtual schools by implementing state-centered funding and accountability systems.

- Develop guidelines and governance mechanisms to ensure that virtual schools do not prioritize profit over student performance.

- Define new certification training and relevant teacher licensure requirements[1] and continually improve online teaching models through comprehensive professional development.

- Address retention issues by developing guidelines for appropriate student-teacher ratios.

- Work with emerging research to create effective and comprehensive teacher evaluation rubrics.

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In the last two years, significant attention has focused on evolving virtual school models. This attention has taken the form of empirical research and analysis, legislative action across states, important legal challenges, and popular press stories. Amid this attention, policymakers have been struggling to reconcile traditional funding structures, governance and accountability systems, instructional quality, and staffing demands with the unique organizational models and instructional methods of virtual schooling.

This section of the report will revisit the critical policy issues that we introduced in the 2013 report, specifically:

- Finance and governance

- Instructional program quality

- High-quality teachers.

While last year's report focused on defining these critical policy areas and presenting the emerging research evidence, this year's report focuses primarily on the legislative actions that illustrate how states are addressing evolving virtual school models. This section draws from a comprehensive analysis of all legislation on virtual schools introduced during the last two years, our own research, recent policy reports and research, and popular press accounts. As a reorientation, we reintroduce and provide updates to our earlier tables summarizing critical policy issues, relevant assumptions, and related unanswered key empirical questions. Lastly, we revisit our policy recommendations and examine multiple data sources to gauge legislative progress toward them.

This year, we expand our analysis of policy with a new, comprehensive analysis of all proposed and enacted virtual school legislation in 50 states, during the 2012 and 2013 legislative sessions. Employing the National Conference of State Legislatures (NCSL) Legislative Tracking database, we identified legislation using the keywords *cyber, virtual, online, technology, non-classroom-based, distance learning,* and *digital learning*. An initial search yielded more than 1,400 bills, with nearly every state considering legislation in the past two years. Many bills eventually proved related to technology expansion in other public sectors. Closer review targeting new, revised or revoked programs specific to K-12 virtual education narrowed the list considerably. In 2012, 128 bills were considered in 31 states; 41 were enacted and 87 failed. In 2013, 127 bills were considered in 25 states; 29 were enacted, 7 failed and 92 are pending.

This legislative analysis provides a baseline representation of how legislators are promoting, revising and curbing evolving virtual school models. This baseline data enables us to begin tracking whether legislative trends reflect a legislative focus on the important challenges of strengthening accountability and oversight of virtual schools, specifically with respect to finance and governance, instructional quality, and teacher quality. Our

analysis looks at whether legislatures are moving closer to or further from core recommendations that this NECP report series advance.

The myriad bills touch on a wide range of proposals. Some are relatively narrow, as in a proposal to test the feasibility of a virtual preschool curriculum (MS H 1101, 2012). Others are more general. For example, one bill allocated resources for the exploration or creation of new virtual school programs (MA H4274, 2012); others moved to link funding to actual costs and to promote increased accountability of instructional time and program quality (PA H 2341, 2012; AZ H 2781). Seven states (AZ, FL, PA, TN, UT, NC, WA) showed the most legislative activity, with eight or more bills proposed in each. Our analysis, however, focuses on the substance of bills across all states rather than relative activity within individual states.

Two charts in Appendix A highlight the main themes covered by select bills that address the three policy areas of finance and governance, instructional quality, and teacher quality. Analysis of the substance of select bills is integrated into the following sections with a focus on states exhibiting significant legislative activity and bills that address the three policy areas. We conclude each section with an assessment of how legislative developments during the past two years have moved policy closer to or further from addressing the critical policy issues outlined in our recommendations.

Finance and Governance

Identifying funding, governance and accountability mechanisms associated with operating virtual schools continues to be a challenge for policymakers and practitioners. This section revisits policy issues, assumptions and empirical questions related to virtual school finance and governance (see Table 1.1). We update earlier information based on new research and introduce policy issues that have surfaced since our last report.

Linking Funding to Actual Costs of Virtual Schools

Policy debates persist in some states over how to fund full-time virtual schools, both because of cost differences between virtual and traditional brick and mortar schools and because of other policy considerations. As yet, no state has implemented a comprehensive formula that directly ties actual costs and expenditures of operating virtual schools to funding allocations.

Developing such a comprehensive formula would involve gathering sound and complete data on virtual schools' costs and expenditures related to governance, program offerings, types of students served, operational costs, student-teacher ratios and other factors. Costs may vary widely from those in brick-and-mortar schools. For example, virtual schools have lower costs associated with teacher salaries and benefits, facilities and maintenance, transportation, food service, and other in-person services than their brick-and-mortar counterparts. However, virtual schools may have higher costs linked to acquiring, developing and providing the digital instruction and materials necessary for full-time

virtual instruction; they also need to acquire and maintain necessary technological infrastructure.

The challenge of identifying the actual costs of virtual schools is investigated in a new report by Baker and Bathon.[3] The study provides a comprehensive review of reports from virtual school advocates, analyzes their shortcomings, and presents two empirical case studies illustrating how costs for virtual school models might be reasonably calculated. The Top-Down model for determining virtual school costs parses out the portions of infrastructure, services, instructional materials and programs, and personnel costs in traditional brick and mortar schools that may not be fully applicable in virtual school operations. The result conservatively estimates the "cost for general education services in

Table 1.1. Finance and Governance Questions for Virtual Schools

Policy Problem	Assumptions	Empirical Questions
Linking funding to actual costs	Lower staffing and facilities costs outweigh higher costs associated with content acquisition and technology.	What are the costs associated with virtual schools and their various components? How do the costs change over time? How are costs affected by different student characteristics and contextual factors? What are the implications for weights and adjustments?
Identifying accountability structures	Existing accountability structures provide sufficient oversight of virtual school governance and instructional delivery.	What forms of alternative financial reporting might be useful to policymakers in monitoring the performance of virtual schools?
Delineating enrollment boundaries and funding responsibilities	School choice with open enrollment zones will increase competition and access to higher quality schools.	Are local districts or state officials best suited to oversee virtual school operations? Who should ultimately be responsible for funding virtual students? How might state-centered vs. local funding lead to a more stable source of revenue?
Limiting profiteering by EMOs	Diverse educational management and instructional services providers will increase efficiency and effectiveness of virtual instruction.	How much profit are for-profit EMO's earning through the operation of virtual schools? What is the relationship between profits and quality instruction?

the online environment is some 70% of the cost for comparable services in brick-and-mortar setting."[4] The Bottom-Up model engages a "by unit production costs" approach. This approach, which focuses primarily on teachers, instruction, and administrative costs, first estimates unit costs for the individual components required to deliver virtual high school programming. It then totals the costs for each component to estimate the "cost of partial or complete educational programs." The authors explain how the rates for providing these services vary in alternative delivery models. Notably, the authors caution that simply comparing costs between virtual and traditional schooling does not provide an adequate picture of the benefits and drawbacks of alternatives. Quality of outcomes must be considered as well: if lower costs lead to lesser student achievement, no cost efficiency has been gained.

This research provides important guidance for policymakers on the empirical challenges of determining appropriate funding levels for virtual schools. However, recent legislative activity provides scant evidence that policymakers are approaching the funding of virtual school models with the level of sophistication that Baker and Bathon suggest. Even so, in 2012 and 2013 several states enacted legislation that revised virtual school funding, suggesting at least a growing awareness that funding is an area requiring serious consideration. For example, Florida (FL SB 1514, 2012) created a single funding system for all online providers in which the portion of full-time-equivalent (FTE) funding for online coursework is split between the home district and the virtual provider. The prior mechanism allowed a student to take a full course load in a brick-and-mortar school along with additional courses at the Florida Virtual School (FVS). The home district kept the full state funding allotment, and the FVS received additional funding from a different budget for each course it delivered. As a result, total costs for students who added online FVS courses exceeded allocated FTE funding. Under the new system, all online providers must split the pro-rated portion of funding allotted for online course work with the home district. FVS directors claim the new funding system has led to a precipitous drop in enrollment that, coupled with a decrease in funding allotment per course, may result in losses of nearly $40 million and more than 800 staff members.[5] Other providers of virtual schools, such as the for-profit organizations K12 Inc. and Kaplan, lobbied for the legislation and now stand to benefit as all virtual school providers compete for the same level of funding for their course offerings.[6]

Other state-run virtual school programs have experienced similar decreases in funding. Virginia recently decreased state funding appropriations for the state-run virtual school by one-third, from about $3 million to $2 million, while the Kentucky Virtual Schools program experienced nearly a 10% drop in funding.[7] Yet other states have slightly increased funding. In Georgia, HB 797 (2012) established funding parity between virtual and brick-and-mortar schools by increasing the portion of state funding linked to student enrollment and student characteristics (the Quality Basic Education formula). While it also provided new supplemental funding for all charters, for the 2013-14 academic year the average virtual school funding was less than two-thirds of the average brick-and-mortar charter school funding ($4,224 compared with $7,103). Lastly, in Pennsylvania, state legislators have proposed myriad bills in the last two years (9 bills in 2012 and 24 bills in 2013) that have attempted to increase accountability and decrease funding. For example,

PA H 2341, which failed in 2012, proposed decreasing cyber school student funding by more than half, from the current average of $10,145 to a flat rate of $5,000 per pupil. All 33 virtual school bills in Pennsylvania have either failed or are pending.

Our legislative analysis reveals that no states have calculated funding by methodically determining costs for necessary components of effective and efficient virtual school models. Nor have any states adjusted funding based on a comprehensive analysis of actual cost differences between virtual and traditional models. While some states (Virginia, Kentucky and Florida, for example) have moved to reduce funding, the changes have not been grounded in evidence that could support the legislative objectives. Absent a wider empirical accounting of real costs associated with operating a virtual school, the legislative attempts to reconcile appropriate funding for virtual schools will continue to be fueled more by political motivation than by reliable evidence.

Identifying Accountability Structures

In the past two years, several state legislatures moved to improve virtual schools' accountability and governance structures. Accountability challenges linked to virtual schools include designing and implementing governance structures capable of accounting for expenditures and practices that directly benefit students. For example, it is important to have oversight for costs in such areas as technological infrastructure, digital learning materials, paraprofessional services, and third-party curriculum. Oversight of other areas, such as student attendance and learning transcripts, is necessary to identify and evaluate instructional time and outcomes.

There is growing evidence that some states are approaching virtual school accountability challenges methodically. Eleven states have proposed legislation that calls for task forces and commissions charged with wider assessment and evaluation of virtual learning models, including studies that focus on costing out virtual schools, assessing the impact of Common Core Standards on virtual schools, and analyzing virtual school governance (see AZ H 2781, 2012; AZ S 1435, 2012; CO H 1124, 2012; IA H 2380, 2011; ME S 206, 2011; MI H 5372 , 2012; MI S 222, 2013; NC H 718 , 2013; NE LR 199 , 2013; PA H 1330, 2011; OK S 267, 2013; OR D 246, 2012; VA H 1215, 2013). Only 3 of 11 states enacted legislation in 2012 and 2013 (CO, ME & MI), while eight bills in other states either failed or are pending.

In Arizona, for example, the failed bill AZ H 2781 (2012) called for a task force of state-appointed members to be charged with: identifying best practices for full time and blended learning virtual models; constructing financial reporting and accountability measures unique to virtual instruction; and developing standards for virtual instruction and curriculum. In addition, the bill detailed requirements for student instructional time and for learning logs as a tool to track average daily attendance. It also linked per-pupil funding to successful completion of coursework and a final examination. While this bill provides a strong example of efforts to increase accountability, it did not move beyond the Arizona House Education Committee. In contrast, Michigan's MI H 5372 was enacted in 2012. It allocated $4.3 million to the Michigan Virtual University to create a center for

online research and innovation. The center is charged with many tasks, including researching and designing online assessments; developing evaluation criteria for online providers; designing professional development programs for teachers, administrators and school board members; identifying best practices for online instruction; and conducting a pilot study of the Michigan Virtual School performance-based funding model, which promotes funding dependent on student performance rather than attendance.

Enrollment limits and boundaries

To monitor which virtual schools are providing substantive education services to which students, it is important to delineate enrollment zones and to address capacity issues. Careful enrollment audits are also necessary to ensure that resident districts are forwarding appropriate local and state per-pupil allocations to virtual schools serving the districts' students.

In order to allow time to consider such accountability issues, some states have called for moratoriums or limits on virtual school expansion and for limits on enrollment capacity. For example, Illinois enacted IL H 494 (2013), establishing a one-year moratorium on new virtual charter schools (including blended learning as well as full-time virtual models) in districts other than Chicago. Bill sponsor Representative Linda Chape LaVie explained that the intent of the bill was to "slow down the process to give the Legislature more time to understand virtual charter schools and lay down some ground rules" and also to protect the interest of constituents from potential abuse by large corporations.[8] The bill was a response to a 17-district consortium in Fox Valley that blocked the proposed Illinois Virtual Charter School, which would have been operated by K12 Inc.[9]

In Tennessee, efforts to curb virtual school operations were led by legislators who directly responded to a public controversy linked to the Tennessee Virtual Academy (TVA). In 2012, the Tennessee Virtual Academy operated by K12 Inc. recorded dismal student performance: TVA students ranked lower than "all 1,300 other elementary and middle schools who took the same tests."[10] In addition, news reports printed email messages from TVA administrators to teachers that ordered the deletion of failing student grades.[11] One bill (TN HB728, 2013), which would have closed all virtual schools, failed in its attempt to repeal the virtual charter school legislation passed in 2011.[12] But an enacted follow-up bill (TN S 157, 2013) caps virtual charter school enrollment to 1,500 students, limits out-of-district student enrollment to no more than 25%, and permits virtual schools to exceed the enrollment cap only when a school "demonstrates student achievement growth at a minimum level of 'at expectations' as represented by the Tennessee Value-Added Assessment System (TVASS)."[13] Similarly, in Iowa, IA S2284 (2012) installed state-wide caps for students' online course enrollment to "not more than eighteen one-hundredths of one percent of the statewide enrollment of all pupils."[14] The bill also limited open-enrollment virtual education "to no more than one percent of a sending district's enrollment."[15] And in Massachusetts, a new law that authorizes the operation of virtual schools provides statutes that will ensure a slow scaling-up of virtual schools. Specifically, the State Board may approve no more than three virtual schools for 2013-2016 and must maintain a maximum of 10 operating virtual schools thereafter; enrollment in all virtual

schools may not exceed 2% of students enrolled statewide; and, at least 5% of students enrolled in a virtual school must be residents of the sponsoring district (MA H4274, 2012).[16]

Overall, our analysis indicates that efforts to study virtual school governance issues in order to inform policy changes are moving forward in at least 3 of 11 states that have proposed related legislation. In addition to identifying best practices for online instruction, the publicly funded task forces and research centers that have been created are charged with closely examining governance and accountability to identify effective strategies for improvement. The new information that grows out of these measures, and how policymakers ultimately use it, will be highlighted in our future reports.

Our analysis also reveals that states like Illinois, Tennessee and Massachusetts are taking steps to limit enrollment across district boundaries, while also limiting school size and overall statewide enrollment. They offer examples of methodical attempts to slow or control the scaling-up of virtual schools while policymakers look carefully at the issues virtual schools are raising, as our earlier work recommends.

Eliminating Profiteering by Education Management Organizations

In 2012 and 2013, legislators in several states responded to the complicated accountability issues and public controversies linked to for-profit education management organizations (EMO) that provide virtual school products and services—including software and curriculum, instructional delivery, school management, and governance. As we noted in last year's report, virtual schools that have contracts with for-profit EMOs serve more than 68% of full-time virtual school students.[17]

K12 Inc. continues to be the largest of the for-profit virtual school providers, operating 82 schools and serving approximately 87,808 students in 2013—more than one-third of the estimated 243,000 full-time virtual school students in the U.S. K12 Inc. Profits in 2013 exceeded $45 million and total revenues were $848.2 million, [18] compared with 2008 net profit of $13 million and total revenues of over $226 million,[19] amounting to nearly a 250% increase in profits and 275% increase in revenues.

In March 2012, K12 Inc. reached a settlement with its shareholders in a class action lawsuit that alleged the company had violated securities law by making false statements and omissions regarding the performance of students in K12 Inc. schools. While the settlement amounted to $6.75 million returned to investors, it also allowed K12 Inc. executives and school administrators to evade a public court trial. In the midst of the ongoing litigation, K12 Inc. was at the center of scrutiny in several states, including: Tennessee, where despite the fact that the Tennessee Virtual Academy was the lowest scoring elementary school in the state and administrators ordered teachers to delete students' failing scores from records (as noted above), the school was allowed to continue operating[20]; Florida[21] and Georgia,[22] where schools operated by K12 Inc. were investigated for professional staff not meeting state teacher certification requirements; Idaho, where in 2013 it was revealed that in 2007, the state's largest virtual school operated by K12 Inc.

had outsourced to a company in India approximately 3,500 student essays for grading.[23] K12 Inc. has also been under scrutiny for its vast lobbying efforts, hiring 153 lobbyists in 28 states in 2012-13[24] and also for using public dollars to advertise its school operations, amounting to $21.5 million in the first eight months of 2012.[25]

Efforts to curb profiteering is reflected in many bills across several states, already described above, aimed at reducing per pupil tuition allocations, capping state and school enrollments, and increasing oversight of teaching and learning mechanisms. Such efforts may increase oversight of virtual schools while also decreasing slack in margins that have proved fertile ground for profiteering. More explicit efforts to decrease exploitation are reflected in several recent bills in Pennsylvania, whose state legislature continues to be the most active in proposing virtual school legislation. In 2012, Pennsylvania proposed four bills that would limit cyber charters from using public funds for any paid media advertisement, lobbying, legislative action or consulting, as well as for bonuses or additional compensation for cyber school employees (see PA H 2220; PA H 2661; PA H 2727; PA H 2364).[26] All four bills failed. In 2013, additional pending bills in Pennsylvania attempt to further limit profiteering through the following mechanisms: PA H 984, which attempts to reduce over reporting of student enrollment by cyber charters, imposes stricter guidelines for reporting attendance between the district of residence and the cyber charter, and imposes for stiff penalties for failure to report students who drop out or are delinquent; PA H 1412, dubbed the CharterWATCH Act, which would create a searchable public database that includes all charter school expenditures, including employee salaries and payments to contractors; and five bills (PA H971, PA H980, PA H934, PA S993, PA H 1730), which attempt to regulate unreserved or unassigned fund balances and limit their carryover to a following year's budget.

Our legislative analysis reveals that Pennsylvania is active in explicitly attempting to curb efforts of educational management organizations and other providers who attempt to profit on the operation of virtual schools. However, efforts to increase expenditure transparency, monitor enrollment over reporting and limit the use of fund balances have all failed despite repeated attempts by legislators to address these issues. The failed legislative efforts might be explained by the intensive lobbying by for-profit providers like K12Inc., which operates Agora Cyber School, the state's largest virtual school serving over 8,000 students—one-fourth of all Pennsylvania virtual charter school students. According to reports by the National Institute on Money in State Politics and the Center for Responsive Politics, in 2012 K12Inc. contracted with 45 lobbyists in state capitals across the country and donated $625,000 to politicians of both parties, ballot initiatives and political associations."[27] Although they failed, Pennsylvania's attempts are consistent with our recommendation calling for policy to ensure that for-profit virtual schools do not prioritize profit over student performance.

Recommendations

While it is evident that some states have engaged in efforts to address the important finance and governance challenges of operating virtual schools, additional research is

needed to identify funding and governance practices that will increase accountability, identify efficient and cost-effective best practices for governance, and eliminate profiteering. Given the information and experiences detailed above, we reiterate our recommendations from last year's report

Specifically, we recommend that policymakers and educational leaders:

- Develop new funding formulas based on the actual costs of operating virtual schools.

- Develop new accountability structures for virtual schools, calculate the revenue needed to sustain such structures, and provide adequate support for them.

- Establish geographic boundaries and manageable enrollment zones for virtual schools by implementing state-centered funding and accountability systems.

- Develop guidelines and governance mechanisms to ensure that virtual schools do not prioritize profit over student performance.

Instructional Program Quality

The 2013 report on virtual schools in the United States asserted that accountability procedures for virtual schools must address not only their unique organizational models but also their instructional methods. Quality of content, quality and quantity of instruction, and quality of student achievement are all important aspects of program quality.[28] Here, we again review and update our earlier assertions. Table 1.2 outlines issues, assumptions and questions relevant to instructional quality.

Evaluating the Quality of Curricula

Virtual instruction holds the promise of efficient, highly individualized instruction. Yet, given the variability of digital materials and formats, authorizers face numerous challenges in effectively evaluating course quality and monitoring student learning. Because the online environment is flooded with content developed by various providers—ranging from large for-profit organizations to local districts—and in various formats—ranging from individual courses to full grade-level curricula—authorizers or parents often have difficulty ensuring quality content in the current, highly decentralized environment. Across the country, states are attempting to address this issue in a variety of ways. Colorado, for example, enacted legislation in April 2013 to expand online options for small districts and rural communities by subsidizing the centralized development and provision of online courses, professional development and technical support.[29] The goal of the legislation is to control for affordable and high-quality curricula.

Like curricula in traditional schools, online curricula should be aligned with a designated set of standards to ensure that students' individualized online learning experiences

Table 1.2. Instructional Program Quality Questions for Virtual Schools

Policy Problem	Assumptions	Empirical Questions
Requiring high-quality curricula	Course content offered through online curricula is an effective means for meeting individualized education goals.	How is the quality of course content best evaluated? How will the Common Core impact virtual school content and instruction?
Ensuring both quality and quantity of instruction	Instructional seat time is not an accurate measure of learning.	What is the best method of determining learning? What learning-related factors are different in an online environment? Should outcomes beyond subject-matter mastery be assessed?
Tracking and assessing student achievement	Students in virtual schools perform equal to or better than traditional peers and existing empirical work has adequately measured student achievement. Modest gains can be taken to scale.	As some states move to student choice at the course level, what do they need to implement quality assurance from multiple providers? What are effective measures of student achievement? How does course content affect student achievement?

provide them with all the information and skills policymakers deem essential. One equalizer that may improve authorizers' ability to evaluate curricula could be the centralized Common Core State Standards (CCSS). While the Common Core identifies standards students must meet for states that have signed onto the initiative, it does not dictate the specific curricula that schools must use. For large multi-state online providers, developing courses that meet the Common Core standards rather than the myriad individual state standards may simplify development and evaluation. In fact, K12 Inc. states it anticipates increased efficiencies with the implementation of the Common Core as "limited resources will no longer have to be spent on revising curriculum standards for every state."[30] Susan Patrick, president and CEO of International Association for K12 Online Learning (iNACOL), expanded: "Now we can start to focus resources on high-quality curricula that are similar across 45 or 46 states. The outcome of that is to start to be able to look at online courses and modules of online courses and value-judge them on effectiveness."[31] However, no objective organizations have extensively studied the Common Core to develop a body of empirical data on the standards' use with online instructional design and, thus, the impact on student performance. Until these data are available, the true value of the Common Core in an online environment is yet to be determined.

According to iNACOL, states are starting to review online courses to determine alignment with standards and other elements of course quality. Texas has completed this process using the iNACOL National Standards for Quality Online Courses,[32] which provides a

starting point for assessing internally developed and externally acquired course content. However, iNACOL's chief operating officer, Matthew Wicks, said, "Even states that have taken those steps are mostly measuring inputs, or dimensions inherent in the course's composition, rather than outcomes, or measures of a course's effectiveness."[33] Further, states such as Washington, Ohio, Georgia, and Idaho have initiated distance-learning clearinghouses of reviewed and approved online courses.[34] Some states are considering legislation that requires review of online courses for quality standards. Maryland enacted legislation in 2012 that establishes a State Advisory Council for Virtual Learning (H 745) and "enables the State Department of Education to develop or review and approve online courses and services" (S674). In Maine, pending legislation (H 331) requires virtual charter school authorizers to review and approve courses and curricula at the beginning of each school year.

The legislative scan reveals only slight progress toward legislative requirements for monitoring quality curriculum in online environments.

Ensuring Quality and Quantity of Instruction

The national focus on higher standards, particularly a greater emphasis on critical thinking with skills driving content, is creating ripple-effect shifts in other facets of K-12 education—especially a shift away from time, based on the Carnegie Unit, as a measure of learning.[35]

For example, some states have moved away from "seat time" as an appropriate indicator of student learning, recognizing that simply being at a designated site for a particular number of hours does not guarantee student learning. The Colorado Department of Education continues to promote its Next Generation Learning initiative to "ignite the unique potential of every student through the creation and delivery of dramatically personalized teaching and learning experiences" through such approaches as shifting the use of time and varying delivery methods, including blended learning.[36] Iowa proposed but ultimately failed to enact legislation (HSB 517, 2012) that allows the waiver of standards, such as a 180-day calendar and minimum daily instructional hours. Tennessee, however, enacted legislation for virtual schools (H 3062) that requires the same length of learning time as for other schools while allowing students to move at their own pace.

Affecting both traditional and virtual schools, Maine has adopted a proficiency-based learning approach in which "time is the variable and learning driven by rigorous standards is the constant."[37] The Maine Department of Education defines proficiency-based learning as "any system of academic instruction, assessment, grading and reporting that is based on students demonstrating mastery of the knowledge and skills they are expected to learn before they progress to the next lesson, get promoted to the next grade level or receive a diploma."[38] In fact, legislation in Maine dictates that by 2018 schools will no longer award a traditional high school diploma; instead, graduation will be grounded in a proficiency-based diploma. In Iowa, legislation (SF 2284) in 2012 authorized districts to award high school credit based on demonstrated competencies. The legislation also established a

competency-based task force to "redefine the Carnegie Unit into competencies, ... develop student-centered accountability and assessment models, and empower learning through technology."[39]

The California legislature has continued to struggle in 2013 to find the right approach to quality and quantity in online instruction. Although the legislation ultimately failed, Governor Jerry Brown advanced virtual learning into California's educational mainstream by pushing to modify funding for asynchronous online courses (in which students and

Advocates and for-profit companies have claimed that students in virtual schools perform equal to or better than peers in traditional schools. However, recent studies indicate otherwise.

teachers visit online courses at their own convenience). Under this proposal, funding would have been based on student proficiency, not average daily attendance (ADA). At the end of the learning period, the teacher would have determined if the student met the predefined learning objectives. If the objectives had been met, the school could claim ADA; if not, the state would not have approved funding.[40]

With less focus on seat time as an indicator of learning and a greater focus on proficiency, this shift may benefit online schools with their greater focus on individualized learning and pace. Increasingly, the shift of evidence of mastery from a simple counting of hours spent in a learning environment to comprehensive evaluation systems have included summative assessments supported by formative assessments in the classroom, involving alternative demonstrations of mastery such as projects, papers and portfolios.

Overall, the legislative scan indicates little attention to the overall issue of quality and quantity of instruction in an online environment. States are struggling with time apportionment, but this topic is not limited to virtual schools.

Tracking and Assessing Student Achievement

As assessment of student achievement moves from a time based system to a system based on demonstrated mastery, documenting student proficiency becomes a primary concern. Issues requiring policy attention stem from the flexibility inherent in online education, the imminence of a common online assessment, and inconsistencies in performance evaluations.

The flexibility that online options provide students is an especially important consideration in light of state and federal policies that increase demands for demonstrated student achievement. State legislation allowing students greater freedom to choose single courses from multiple providers, or to remain enrolled at a traditional school while supplementing coursework through online providers, generates a significant challenge for monitoring student achievement. State accountability systems must evolve accordingly.

Ways must be found, for example, to track the combined accomplishments of students who take advantage of multiple learning options in a variety of venues. Ways must be found to complement traditional assessments of large groups of students at the same time with an assessment system that allows students instead to be assessed one-by-one, on individualized schedules.[41] For example, Florida legislation (CS/HB 7029) enacted in June 2013 further increases student flexibility by allowing students in one district to enroll in online courses offered by another district and by allowing them to earn credit from massive open online courses (MOOCs).[42] Research questions that arise include how to track outcomes from such varied providers and how to assess the contribution of a specific course to student proficiency.[43]

To help resolve such issues, the industry must agree on appropriate measures of student achievement and progress. With its focus on longitudinal student growth, the Common Core assessment, scheduled for implementation in 2015 and administered online, may provide a shared measure to allow valuable comparisons of program effectiveness. For online schools and their students, the Common Core assessment likely will present simplifications as well as challenges in myriad areas. First, students participating in virtual courses will already be familiar with the process of online test-taking. One concern is that students in traditional brick-and-mortar schools may have some difficulty in the transition from paper and pencil to an online assessment environment. Will the test actually assess student mastery of content, or will results be confounded by the student's ability to manipulate the computer? Of course, students comfortable with a virtual environment will not face this challenge. However, a challenge that online schools will likely experience is the requirement for centralized proctored environments. Online schools will need to secure testing locations with enough capacity for students in each geographic region, ensure students arrive on the specified days, and provide personnel to proctor the assessments. For many schools, this will create a significant logistical and budgeting issue. For some students, to the need to appear at a centralized testing location may create a substantial transportation and financial difficulty. Despite these challenges, online advocates believe this transition will benefit virtual schools. In fact, an Education Week article eagerly claims, "Perhaps no segment of educators is more enthusiastic about the transition to the Common Core State Standards than those who work in virtual schools or in blended learning environments that mix face-to-face and online instruction."[44]

Advocates and for-profit companies have claimed that students in virtual schools perform equal to or better than peers in traditional schools.[45] However, recent studies indicate otherwise. For example, Stanford University researchers used a matched pair sampling methodology and found that students in virtual charters in Pennsylvania made smaller learning gains over time as compared with both their brick-and-mortar charter and traditional school counterparts.[46] In response to data indicating lower student achievement, virtual school advocates have claimed that students often enter these schools further behind academically and that growth models are better indicators of actual student learning than previous standardized state tests. K12 Inc., for example, consistently points to student scores on Scantron tests: "K12 has chosen to evaluate the progress of its students using the Scantron Performance Series Assessments, which we administer to each student at the beginning and end of the academic year."[47] As clear evidence of the

program's success, the company states, "For the 2011-2012 school year, students enrolled in K12-managed public schools, on aggregate, made 97% of the Scantron Norm Group gain in math and 196% of the Scantron Norm Group gain in reading."[48] However, several issues exist with the use of these tests. First, the Scantron tests are not proctored and students can start and stop the test multiple times before completion, raising serious questions regarding their legitimacy.[49] More importantly, the tests are optional. With approximately 30% of the K12 student population not participating in the test pool, the results are simply not valid. K12 Executive Chairman Nathaniel Davis admitted the data are "not as accurate as they could be" since the company compares a self-selected pool of students to the national norm.[50] The performance issues rampant in the online schooling industry have become so evident even Susan Patrick, president of iNACOL, stated: "Unless we address these quality issues that have emerged quite profoundly," the poor performance of cyber schools will "put the entire industry of education innovation at risk." [51]

The legislative scan indicates a moderate focus on enforcing quality standards for student achievement. Although the measures did not pass, Pennsylvania legislators have pursued mechanisms to require annual assessments and evaluations of virtual charter schools (H 2661). In Tennessee, failed legislation (H 3812) would have required closure of a virtual public school if administration failed to meet accountability and fiscal requirements. The enacted statewide virtual education act in Rhode Island (H 7126) offers promise of accountability measures for student achievement. So, while the results are mixed regarding enactment versus failure of passage for legislation focusing student achievement, there has been an increase in attention on this critical topic.

Recommendations

While some states have achieved small steps, our overall legislative analysis indicates little progress over the past year in proactively addressing issues related to instructional program quality. Based on the preceding analysis, we reiterate our recommendations from last year's report. Specifically, we recommend that policymakers and educational leaders:

- Require high-quality curricula, aligned with applicable state and district standards, and monitor changes to digital content.

- Develop a comprehensive system of summative and formative assessments of student achievement, shifting assessment from a focus on time- and place-related requirements to a focus on student mastery of curricular objectives.

- Assess the contributions of various providers to student achievement, and close virtual schools and programs that do not contribute to student growth.

High-Quality Teachers

Quality teachers are at the core of any high-quality educational program, and this is no different for online education. While virtual schools capitalize on technology in ways that

often reduce the reliance on traditional classroom teachers, virtual education does not diminish the important role of teachers and, consequently, effective teachers remain a critical component of high-quality instructional opportunities for students enrolled in virtual schools. That said, the research base on virtual school teachers is thin. While a great deal of research has focused on defining teacher quality in traditional settings,[52] little is known about what constitutes teacher quality in virtual schools. In addition, researchers have recognized the importance of teacher education and ongoing professional development as critical investments in teacher effectiveness, but little empirical information exists to guide the preparation and professional development of teachers in virtual settings. Finally, recent research has provided evidence on the distribution of effective teachers across different types of schools and districts, yielding findings that inform policies related to teacher supply, recruitment, and retention in traditional schools; no parallel evidence is available for staffing virtual schools with effective teachers. In short, while a growing body of research exists to guide teacher policy decisions in traditional schools, little evidence exists on the knowledge and skills of effective virtual school teachers, or the policies and practices that may prepare, recruit, and retain quality teachers in those settings.

Table 1.3. Teacher Quality Questions for Virtual Schools

Policy Problem	Assumptions	Empirical Questions
Recruiting and training qualified teachers	Instructional training and professional support tailored to online instruction will help recruit and retain teachers. Effective teaching in a traditional environment easily translates to an online environment. Teacher preparation programs and district professional development programs will re-tool to support online instruction demands.	Can sufficient numbers of qualified online teachers be recruited and trained to ensure the ability of virtual education to offer new opportunities to rural or underserved populations? Which professional skills and certifications for online teachers are the same as for traditional teachers? Which are different? What professional development is relevant for online teachers?
Evaluating and retaining effective teachers	Evaluation of online teachers can mirror that of teachers in traditional settings. Online teachers can support a large roster of students.	How well do evaluation rubrics for traditional settings translate to an online environment? How much direct attention and time is necessary for a student to receive adequate instructional support? What are the implications for teaching load?

Last year's report identified several policy issues, assumptions, and empirical questions that need to be answered (see Table 1.3). Our report this year revisits those topics and discusses new developments, with special attention to progress that has been made in state legislation over the last year and the areas that still need attention.

Recruiting and Training Qualified Teachers

In our 2013 report, we recognized that "the shift from a traditional classroom to a virtual setting requires sufficient numbers of new and experienced teachers who are motivated and prepared to engage in online instruction" (p. 48). One promise of virtual education is that it expands educational opportunities for students beyond what can be offered in traditional brick-and-mortar schools. However, realizing equal opportunity through online instruction requires preparing, recruiting and supporting an adequate supply of qualified teachers who are interested in teaching in an online environment.

Many unanswered questions continue to surround the issue of online teachers. Who chooses to teach in virtual schools and why? Are virtual schools attracting the teachers they want and need? What qualifications, skills and attributes are associated with effective teaching in a virtual school? How can teacher education programs prepare teachers for virtual education? How are states promoting and supporting these teacher education programs? Research is needed to identify characteristics of effective online teachers and to determine mechanisms to recruit and support teachers who will thrive in an online environment.

While we have little empirical evidence on who chooses to teach in a virtual setting and why, most researchers and educators recognize that the knowledge, skills, and abilities needed to be an online teacher are likely to be different than those needed to be a traditional classroom teacher.[53] Conversations about teacher preparation tailored to online teaching assignments are relatively new. For example, the National Association of State Directors of Teacher Education and Certification began discussing certification for online instructors only in Fall 2012.[54] However, policymakers have begun to mandate separate requirements for teachers working in digital environments. In 2006, Georgia became the first state to offer optional certification for online teaching,[55] and, as described below, other states have followed its lead.

However, recent legislative developments are limited to a handful of states. Recognizing that digital instruction requires a new and different set of skills for teachers, Minnesota enacted a 2012 bill (MN S 1528) requiring teacher preparation programs to "include the knowledge and skills teacher candidates need to deliver digital and blended learning and curriculum and engage students with technology."[56] This attention to teacher preparation in digital instruction is intended to support the state's requirement that, in order to graduate, students must successfully complete at least one course credit that includes online learning. In addition, Virginia enacted legislation in 2012 (VA H 578) that requires the Board of Education to develop licensure criteria for teachers who teach only online courses.[57] North Carolina enacted legislation in 2013 (NC S 168, NC H 92) that "revises

licensure standards and teacher education programs to require teachers seeking licensure renewal and student teachers to demonstrate competency in using digital and other instructional technologies to provide high-quality, integrated digital teaching and learning to all students."[58]

Traditional teacher preparation programs have responded to state legislation that requires special attention to online teaching. For instance, when Georgia's online teaching endorsement became effective in 2006, a number of colleges and universities in Georgia developed and now offer online teaching endorsement programs that recognize the unique challenges and opportunities associated with teaching in these settings. As noted in one program description: "The Online Teaching Endorsement program prepares candidates to plan, design, and deliver instruction in online environments for learners in P-12 settings."[59] The endorsement requires three courses, a field-based practicum, and demonstrated accomplishment of an online teacher competency checklist. Similarly, as recently as 2013, the Georgia State University College of Education offered graduate courses providing additional training to students who planned to teach online classes. As noted in an online catalogue, "being an effective online teacher presents a different set of challenges and opportunities than traditional face-to-face instruction. This program will provide students with the knowledge, skills, and abilities they need to succeed in an online learning environment."[60] However, the website for this program indicated in November 2013: "The Online Teaching Endorsement will be deactivated December 2013."[61] No clear explanation was offered for the discontinuation of the program, and its URL was later deleted.

So, over the past several years, state legislation requiring special preparation for online teachers has led to the recognition of online teaching through special endorsements and higher education programs that offer the preparation to earn those endorsements. However, while there have been some programmatic efforts to specify essential competencies, it is still not clear what specific knowledge and skills competent online teachers must have.

Beyond initial preparation, ongoing professional development is essential to keep all teachers current on curriculum and instructional practice and to retool teachers for new assignments. Professional development may be even more essential for teachers who have chosen to move into online environments because technological devices and software change so rapidly. While many virtual schools have recognized the importance of professional development for their teachers and do provide ongoing training, some states require that online schools offer professional development specifically designed for online instructors.[62]

In recent legislative developments, Maryland enacted a bill (MD H 745) in 2012 establishing a State Advisory Council for Virtual Learning in the state's Department of Education. Assigned the responsibility to encourage and support the education of students in accordance with national standards of online learning and state law, this Advisory Council was charged to make recommendations on a number of issues, including teacher and principal professional development.[63]

North Carolina has also recognized the importance of ongoing professional development focused on using "digital and other instructional technologies to provide high-quality, integrated teaching and learning to all students." North Carolina legislation enacted in 2013 (NC S 402) appropriates almost $12 million for local grants to LEAs to support such professional development and to acquire high-quality digital content.

In sum, our legislative scan provides some evidence of positive trends: (1) a recognition that online teachers need preparation that may differ from that provided to traditional classroom teachers; (2) progress in a handful of states toward requirements for the preparation, certification, and licensure of online teachers; and (3) attention to the need for ongoing professional development for teachers teaching in virtual environments. That said, the research base on the knowledge, skills, and abilities that make online teachers effective is thin. More evidence is needed to guide these efforts. In addition, too little attention has been given to estimating the demand for online teachers. More research is needed to determine how many online instructors will need to be recruited and prepared in the near future to meet the projected demand.

Evaluating and Retaining Effective Teachers

As described in our 2013 report,

> Teacher evaluation and retention are both critical to the development and success of the nascent virtual schooling industry. Ensuring that online teachers are effective requires appropriate assessment; retaining teachers identified as effective requires that they be provided with a desirable teaching environment. [64]

Of course, the issue of teacher evaluation is not unique to virtual schools; it has become a major focal point of research and policy in brick-and-mortar schools. Currently, the two dominant approaches for gauging teacher effectiveness are (1) standards based evaluations that use established rubrics to observe and evaluate teachers' performance in the classroom, [65] and (2) value-added measures that are based on growth in the standardized test scores of a teacher's students. In some cases, the two approaches are used in tandem. This is often the case in a high-stakes policy environment in which teacher pay, placement, or continued employment is based on a teacher's performance. [66]

While the evidence base on teacher evaluation in traditional classrooms is growing, little is known about how to evaluate teachers in a virtual setting. School leaders and policymakers must consider how well teacher evaluation systems designed for traditional settings translate to a virtual environment, and it is likely to be the case that neither of the tools described above are easily transferred to virtual education. Our legislative scan suggests that state policymakers have not directly confronted the challenges of holding online teachers accountable for their performance. While Arizona enacted legislation in 2012 (AZ H 2823) that describes a comprehensive teacher and principal evaluation system for all traditional and charter schools, the unique challenges of holding online teachers accountability were not addressed. Further, while the Louisiana state legislature considered legislation (LA H 115) in 2012 that would have established quality parameters

and evaluations for virtual school teachers, that bill ultimately failed. Generally speaking, legislation on the evaluation of teachers in virtual settings has been limited at best.

Once teachers have been prepared for and identified as effective in virtual schools, a major challenge is how to retain them in those positions. While we have little information on teacher retention rates in virtual schools, some information has begun to emerge about teachers' satisfaction with teaching in virtual schools, and existing research has identified teacher satisfaction as a key predictor of teacher retention.[67] The evidence on virtual teacher satisfaction is mixed. Some research suggests that teachers in virtual environments are satisfied with their work. For instance, Archambault and Crippen's national survey of K-12 online teachers found that 63% of teachers were "positive toward their online teaching experience." While the survey item did not ask directly about satisfaction, teachers' responses categorized by the researchers as positive included "rewarding, good, enjoyable, wonderful, fulfilling, great, excellent, and exciting."[68] In the words on one teacher:

> My experience with online teaching can be described as fulfilling. I really feel that I can help each student individually. This is extremely challenging in a traditional classroom. I also enjoy the pioneering atmosphere in which we are helping create a new vision of education, a wonderful opportunity to explore the new and growing area of online education. My experience began as just a job, but has grown into a career which I have become passionate about. I feel that I am making a positive difference in the lives of the students that I come in contact with as I am able to help them achieve their educational goals. [69]

In contrast, evidence from a survey of parents and teachers in the Colorado Virtual Academy suggests "extremely low job satisfaction ratings and morale for COVA teachers."[70] Only 33% of COVA teachers reported that they were satisfied with teaching at the schools and only 61% indicated that they would likely continue as a teacher in the school next year. Only 22% reported high teacher morale at the school. Almost three-quarters of the teacher respondents noted that they are doing more administrative work than they would like, and only half indicated that they viewed teaching in the school as worthwhile and fulfilling. The report summarizes: "Teachers continue to cite high student ratios, too much emphasis on the 'business side' and testing/passing rates, lack of support from school, mismatch between family situations and the model, low pay, and long hours as reasons for low support and low job satisfaction." While some teachers expressed satisfaction in terms of flexible schedule and good colleagues, the words of one teacher respondent captures the commonly expressed concerns:

There are too many students per teacher. At the beginning of the year, I received 300+ students. This does not drop off very much by the second semester either. The school wants to "individualize" for students, but this cannot, even in theory, occur due to the untenable student-to- teacher ratio. The school encourages "catch-up" plans for failing students that treat teachers like personal secretaries and lowers the bar for student responsibility. The school does not screen for students who would fit an online model based on past academic records and interviews. The actual instruction aspect of the school is minimum, with only an hour each week of a "real" class time. This is not even required for students. Tutor times are

not taken seriously either. Most of my day is taken up by tediously grading papers rather than meaningfully engaging the students in content and skills.

While more work needs to be done to understand and reconcile findings on virtual teacher satisfaction, teaching load is a clear and consistent policy-relevant factor related to teacher satisfaction in virtual settings.

This issue surfaced in both of the studies identified above as a key concern for teachers in virtual environments. This finding is not surprising given that most online schools require that their teachers support a large roster of students. For example, in 2011, an online school in Nevada reported a pupil-teacher ratio of 60:1 compared with the school's district average of 22:1.[71] Likewise, some of the largest virtual charter schools in Pennsylvania have pupil-teacher ratios upwards of 50:1.[72] At this ratio, education leaders must examine the extent to which a teacher can truly provide the attention and time necessary for a student to receive adequate instructional support, and thus, the extent to which that teacher can impact students' lives. To address similar ratio issues, California legislation (AB 644) mandates that, for courses in which teachers and students participate at the same time, the ratio of teachers to students cannot exceed that of other programs in the surrounding district unless negotiated in a collective bargaining agreement.[73] Our legislative scan identified little activity in the area of pupil-teacher ratios during the past two years. One noteworthy exception is a law enacted in Tennessee in 2012 (TN H 3062) that "requires virtual schools and virtual education programs to maintain teacher-pupil ratios set by the state board of education."[74] Given the cost savings associated with reduced personnel in virtual settings,[75] the limited evidence of new state efforts to address the issue of teaching load in virtual schools is not surprising.

Overall, then, our legislative analysis reveals little activity around the thorny but important issues of evaluating teachers and limiting pupil-teacher ratios in K-12 virtual schools.

Recommendations

Based on our legislative analysis, we conclude that little progress has been made over the past year in attending to issues related to teacher quality in virtual schools. Given the information and experiences detailed above, we reiterate our recommendations from last year's report. Specifically, we recommend that policymakers and educational leaders:

- Define new certification training and relevant teacher licensure requirements[76] and continually improve online teaching models through comprehensive professional development.

- Address retention issues by developing guidelines for appropriate student-teacher ratios.

- Work with emerging research to create effective and comprehensive teacher evaluation rubrics.

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> The following may not be considered reasonable costs associated with the operation of the educational program offered by a charter school and a cyber charter school:
>
> (i) Any paid media advertisement, including television, radio, movie theater, billboard, bus poster, newspaper, magazine, the Internet or any other commercial method that may promote enrollment of a charter school and a cyber charter school.
>
> (ii) Any lobbying, legislative advocacy, consulting or any effort to influence Federal or State legislation or policy affecting either that charter school or cyber charter school specifically or charter schools in general.
>
> (iii) Any bonuses or additional compensation beyond the annual or termed contractual compensation for all faculty, administration and staff, including salary, benefits and any additional compensation not specifically enumerated in the contract.

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